

“Balancing Growth with Resilience”

**ENVIRONMENTAL MANAGEMENT &
MONITORING PLAN (EMMP)
SCRAP RECYCLING, FLAME CUTTING &
SALVAGE OPERATIONS FOR Q&J NAMIB
METALS, WALVIS BAY
ERF W2976, 27 8TH STREET EAST, INDUSTRIAL**

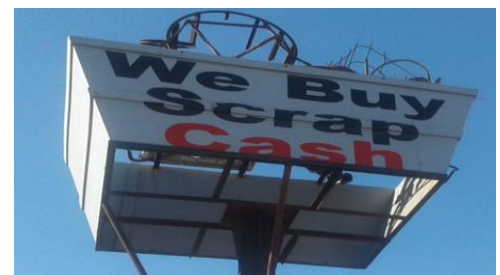
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The more clearly, we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction.
 – Rachel Carson



“Balancing Growth with Resilience”

Document Status

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“Earth and sky, woods and fields, lakes and rivers, the mountain and the sea, are excellent schoolmasters, and teach some of us more than we can ever learn from books.”

– John Lubbock

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ABBREVIATIONS

- CWD Container Weight Declaration
- DIR Daily Environmental Inspection Reports
- ECC Environmental Clearance Certificate
- EHSMS Environment, Health and Safety Management System
- EI Environmental Inspector
- EMS Environmental Management System (EHSMS Environment, Health and Safety Management System)
- EP Equator Principles
- ESD Emergency Shutdown System
- HDMS Hazard Detection and Mitigation System
- HSP Health and Safety Plan
- PPE Personnel Protective Equipment
- PSD Prevention of Significant Deterioration
- WFT Waste Flow Table

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“The greatest threat to our planet is the belief that someone else will save it.”

– Robert Swan, Author

1. INTRODUCTION

Erongo Consulting Group has been duly appointed by Q&J Namib Metals of Walvis Bay to assess environmental risks posed by their Scrap Yard operations, which include flame cutting, scrap recycling, and salvage operations.

Environmental protection planning is an important component of overall planning and implementation of mega-projects. Environmental planning¹ concerns itself with the decision making processes where they are required for managing relationships that exist within and between natural systems and human systems. Environmental planning endeavours to manage these processes in an effective, orderly, transparent and equitable manner for the benefit of all constituents within such systems for the present and for the future. Present day environmental planning practices are the result of continuous refinement and expansion of the scope of such decision making processes. Some of the main elements of present-day environmental planning are:

- Social & economic development
- Urban development
- Regional development
- Natural resource management & integrated land use
- Infrastructure systems
- Governance frameworks

The Environmental Management Plan (EMP) is an important integration document between the various approvals, authorisations and permits issued for specific components and/ or activities of the undertaking. This EMP outlines the contents of operational phases. It constitutes a

¹ https://inis.iaea.org/collection/NCLCollectionStore/_Public/31/058/31058919.pdf

contract document for use in the field by the contractor(s) and their personnel during operation n as well as by the personnel of the company during operations.

Q&J Namib Metals and its contractor, through its engineering and environmental consulting team, is responsible for implementing the EMP and ensuring that all personnel are informed about the EMP and the requirement to implement the procedures it contains. The EMP is intended as a quick reference for Project personnel and regulators to monitor compliance, and is structured to allow updates and revisions as work continues.

The EMP is required for their scrap recycling, flame cutting and salvage operations in Walvis Bay. The objective of Environmental Management Plan (EMP) is to formulate measures which will:

- 1) Mitigate adverse impacts on various environmental components, which have been identified during the rapid environmental impact assessment study.
- 2) Protect environmental resources where possible.
- 3) Enhance the value of environmental components where possible. EMP also includes a monitoring plan to enable evaluation of the success or failure of environmental management measures, and to carry out reorientation of the plan if found necessary. It is emphasized that many of the protective and enhancement measures can be implemented by adopting suitable planning and design criteria for operation of the project.

The EMP provides management options to ensure impacts of the normal operations are minimised. The envisioned EMP will help provide Q&J Namib Metals with options to ensure impacts of the normal operations are minimized.

As such, the proponent requires an Environmental Clearance Certificate (ECC) as enshrined under the Environmental Management Act No. 7 of 2007 and the Environmental Impact Assessment Regulations for the following activities:

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

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.

As a standalone document, the EMP can be used during the various phases (planning, construction (which is not the case here), operational and decommissioning) of any activity or development. However, the main aim of the envisioned EMP is to ensure that the project complies with the goals of the Namibian Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations.

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 operations;
- 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 operational personnel.

- provide a description of the existing facility, including a sufficient level of detail to inform the Ministry of Environment, Forestry and Tourism;
- Describe the local environment within which the existing facility is situated, to assist further in identifying issues and concerns.

As such, the ultimate goal of the EMP is to meet social, economic and biophysical objectives to such an extent that the overall product of the activity will not result in a net negative impact². The economic benefit of the existing scrap yard, should outweigh the negative environmental impacts which will be addressed during this assessment.

At the heart of an Environmental Management System (EMS) is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- A stated environmental policy which sets the desired level of environmental performance;
- An environmental legal register;
- An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- Identification of environmental, safety and health training needs;

The Environmental Management (& Monitoring) Plan (EMMP / EMP) involves risk management strategies that should be undertaken by the Project proponent and the Project manager to mitigate environmental degeneration. They are approaches to monitor, control, reclaim and restore the environment back to its appropriate state. EMPs for Project thus provide logical frameworks within which the identified issues of environmental concern can be mitigated, monitored and evaluated. Environmental monitoring involves measurement of relevant parameters, at a level of details accurate enough, to distinguish the anticipated changes.

Monitoring aims at determining the effectiveness of actions to improve environmental quality. The environmental management and monitoring plans have been developed and outlined to bring home the key findings of the Environmental Impact Assessment of the Project in mention, recommending necessary mitigation actions, defining roles, monitor able indicators and the estimated cost. The EMPs outlined in tables hereafter address the potential negative impacts and mitigation measures as well as roles, costs and monitor able indicators that can help to determine the effectiveness of actions to upgrade the quality of environment; as regards the proposed project. The EMPs have considered scrap yard metal facility, operation and decommissioning phase.

As per the Environmental Management Act (7 of 2007), the development cannot take place without Environmental Impact Assessment having been completed and Environmental Clearance Certificate issued from the Directorate of Environmental Affairs (MET).

1.1. Q&J Namib Metals' Commitment to Environment, Health and Safety

Q&J Namib Metals is committed to manage and operate its assets in a manner consistent with its core values to protect the health and safety of people and the environment and to comply

² <https://planningtank.com/environment/environmental-protection>

with applicable Environment Health and Safety (EHS) laws, regulations and internal EHS standards. In this regard, a sketch of environmental policy is being given here which may be a part of Q&J Namib Metals' corporate level policy once management of Q&J Namib Metals approves it.

The management and staff of Q&J Namib Metals are committed to preserving and protecting the scrapyards environment. A clean environment is important for the success of Q&J Namib Metals' business. In support of this commitment, Q&J Namib Metals strives to conduct a sustainable A Safe, More Sustainable Future for Scrapyards / Scrap Metal Recycling at the scrapyards facility and educate its staff, contractors, stakeholders on sound practices. The company's overall goal is to create awareness among its workforce and protect the environment and scrap yard operations. This goal will only be achieved by using a team-oriented management approach to help ensure responsible use of our resources.

To achieve this goal, Q&J Namib Metals' management and staff will put their all-practicable efforts to meet or go beyond compliance with all applicable international and national environmental rules and regulations. Q&J Namib Metals endeavours to continually improve its environmental performance and to prevent pollution before it is produced. All its employees are expected to support its environmental goals while providing clean and environment friendly means of working practices and minimum incident rate".

Q&J Namib Metals has a structured environmental program that involves environmental assessment, monitoring, protection and rehabilitation of its different projects. This EMP will strive for continual improvement in the Q&J Namib Metals scrap yard activities and its operations to maintain a healthy environment.

1.2. Purpose of the Environmental Management Plan (EMP)

The primary purpose of this EMP is to establish the Environmental Protection Procedures to be implemented by Q&J Namib Metals staff, customers and contractors. The Q&J Namib Metals has committed to developing and implementing a comprehensive EMP to help ensure a high level of environmental protection throughout this undertaking. This EMP provides the protection procedures associated with both planned activities anticipated for the operations of the scrapyards as well as for accidental events.

The purpose of the EMP is to:

- outline environmental protection measures to be followed during the operation of the scrapyards;
- ensure that commitments to minimise environmental effects are met;
- document environmental concerns and appropriate protection measures;
- provide concise and clear instructions to scrapyards personnel such as the Q&J Namib regarding procedures for protecting the environment and minimising environmental impact;
- provide a reference document for personnel when planning and/or conducting specific activities;
- provide contingency plans for accidental events;
- communicate changes in the program through the revision process; and
- Provide a reference to applicable legislative requirements.

1.3. Scope of the EMP

The initial focus of the EMP is the protection of aquatic habitat and traffic management due to increase in visiting people as well as those activities under the direct control of Q&J Namib Metals' management where activities may give rise to significant environmental impacts, the EMP includes a number of priority strategies and actions relating to these locations. The EMP also supports collaboration and joint actions with affiliated organisations, tenants and contractors within the Q&J Namib Metals' sphere of influence.

In line with the Environment Policy, the following criteria will be used to determine priorities for attention:

- Impact on the physical and biological environment;
- Contribution to innovation and definition of best environmental practice;
- Compliance with statutory requirements and other environmental commitments;
- Availability of resources.

The EMP acknowledges the social and cultural dimensions of responsible environmental management alongside the biological and physical, reflecting a holistic view of the Q&J Namib Metals as a "human ecosystem".

The scope of the EMP includes the following functional areas:

- **Management systems:** Those systems employed in the management of the Q&J Namib Metals' scrapyards operational activities. It will include financial systems; engagement and supervision of contractors; purchasing policies, etc.
- **Knowledge systems:** Those processes which build knowledge and capacity on environmental issues, principles and sustainable behaviours. It will include training; communications; campaigns; links with operational departments, etc.
- **Energy management:** The energy-related aspects of the operation and maintenance of the Q&J Namib Metals' scrapyards facilities.
- **Water management:** Aspects of supply, usage and disposal of water pertinent to the operation and maintenance of the Q&J Namib Metals' facilities.
- **Materials management:** Those services and activities which support the avoidance, resource recovery (e.g., reuse and recycling) and environmentally responsible disposal of solid and liquid waste materials.
- **Planning, design and development:** The planning, design and development of the Q&J Namib Metals' built form and associated infrastructure.
- **Pollution prevention:** Those aspects of planning and management which support minimisation of air and water pollution and contamination of land resulting from daily routine activities.
- **Transport:** Programs, projects, systems and procedures which promote and support walking, cycling and public transport for trip-to-work, accommodation and other related travel.
- **Biodiversity and open space:** Those aspects of management and maintenance which support conservation and enhancement of biodiversity and environmentally sustainable use of open space across the Q&J Namib Metals property.

1.4. Organisation of the EMP

The EMP will provide the procedures, organization and instruction to ensure Project personnel understand and implement Environmental Protection Procedures for routine activities associated with the operation and commissioning of scrapyards facility. The organization, style

and format of the EMP is intended to enhance its use by scrapyards personnel in the facility and to provide an important support document between overall environmental management of the facility / Project and various permits and authorizations issued for specific operations and commissioning related Project components and activities

1.5. Maintenance of the EMP

This section will outline the responsibilities and activities associated with the maintenance of the EMP. The responsibilities of the Environmental Monitor will be detailed and procedures for requesting EMP revisions will be outlined. EMP revision procedures will include requirements for notification of the appropriate government agencies.

2. DESCRIPTION OF THE SITE

2.1. Site Location

The Q&J Namib Metals scrap yard is located on at Erf W2976, 27 8th Street East, Industrial in Walvis Bay. The scrap yard site is zoned as light industrial. The coordinates are as follows: 22°56'37.9"S 14°31'01.1"E.

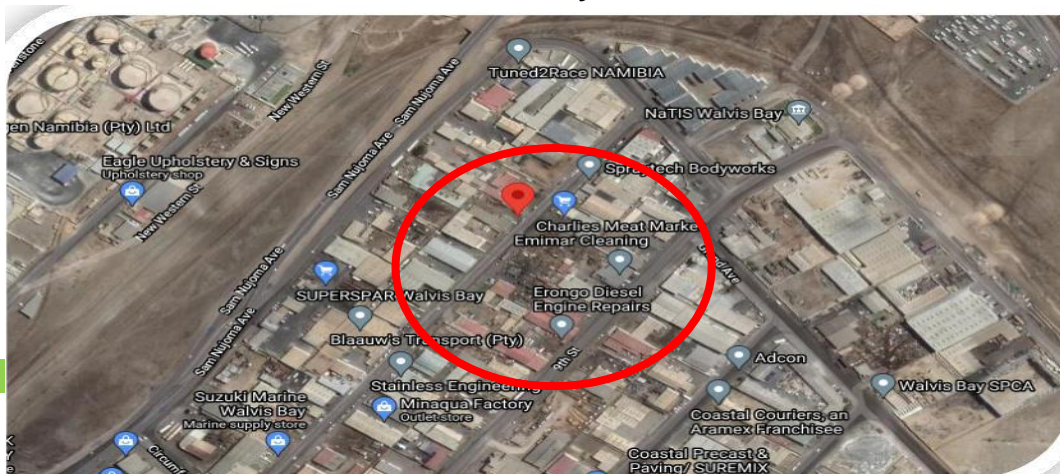
The scrapyards immediate neighbors include Clutch & Brake Supplies (CBS), Charlies Meat Market, and Waltechniccs.



Pictures 1 & 2: Immediate Neighbors to Q&J Namib Metals, Walvis Bay

It can be noted that the scrapyards is legally operating and in in line with developments on industrial properties as per the Walvis Bay Town Plan Scheme. There are no residential areas in the vicinity. Q&J Namib Metals CC possess a Municipal Fitness Certificate, which was obtained from the Municipality of Walvis Bay. See Annexure A.

Google Map 1: Location of Q&J Namib Metals, Erf W2976, 27 8th Street East, Industrial, Walvis Bay





Picture 3: Q&J Namib Metals Site (view from the street)



Picture 4: Forklift at the site



Picture 5: scrapyard workers cleaning the site



Picture 6: 8th Street East, Industrial, Walvis Bay



Pictures 7 & 8: Entrance to the scrapyard for both loading and off-loading. Here, truck can be seen enroute to loading the packed container



Picture 9: View of the Scrapyard

3. Q&J NAMIB METAL'S SCRAPYARD OPERATIONAL COMPONENTS

The Q & J Namib Metal's operations boast of the following components:

- The salvage and recycling of scrap metals obtained from engineering, mining and manufacturing industries in and around the town of Walvis Bay in the Erongo Region, Namibia
- The export of the recyclable scrap metal to regional countries

3.1. The Salvage and Recycling of Scrap Metals

Scrap consists of recyclable materials left over from product manufacturing and consumption, such as parts of vehicles, building supplies, and surplus materials. Scrap has monetary value, especially recovered metals, and non-metallic materials are also recovered for recycling³.

The Basel Convention establishes standards for the transboundary movement of hazardous waste, solid waste, and municipal incinerator ash, including notice to and written confirmation from the receiving country prior to export. As of November 2020, 187 countries and the European Commission are parties to the Convention.
<http://www.basel.int/>

Great potential risk of accidents exists within the metal scrap industry, where a hazardous material is present. Metals such as beryllium, cadmium, or mercury may pose dangers to personnel, as well as contaminating materials intended for metal smelters. Refer to the Basel Convention⁴ as well as to national and/or local legislation specific requirements and restrictions and to the latest IMDG Code for compliance. Metal scrap is considered waste, under applicable national and international regulations, and

³ Wikipedia, <https://en.wikipedia.org/wiki/Scrap>

⁴ Wikipedia, Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries. It does not, however, address the movement of radioactive waste.

shippers are required to make sure their shipments are in full compliance. Other potential dangers are fire, auto-ignition/explosion, damage to the container, risk of leakage (e.g., from motor parts not being drained from any remaining oil or fluids) or overweight.

The scrap metal recycling industry encompasses a wide range of metals. Some of the most commonly recycled metals (by volume) are iron and scrap steel, copper, aluminium, lead, zinc, and stainless steel. Scrap metals, in general, are divided into two basic categories: ferrous and nonferrous. Ferrous scrap is metal that contains iron. Iron and steel (which contains iron) can be processed and re-melted repeatedly to form new objects.

Common nonferrous metals are copper, brass, aluminium, zinc, magnesium, tin, nickel, and lead. Nonferrous metals also include precious and exotic metals. Precious metals are metals with a high market value in any form, such as gold, silver, and platinum. Exotic metals contain rare elements such as cobalt, mercury, titanium, tungsten, arsenic, beryllium, bismuth, cerium, cadmium, niobium, indium, gallium, germanium, lithium, selenium, tantalum, tellurium, vanadium, and zirconium.

The scrap metals that are used for processing (sorting and cutting) at Q & J Namib Metal's site are ferrous and non-ferrous scrap metals which are sourced from various sources such as:

- Mining entities within the Erongo Region
- Scrap from manufacturing and engineering industry in Walvis Bay and beyond.
- Used construction beams, plates, pipes, tubes, wiring, and shot.
- Old automobiles and other automotive scraps.
- Railroad scrap and railcar scrap.
- Miscellaneous scrap metal.

The metal recycling process follows the following steps.

Collection. This is the first and most important step in metal recycling:

- Sorting
- Processing
- Shredding
- Melting and Purification
- Purification
- Melting and Solidifying of the Metal
- Transportation

3.2 The Metal Recycling Process

The metal recycling process is similar to the usual recycling process. The metals are first sorted on the basis of their properties. It is, however, important to have a basic understanding or knowledge about metals. This will help in recycling them and keeping a green environment⁵. The metal recycling process at Q&J Metals follows the following steps.

Figure 1: The Metal Recycling Process at Q&J Scrapyard

⁵ https://www.conserve-energy-future.com/Importance_of_Recycling.php

Process	Description
<p>1. Collection</p>	<p>This is the first and most important step in metal recycling. It simply involves collecting all materials that are made of metals. This process should be organized in such a way that there should be containers specifically designed to collect metals.</p> <p>Some people and business persons have established scrap yards whereby people are encouraged to collect different metals, take them there and be paid for what they have collected. Different metals cost differently at the yards. The scrap metal yards are used as collecting centres for the metals.</p>
<p>2. Sorting</p>	<p>Once the metals have been collected, the next important step is to sort the metals. This involves separating what can be recycled from what is non-recyclable. It is essential to point out that the quality of metal recycled is very important.</p> <p>A high-quality recycled product or item can only be created if the original materials used in the recycling process are of good quality. This, therefore, calls for a strict quality check-up during the sorting process.</p> <p>The general rule is that a product needs to be at least 50 percent metal. Even if that metal is surrounded by other materials like plastic, it's worth recycling if it's made mostly out of metal.</p> <p>You may have products with only a small amount of metal, but it's easy to remove, separate the metal. For example, a plastic three-ring binder is not scrapped metal, but the metal rings can be easily removed and used.</p> <p>Scrap metal is classified as either ferrous (containing iron, such as steel) and nonferrous (everything else). The ways to identify whether the metal is ferrous or nonferrous is with a magnet. As ferrous metals contain iron, they stick to a magnet; nonferrous metals don't and are easily pulled out of the mixed waste stream.</p> <p>These days, in large recycling facilities, the use of sensors to identify metals through infra-red scanning and x-ray has become popular. Three common categories of metal sensing processes include biotechnology, hydrometallurgy, and pyrometallurgy. The use of these technologies can effectively improve metal recovery rates.</p>
<p>3. Processing</p>	<p>After sorting, the next step is to compact or squeeze the metal. All the recycled materials are squeezed and squashed using machines so that they do not occupy so much space in the conveyor belts.</p>
<p>4. Shredding</p>	<p>After the crushing and breaking of the metal, the shredding process starts. The metals are broken down into tiny pieces or sheets to allow further processing. The small pieces have a large surface to volume ratio that can be melted using less energy as compared to when they are in large pieces of metal. Normally, steel is changed into steel blocks while, on the other hand, aluminum is converted into sheets.</p>
<p>8. Transportation</p>	<p>Once the bars have been designed and made /baled, the final product is then packed depending on their sizes and shapes ready for transportation to different factories and to people who require the metal. Thereafter, the cycle begins again.</p>

Each category is an individual component of the recycling process and may pose a wide range of safety hazards that are common to many industrial and material handling processes. Such hazards may include flying pieces of material, exposed moving parts, fire hazards, and noise hazards.

Hazardous chemical exposures to employees are most likely to result from hot processes that

produce fumes (such as torching and welding) or processes that produce dust (such as cutting).



Picture 10 & 11: compacted scrap metals in blocks at the Q&J Namib Metal's scrap yard

4 HEALTH & SAFETY

4.1 Environmental Health and Safety Management System

There is every need to outline an Environmental Health and Safety Management System which will outline mitigative measures and best management practices.

This management is recommended to carry out a complete assessment, evaluate, monitor, identify and control all potential hazards and risks arise during the operation phase of the proposed project. The management needs to ensure that the Health and Safety Plan (HSP) along with the Plant Health and Safety Rules is established and enforced after obtaining the environmental clearance Certificate (ECC).

The Plan seeks to outline roles, responsibilities and expected outcomes with respect to the environmental health and safety management of the operation phase of the Project. These measures should be implemented to ensure that no significant adverse environmental health and safety impacts are created by activities associated with the operation of the Project.

Protection of the public and workforce health and safety during operations is paramount to Q&J Namib Metals. Utilising expert personnel and the (Q&J Namib Metals) Environment, Health and Safety Management System (EHSMS), the potential health and safety hazards and risks have been identified and assessed, then the subject of substantial planning, organisation and procedural/facility development.

The scrapyard is designed to include spill containment systems, fire protection systems, multiple gas, flame, smoke and low- and high-temperature detectors and alarms, and automatic and manual shut-down systems.

The efficiency and stability of operations will be maximised by the use of a high level of automation, regular preventative maintenance, and safeguards such as back-up systems and the provision for safe emergency shut-downs. All personnel will be required to undertake an extensive training program to ensure safe operating practices.

The training program and subsequent regular refresher programs will involve issues covering operations, hazards, safety and emergency procedures and environmental management.

The **Plant Health and Safety Rules** should include provisions for, impediment of and response to noxious chemicals and gases. It is also the responsibility of the management to provide the following basic information:

- *Description of all potential hazards/risks.*
- *Health and Safety implications about all hazards.*
- *Description about management techniques including inspections,*

4.2 Worker Health and Safety Plan

This section will outline a Worker Health and Safety Management System which will outline mitigative measures and best management practices.

Roles, responsibilities and expected outcomes will be defined. The Plan should be implemented to ensure that no significant adverse worker's health and safety issues arise from activities associated with the operation of the Project. The Plan will apply to all to Q&J Namib Metals customers, employees and contractors.

- *Provide adequate worker training.*
- *Use proper personnel protective equipment (PPE).*
- *Follow fire protection measures.*
- *Arrange availability of appropriate emergency response, rescue, and first-aid personnel and services.*

4.3 Emergency Response Plan

Emergency may be defined as a sudden event causing or has the potential to cause serious human injury and /or environmental degradation of large magnitude. The best

maintenance follow-up, reports, personnel protective gears and medical monitoring.

- *Outline of emergency response procedures including organisational structure of key trained personnel to act as emergency responders action steps for entering and working within zone of hazards, evacuation procedures, protective gear requirements, decontamination procedures, lines of communication, emergency call centres' telephone numbers, map of nearest medical centres' route, etc.*

"cure" for an emergency is, of course, "prevention".

The probable emergency situation can be:

- Serious fire or explosion
- Spillage of large quantity of solvent or major gas leakage.
- Natural calamity such as heavy rain (due to Global Warming), flooding (Due to poor infrastructure / drainage system), dust storm, etc.
- Any other incident involving all or large part of the premises and its workers.

A Project-specific Emergency Response Plan will be developed which primarily relates to the different operational activities of the Project as well as risks and hazards identified. It supports the EMP and addresses actions and required responses all Q&J Namib Metals personnel, employees and contractors.

Emergency Response Management will be provided by a small team composed of managers (the control committee), who in turn will direct all response activities through the Emergency response unit, plant security, communications, public relations,

safety and environmental affairs and material procurement sections.

Each of these departments will have specific responsibilities to perform in the event of an emergency.

When the Emergency Response Plan is put into effect, Q&J Namib Metals / Scrapyard Personnel will assume designated positions, each with specific duties.

The main objective of this plan is to establish the general guidelines for actions to be taken in the event of fires, explosion, emergencies, accidents, natural disasters, aimed at minimizing their effects and consequences, in order to protect:

The physical integrity or the lives of own or third-party personnel present in the facility.

A- Objectives

- The physical integrity or the lives of the residents of the geographical areas near the project's area of influence (8th Avenue West).
- The physical integrity of Q&J Namib Metals' properties or assets.
- The physical integrity or the lives of the ecological systems located in the surroundings of the scrapyard.

The **Contingency Plan**⁶ will be applied in the process area, and administration in view that they are not located in the area of influence. The purpose of any contingency plan is to allow an organization to return to its daily operations as quickly as possible after an unforeseen event. The contingency plan protects resources, minimizes customer inconvenience and identifies key staff, assigning specific responsibilities in the context of the recovery.

A complementary objective is to establish the **Notification Procedure**⁷ to be followed between Company personnel and with Government Entities.

B- Risk Situations

Due to the characteristics of the project, the contingencies that could arise are the following:

- Workplace Transport
- Transport related to lifting operations
- Falls from height
- Sheeting and unsheeting
- Manual handling
- Slips and trips
- Fire and explosion
- Mechanical lifting operations
- Machinery issues.

C- Internal Risks

⁶ A **Contingency Plan** is a plan devised for an outcome other than in the usual (expected) plan. It is often used for risk management for an exceptional risk that, though unlikely, would have catastrophic consequences. Contingency plans are often devised by governments or businesses.

⁷ **Notification Procedures** are a necessity to address emergency situations where a system or server may have stopped operating during the testing. (<https://www.sciencedirect.com/topics/computer-science/notification-procedure>)

Risks arising from operational conditions or human error that could result in personal accidents, spills or fires, such as:

- Uncontrolled gas leak into the atmosphere.
- Fire / explosions.
- Chemical product spills
- Occupational accidents (serious or fatal), due to product contamination, failure to comply with operating rules and procedures, negligence of the personnel, falls, internal traffic accidents, burns, acts of God, bad use of equipment and personal protection items.
- Environmental Contamination

D- Natural Risks

Natural risks that may affect the facilities and their resulting damage to property and the personnel.

- Earth tremors
- Floods due to global warming and poor drainage infrastructure

E- External risks

Risks arising from delinquent actions, or vandalism.

F- Personnel Transportation Risks

All personnel of the Scrapyard facility must be instructed that in the event of automobile accidents while the personnel is being transported to/from the Plant, using own or third-party transportation contracted by the company, they must immediately notify the Environment, Health and Safety Environment Team (EHS) so that it will provide the necessary assistance for the injured, and proceed to issue notices not only to the health care centres but also to external support institutions (NamPol, Walvis Bay Traffic Police, Walvis Bay Fire Fighters, etc).

G- Risk Management

The management of contingencies is based on:

- Early detection (alarms, detectors, setting off of safety elements);
- Immediate automatic reaction (feed shut-off valves, either of the fluid, electric process or other).
- Confinement of emergency area.
- Application of the adequate response procedure
- Follow-up and monitoring
- Schedule maintenance

H- Evacuation Plan

The following alarm signal(s) will be used to begin evacuation of the facility:

- Bells
- Horns/Sirens
- Verbal (i.e., shouting)
- Other (specify)
- Evacuation map is prominently displayed throughout the facility.

I- Emergency Procedures:

i- Emergency Coordinator / Scrapyard Manager responsibilities:

(a) Whenever there is an imminent or actual emergency situation such as an explosion, fire, or release, the emergency coordinator (or his/her designee when the emergency coordinator is on call) shall:

- Identify the character, exact source, amount, and areal extent of any released hazardous materials.
- Assess possible hazards to human health or the environment that may result from the explosion, fire, or release of gases. This assessment must consider both direct and indirect effects (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, the effects of any hazardous surface water run-off from water or chemical agents used to control fire, etc.).
- Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
- Notify the Walvis Bay Municipality Solid Waste & Environmental Management Section, Department of Water, Waste and Environmental Management, and / or the Environmental Commissioner
- Notify the Walvis Bay Municipal Fire Brigade/Emergency Services
- Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials at the facility.

(b) Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall:

- Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from an explosion, fire, or release at the scrapyard facility.
- Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until clean-up procedures are completed.
- Ensure that all emergency equipment is cleaned, fit for its intended use, and available for use.
- Notify the Walvis Bay Municipality Fire Department that the facility is in compliance with requirements b-i and b-ii, above.

ii- Post-Incident Reporting / Recording:

The time, date, and details of any hazardous materials incident that requires implementation of this plan shall be noted in the facility's operating record.

Within 15 days of any hazardous materials emergency incident or threatened hazardous materials emergency incident which triggers implementation of this plan, a written Emergency Incident Report, including, but not limited to a description of the incident and the facility's response to the incident, must be submitted to the Walvis Municipality Fire Department and Department of Environmental Affairs.

The report shall include:

- *Name, address, and telephone number of the facility's owner/operator;*
- *Name, address, and telephone number of the facility;*
- *Date, time, and type of incident (e.g., fire, explosion, etc.);*
- *Name and quantity of material(s) involved;*
- *The extent of injuries, if any;*
- *An assessment of actual or potential hazards to human health or the environment, where this is applicable;*
- *Estimated quantity and disposition of recovered material that resulted from the incident;*
- *Cause (s) of the incident;*
- *Actions taken in response to the incident;*
- *Administrative or engineering controls designed to prevent such incidents in the future.*

iii- Emergency Equipment:

The Hazardous Materials Storage Ordinance requires that emergency equipment at the facility be listed.

J- Training:

i- Personnel

General workers will be trained as per following procedures:

ii- Hazardous Scrap Material Handlers

hazardous Scrap material handlers will be annually trained.

iii- Emergency Response Team

K- Emergency Response Training

Develop and practice a spill clean-up procedure including where to find emergency equipment and how to use it. Make sure all people on site are aware of emergency telephone numbers to call in the case of an emergency.

L- Response Levels

Two levels of response must be contemplated:

- With own personnel
- With external local (Walvis Bay Municipality) and central government cooperation

M- Response Strategy

Upon the occurrence of the emergency, the Plan will be developed under the following conditions:

- **First Stage:** Notification
- **Second Stage:** Initial assistance/rescue
- **Third Stage:** Response operations
- **Fourth Stage:** Evaluation of the Plan and damages

i- First Stage: Notification Internal Communication

- Radio communication systems, channels and frequencies will be established for the command post, alternative posts and for the personnel that forms part of the response team.
- Furthermore, message forms will be established to record at least the following information:

- Name of informant, location and place of the emergency, number of people affected and, if possible, an estimate of the type of injuries and/or damages, among others.

External Communication

In the event of leaks, fire, etc. the **Walvis Bay Municipality** will be immediately notified:

- In the case of serious or fatal accidents, the NamPol and ambulance services will be notified.
- The relatives of the injured person, as soon as he is evacuated to a hospital.
- To the extent possible, the press will be notified after the accident has been investigated and by the person designated by Management.
- In the case of an accident that has affected the facilities; the Insurance Company will be notified by

the Manager in Coordination with the Support Staff.

ii- Second Stage: initial assistance/ rescue

A joint evaluation will be made of the status of the event, the conditions of the site, the environmental characteristics that warrant a safe development of rescue actions, first aid and transportation of the injured to a medical unit.

Strategies will be adopted to determine own material and human resources to be required, the deployment of the resources to the emergency location, as well as the estimated response time.

Trained emergency teams must be prepared to act as required, and a reserve team must be available. All personnel who are not essential to fight the emergency must be evacuated to a safe place where there must be communication equipment available to count the number and condition of the personnel.

In the event of fire, the execution or fighting phase will be implemented immediately.

iii- Third stage: Response Operations

Response Operations refer to:

- Firefighting using extinguishers or pressure water network or foam.
- Spill control (of lubricants or fuel using absorbing material) or confinement.
- Dispersion of gas clouds.
- Access control to affected area.
- Medical assistance and evacuation of injured personnel.
- Evacuation of all personnel if their lives are in danger.
- Application of a monitoring program and a mitigation plan.

a) Response guide. In the future, the Contingency/Emergency Plan will apply the specific response procedure for each emergency, which procedure will be described in detail and in a language that is easy to understand. It will form part of the documents to be delivered during the induction process and there will be at least 2 drills per year in order to keep the personnel trained.

The communication chain with information on contacts and notifications must be established and maintained.

Furthermore, the logistic chain to replace equipment and consumables must be established, determining a minimum stock at the scrapyards facility, which for the case of fire must be in line with the risk study and the list of suppliers containing the contact's name, address and telephones available on a 24-hour basis the 365 days of the year.

iv- Fourth Stage: Evaluation of the Plan and of damages

Once response operations have concluded, the development and results of the Plan must be evaluated in order to issue recommendations that allow correcting deficiencies for the purpose of improving response operations. These recommendations will then form part of revision and subsequent annual approval of the Contingency and Risk Prevention Manual.

A record of damages will be prepared as part of the final emergency report. The resources used, lost and recovered will be detailed in said register.

N- Emergency Response Manuals

Including the proponent's commitment to prepare written emergency plans for the scrapyards facility to cover emergency situations that could occur, based on the results of a Quantitative Hazard and Risk Assessment. Q&J Namibia Metals has already agreed that Emergency Response Manuals will be

developed for:

- Accident Response;
- Scrap metal Loading and Offloading Facility Accident Response;

O- Responses to Emergencies within the Scrapyard

i- Emergency Classification Determination

Controllable Emergency: This is an emergency in which the Scrapyard Personnel can prevent harm to personnel or equipment by taking reasonable and prudent actions such as valve manipulations, shutting down equipment, or initiating the Emergency Shutdown System. Examples of Controllable Emergencies that may occur at the Scrapyard include:

- Overpressure of gas or liquid process piping;
- Collapse of buildings or systems and equipment that does not result in or does not have the potential to result in the loss of containment of flammable gases;
- Building fires that do not involve flammable gases;
- Electrical fires that do not involve flammable gases;
- Loss of electrical power;
- Vehicle accidents;
- Severe weather conditions; and
- Breaches of site security that do not result in or have the potential to result in substantial damage to the scrapyard facility.

Uncontrollable Emergency: An Uncontrollable Emergency involves situations that have the potential to result in exposure of personnel that may result in fire or explosion.

- Flammable gas leaks from significant failure

Uncontrollable Emergency – Scrapyard Emergency: This is an Uncontrollable Emergency that threatens personnel or equipment with exposure to scrap metal or involves a fire or explosion of a magnitude that involves a large portion of the facility.

A Security Breach that results in a high probability of substantial damage to the Scrapyard is considered a Scrapyard Facility Emergency.

Uncontrollable Emergency – General

Emergency: This is an Uncontrollable Emergency that threatens the public that involves a fire or explosion of a magnitude that affects persons or property off-site. At the instruction of the Scrapyard Supervisor, emergency help will be requested by the Public Information Contact from off-site emergency organizations during a General Emergency.

Additionally, the Scrapyard Supervisor may recommend an evacuation of the local community in accordance with this Emergency Response Plan.

ii- Emergency Classification Summary

- In summary, there are ultimately three types of emergencies:
- Controllable Emergency;
- Uncontrollable Emergency resulting in a Scrapyard Site Emergency; or
- Uncontrollable Emergency resulting in a General Emergency.

iii- Facility Alarm System, Hazard Detection and Mitigation System and Shutdown System

The following describes the hazard detection and mitigation system that is installed on board and which

will be used to alert to and mitigate the impact from the Controllable Emergency and Uncontrollable Emergency situations.

Hazard Detection Systems: A Hazard Detection and Mitigation System (HDMS) are installed to prevent the occurrence of physical situations that have the potential to result in injury to personnel and/or damage to property and the environment. The HDMS accomplishes this by detecting and alerting operating personnel to the presence of fire and flammable gas leak hazards.

The hazard detection system consists of a combination of heat detectors, flame detectors, smoke detectors, high and low temperature detectors and flammable gas leak detectors.

Emergency Shutdown Systems: An Emergency Shutdown System (ESD) is installed to initiate closure of valves and the shutdown of process drivers during emergency situations. All other shutdowns that are not ESD are designated as process related trips.

5 RESPONSIBILITIES, TRAINING AND COMMUNICATION

5.1 Responsibilities

The roles and responsibilities of Q&J Namib Metals' Project Manager, the Engineer, the environmental inspection/quality assurance team, the contractors, all EMP holders and all personnel will be defined in this section. An organizational chart of the Scrapyard Project Environmental Management Roles and Responsibilities will be included in this section.

A- General Manager (Operations)

Environmental management plan will be regulated by the General Manager (Operations) of Q&J Namib Metals. Some of the key role and responsibilities are described below:

- To consider and react to issues and solutions proposed by the HSE department.
- To cooperate and consult with relevant environmental agency in order to perform in better way.
- To approve any change in decision making and authorities in consultation with Manager HSE, if appropriate.

B- HSE Manager

The role of HSE manager is vital. The success of an EMP always depends on Proper and effective management provided by HSE manager. Following are some of the roles and responsibilities given should be provided by HSE manager:

- To identify issues and where possible propose solutions for inclusion in the management plan review process.
- To ensure that the points of view of staff, contractor and HSE officers are considered and placed in the EMP accordingly.
- To improve coordination and exchange of information between top management, employees, contractors etc.
- To contribute towards the actions to deliver the management plan and ensure its continual development.
- To review EMP every year under the supervision of top management, taking issues and change EMP accordingly with the solutions and suggestions.

- To monitor the progress, development and implementation of this management plan.

C- HSE Officer

The role of HSE manager will be empowered by HSE manager. The superficial responsibilities which an HSE officer will have to perform include:

- To integrate, as far as possible, the aims and objectives of different users within an agreed plan.
- To maintain balanced, holistic approach to the solution of concerned issues in accordance with the compliance to the legislative requirements.
- To provide professional guidance on questions relating to the environmental

D- Environmental Inspector / Consultant

- An Environmental Inspector (EI) / Consultant is responsible to supervise the environmental compliance and inspection process.
- Environmental inspector provides key liaison role in coordinating attendees and facilitating agreements in the field, as appropriate, with Government and Local Authority representatives.
- Coordinate daily with workers when scrapyards operational activities are scheduled in all requiring monitors.
- The EI will play a significant role suggesting methods to bring scrapyards operational activities into compliance and/or to temporarily halt certain activities that may cause damage to sensitive environmental resources.
- In addition to these responsibilities, the environmental inspector contributes to the Environmental Management Team by developing swift and innovative solutions to unanticipated environmental issues which develop during operation.

E- Site (Operation) Foreman

- The site manager is responsible and accountable for the site's HSE performance.
- Establishes, implements, and maintains a formal written plant-HSE program that encompasses applicable areas of loss prevention and is consistent with corporate policy.
- Establishes controls to assure uniform department performance to the HSE management system. The establishment of controls should include corrective action and follow-up. Develops, by action and example, a positive HSE culture and a clear understanding of specific responsibilities for direct reports.
- Approves and adopts local HSE policies, rules and procedures.
- Chairs the HSE Committee (or its equivalent).
- Personally, investigates fatalities, serious Lost Workday cases, environmental incidents or major property losses.
- Assigns management members to serve on various HSE committees.
- Reviews monthly HSE activity report and performance statistics.
- Reviews Lost Workday Injury/Illness Investigation Reports.
- Reviews loss-control reports submitted by outside agencies.
- Makes plant-HSE audits on a regular basis in order to appraise program effectiveness and to correct and reinforce behaviour.
- Reviews annually the program effectiveness and makes adjustments where necessary.
- Evaluates the functional performance of the HSE staff and provides guidance training where necessary.
- Personally reviews, signs, and approves of corrective action planned for Lost Workday cases.

F- Supervisor/Foreman/Lead Person

- Makes daily safety observations of the work area and corrects unsafe behaviour and reinforces safe behaviour.
- Arranges for development of job safety analysis; reviews all job safety analysis; and submits to the Manager for approval.
- Develops a workable housekeeping program, defining areas assigned to work teams; makes daily spot checks of an assigned work area; makes periodic housekeeping inspections, reporting results of inspection to department

G- Scrapyard Manager

- Contacts each supervisor/foreman/lead person frequently (daily) on HSE.
- Includes HSE as a meeting topic in staff meetings.
- Makes daily observations of supervisor/foreman/lead person's HSE activities.
- Reviews and approves all job procedures growing out of Job Safety Analysis; installs approved procedures; requires direct reports to check on use of procedures.
- Approves all departmental HSE rules and regulations and reviews annually; maintains strict enforcement; and develops plan to ensure employee instruction and re-instruction.
- Establishes acceptable housekeeping standards, defining areas of responsibility; assigns areas to supervisor/foreman/lead persons; makes daily spot check of some area;
- holds formal inspection with supervisor/foreman/lead persons at least once per month; submits written report with assignments and deadlines for correction.
- Authorizes purchases of tools and equipment to comply with the scrapyards specifications and governmental regulations as required.
- Develops an indoctrination plan, which includes specific job instruction, for new or transferred employees; issues protective equipment and follow-up checks by supervisor/foreman/lead persons.
- Reviews the HSE performance of his area of responsibility.
- Personally, investigates all "Lost Workday" cases and significant losses and reports to plant manager. Follows-up on corrective action.
- Adopts standards for assigning protective equipment to employees; insists upon strict enforcement; and makes spot field checks to determine compliance. Also reinforces safe behaviour.
- Evaluates supervisor / foreman / lead persons' HSE performance.
- Develops strong HSE culture and a clear-cut understanding of specific duties and responsibilities in each member of management.

6 TRAINING

It's an important step for the implementation of the EMP. All the employees will require to be trained to work appropriately on EMP. Training coordinator will organize trainings in consultation with HSE Manager / Officer. It will make sure that employees understand the issues associated with the scrapyards activities. Trainings should be arranged on regular basis with notification that it should be attended all respective employees.

HSE Manager / Officer will determine the training requirements during operational phases. Induction will be the basis of all training courses for contractor and subcontractor during operational phase.

Trainings identified in EMP are given below:

- Site induction course
- Training for emergency response and preparedness
- Training for familiarization with site environmental controls
- Specific environmental training for relevant employees e.g. installing erosion and sedimentation controls, daily checks to maintain controls, cleaning up spills, waste minimization.
- The Scrapyards will have (i) Distributed Control System to monitor and control the plant process and operation, (ii) Fire and gas detection and alarm system, and (iii) an emergency shut off system. Each of these systems will be separated from each other, to provide data and communication transmission.
- A permanent firefighting system will be installed, which shall include firefighting water, foam generators and CO2 extinguishers. The personnel will be trained in the use and operation of said systems.
- Equipment such as fire trucks, firefighting equipment, medical hospital equipment, ambulances and environmental protection will also be provided so that they will be available in the event of an emergency.
- The aim is to instruct all personnel on the operation of this equipment and on the procedure to be followed in the event of fire or explosions.

6.1 Personnel Training

- Both the personnel in charge of loading and unloading scrap metals at the site, are conveniently trained to carry out their work and respond to any emergency.

Identification of Training Requirements

- **Procedure to respond to chemical hazards**
While metal sourced from older industrial machinery can be recycled purposefully, this particular source of metal is also often one that needs to be handled with extreme caution. Corrosive or poisonous chemicals can cause serious injury when in contact with human flesh while also having a detrimental impact on the environment.
- Any emergency that takes place in the scrapyards area, originating from loading or offloading area, will be immediately reported

- Unloading / loading operations must be immediately halted
- Every possible ignition source in the area must be eliminated.
 - **Basic fire-fighting procedures.**
- To control any fire at the Scrapyard, the first step will be to isolate and evacuate the area, besides taking the following precautions:
- If the fire is intense, support-mounted hoses operated at a distance or monitor guns should be used.
 - **Procedures to Respond to A Fire On the Scrapyard Facility**
- If a fire breaks out on the scrapyard, then, besides the basic firefighting procedures, the following steps will be taken:
 - Scrapyard personnel must identify the type of fire in order for the personnel working at the scrapyard to mobilize the appropriate internal or external resources required to promptly respond to the incident.

- **Procedures for flammable substances (methane).**

(A scrap yard will receive flammable materials like propane and gas tanks, paints, oil, grease, lubricants, plastics, wood, tires, and other hazardous materials that are co-mingled with recyclables. This material may end up being crushed, cut, compacted or shredded during the recycling process)

To respond to a seepage involving a flammable product, the following steps should be taken:

- Isolate the area.
- Eliminate every source of ignition in the area.
- Use duly grounded armoured equipment in the Hot Area.
- Try to seal the seepage, if it is possible to do it in a safe manner.
- Try to contain the product to prevent it from filtering into drainage networks or other places.
- Monitor flammability indices in the risk area to analyze the need to isolate a broader area.
- Remove the product with absorbent material or other mechanical means in order for wastes to be properly disposed of.

- **Procedures for toxic substances**

In situations involving the seepage of liquid substances classified as toxic, the most important thing to do is to wear appropriate breathing equipment.

If there is any doubt regarding the concentration of the substance in the environment, breathing equipment that affords the highest possible protection will be worn, that is, self-contained compressed-air breathing masks and appropriate clothing.

In addition, the following steps will be taken:

- Isolate and evacuate the area that poses a danger immediately.
- Try to seal the seepage, if it is possible to do it in a safe manner.
- Try to contain the product to prevent it from filtering into drainage networks or other places.

6.2 Safe Loading and Unloading Checklist⁸

⁸ <https://www.nationaltransportinsurance.com.au/getmedia/a0cb213d-89e7-4afe-a9b7-f39ec023884f/safe-loading-and-unloading-checklist-19.pdf>

Q&J Namib Metals will make use of this checklist to manage risk during loading and unloading procedures for scrap metals. All personnel are required to follow this process during loading and unloading. Where personnel identify a risk which is not captured in the scope of this document, they should report it to their manager who will determine if updates are required to this checklist. This should be done through formal safety feedback processes where available.

– **While loading scrap**

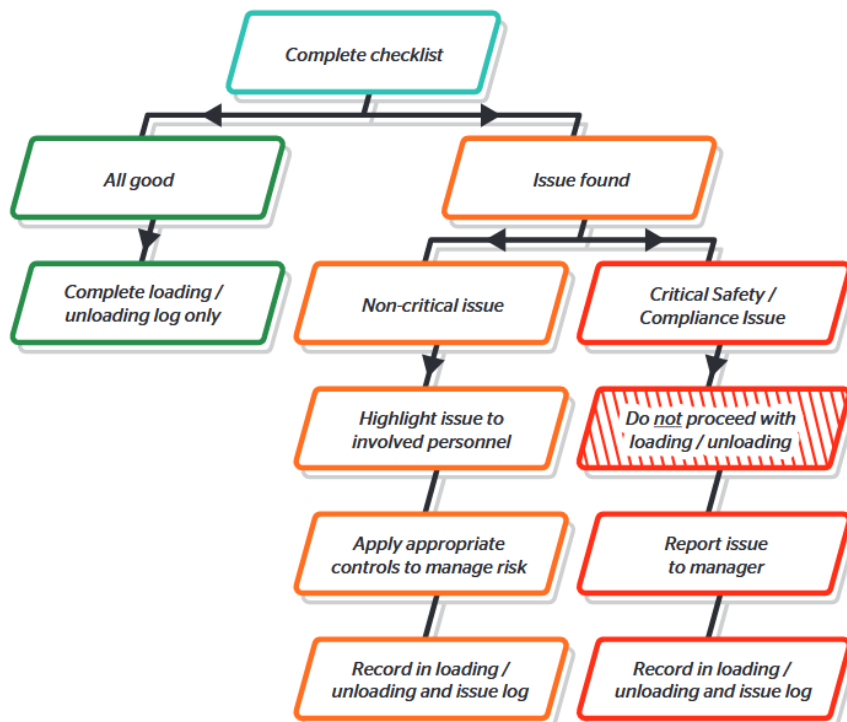
When it comes to actually handling the metal itself, there are a number of risks that Q&J Namib Metals should be aware of. Here are the main three:

- Strains and sprains that are caused by poor lifting technique, especially when the load in question is particularly large.
- Fractures and bruises caused by getting struck by materials, particularly from above.
- Cuts and punctures caused by jagged pieces of metal that are not always easy to see.

In order to avoid strains and sprains, all scrappers should know and be able to perform the proper lifting technique. However, if an object is too heavy or unwieldy, it's always best to ask for help rather than go it alone.

For fractures, bruises, cuts and punctures, the use of proper protective gear will go a long way to avoiding these sorts of accidents. However, to ensure that these sorts of injuries are properly minimised, it's vital that all scrappers understand how to properly spot potential hazards and how to avoid or prevent them.

Figure 2: Safe Loading and Unloading Checklist



6.3 Safe Loading and Unloading Checklist

General	Is the vehicle/ trailer combination type suitable for the load type, size and mass?
	Is the load platform and other working areas clean, dry and free from grease?

	Are all involved personnel wearing appropriate PPE?
	If a shipping container is involved, do you have a copy of the CWD (Container Weight Declaration)?
	Is the vehicle/ trailer appropriately positioned, level and stable with park brake engaged?
	Are appropriate people and equipment available to load/unload?
	Does any of the cargo require special lifting devices or cranes?
	Have the load and restraints been regularly checked during the journey?
	Any low power lines? Look up and live
Loading	Is the scrap metal cargo clean, well packed and secured?
	Is documentation (e.g. con notes/manifest) completed for all scrap metal cargo being moved?
	Are all necessary permits and licenses held by the driver? (if necessary)
	Are there any items that may have stored energy? (e.g. springs under tension with warning labels)
	is the height, length and width of the load within legal limits?
	Is the load restraint system suitable to safely restrain the load?
	Is the total weight of the cargo within the vehicle's carrying capacity/axle loadings?
	Is the load positioned to maintain vehicle stability, steering and braking?
Unloading	Has any scrap metal cargo moved in transit?
	Are all items effectively secured?
	Are top loaded items stable?
	Could any cargo move or become unstable if the load restraint devices are removed?
	Is there suitable equipment available to unload the vehicle/s?
	Is there any spillage of product being transported?
	Does the vehicle manifest indicate it is carrying Dangerous Goods (DG)? (if yes, refer to DG checklist)

6.3 Training Schedule

As part of its policy, emergency drills will be carried out at least twice a year, which will allow the personnel to carry out and learn the actions they must take and the attitude they must have in the face of real emergency situation at the scrapyards.

During training, consideration of following areas of knowledge and experience are essential:

- Appreciation of properties of hazardous substances e.g., toxic, flammable, reactive etc., as well as, levels at which they pose a considerable menace requiring protective measures.
- Knowledge of early-warning indicators, hazard/risk identification and ability to recognise potentially hazardous situations.
- Acquaintance with engineering control to evade the incidence of hazardous situations.
- Familiarity with capability and restraints of facility to respond the hazardous emergencies, ventilating systems, plumbing systems, shut off systems, containment strategies and emergency response measures.
- Awareness of use, repair/ maintenance of emergency response equipment as well as routine equipment to health and safety monitoring and protection.
- Awareness of methods and trials for decontamination personnel equipment and facility following potential chemical contaminations.

✓ Communications

For effective monitoring, management and documentation of the environmental performance during the operation, the Health, Safety and Environmental (HSE) matters will be discussed during daily meetings held on site. Environmental concerns raised during the meetings will be mitigated after discussions between the HSE officer and the contractor. Any issues that require

attention of higher management of Q&J Namib Metals will be communicated to them for action.

The HSE officer and the contractor will also prepare a weekly environmental report. Duplicates of the report will be provided to the higher managements of Q&J Namib Metals and of the contractor. Communication will play a vital role in good management practices. Steps given below will assist in effective communication and documentation.

A- Kick-off Meeting

The aim of organising the kick-off meeting is to define the environmental responsibilities, awareness to EMP to the managing staff and to streamline the work plan according to the EMP. This meeting will be arranged prior to commencement of activities.

B- Quarterly Meetings

Initially quarterly meetings will be held after kick-off meeting however if situation demands for monthly meetings, it will be rearranged accordingly. Aim of this meeting is to review the progress of activities performed, explore ideas and problems, and discuss about the progress in acquisition and analysis of information. Deadlines are re-evaluated in it and if necessary, the project program is revised in these meetings.

C- Peer Review

The aim of this review is to predict and modify the conclusions and interpretation of assessment phases in the light of other professional opinions that mainly not involved in the proposed project, but just for the provision of a critical appraisal of the style and expression of documentation produced.

D- Minutes of Meetings

In the end of quarterly meetings, minutes will be issued which comprises of the discussion made in the meeting, issues discussed and decisions taken with the time frame for their implementation. Main points of minutes for general employees may be incorporated in the record register. These meeting minutes will also be provided to the higher authorities of Q&J Namib Metals and the contractor for their own record.

Earth provides enough to satisfy every man's needs, but not every man's greed.

Mahatma Gandhi

7 REGULATORY REQUIREMENTS

7.1 Approvals, Authorisations and Permits

The list of potential approvals, authorizations and permits required for the scrapyards operation from both the Walvis Bay Municipality (consent Letter) and MEFT (Environmental Clearance Certificate) are given below:

- Ministry of Environment, Forestry and Tourism, Department of Environmental Affairs, for which this document would be submitted for grant of permission and approval of the project.
- Walvis Bay Municipality, the host Local Authority.

7.2 Environmental Quality Objectives

This section will outline criteria for management's quality objectives related to generation of solid waste, air and noise quality. The management of Q&J Namib Metals shall make Environmental Objectives every year and try to complete them in the stipulated time frame.

This will also include any applicable treatment criteria meeting the Environmental Management Act 7 of 2007⁹, which seeks to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment; to establish the Sustainable Development Advisory Council; to provide for the appointment of the Environmental Commissioner and environmental officers; to provide for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters.

The Act, Environmental Management Act 7 of 2007, is duly complemented by Environmental Impact Assessment Regulations made in terms of Environmental Management Act 7 of 2007 section 56 Environmental Impact Assessment Regulations Government Notice 30 of 2011 (GG 4878) came into force on date of publication, 6 February 2012¹⁰.

Figure 3: Other Regulations Which Make Part Of This EMP

Hazardous Substances Ordinance 14 of 1974¹¹	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the division of such substances into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances; and to provide for matters connected therewith.
Atmospheric Pollution Prevention Ordinance 11 of 1976	To provide for the prevention of the pollution of the atmosphere, and for matters incidental thereto.
Environmental Impact Assessment Regulations made in terms of Environmental Management Act 7 of 2007 section 56¹²	The regulations set out a procedure for identifying those projects which should be subject to an Environmental Impact Assessment, and for assessing, consulting and coming to a decision on those projects which are likely to have significant environmental effects.
Occupational Health and Safety (Labour Act 11 of 2007)¹³	Employers, by law, must provide employees with a safe and healthy working environment. Occupational Health and Safety in Namibia is governed by the Labour Act Nr 11 of 2007 in conjunction with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work'.
Public and Environmental Health	This Act provides with respect to matters of public health in Namibia. The objects of this Act are to: (a) promote public health and wellbeing; (b) prevent injuries, diseases and disabilities; (c) protect individuals and

⁹ <https://laws.parliament.na/annotated-laws-regulations/law-regulation.php?id=427>

¹⁰ https://laws.parliament.na/cms_documents/2011---environmental-impact-assessment-regulations--fdbe98c372.pdf

¹¹ <https://laws.parliament.na/annotated-laws-regulations/law-regulation.php?id=431>

¹² https://www.met.gov.na/files/downloads/665_Environmental%20Impact%20Assessment%20%20regulations.pdf

¹³ <https://laws.parliament.na/annotated-laws-regulations/law-regulation.php?id=88>

Act, 2015 (No. 1 of 2015)¹⁴

communities from public health risks; (d) encourage community participation in order to create a healthy environment; and (e) provide for early detection of diseases and public health risks.

It is also understood that monitoring shall be done by an independent consultant/ organisation. It would be further required to make the annual environmental report public as laid under the Equator Principles¹⁵.

Equator Principles (EP) requirements were taken care off in this EIA report and it is one of the mandatory requirement of EP to report all the stakeholders and announces their EHS performance publically at least once a year.

A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people.
Franklin D. Roosevelt

8. STANDARD OPERATING PROCEDURES

8.1 SCRAPYARD OPERATIONS

A- Purpose

- To achieve the desired productivity.
- To delineate the method for handling of scrap metals from – loading, offloading and cutting in a more efficient, effective and safe way or manner.

C- Scope

This procedure applies to all operations including trucks calling the scrap yard.

D- Definitions

A wrecking yard, scrapyard or junkyard is the location of a business in dismantling where wrecked or decommissioned vehicles are brought, their usable parts are sold for use in operating vehicles, while the unusable metal parts, known as scrap metal parts, are sold to metal-recycling companies¹⁶. [Wikipedia](https://en.wikipedia.org/wiki/Wrecking_yard)

E- Compliance Monitoring

It would be required by the management of Q&J Namib Metals to comply with the Environmental Monitoring Plan laid in the subsequent section.

¹⁴ <https://www.ecolex.org/details/legislation/public-and-environmental-health-act-2015-no-1-of-2015-lex-faoc144988/>

¹⁵ The Equator Principles (EPs) is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence and monitoring to support responsible risk decision-making (**Source:** <https://equator-principles.com/about/>)

¹⁶ https://en.wikipedia.org/wiki/Wrecking_yard

8.2 NOISE AND AIR EMISSIONS

A- Purpose

The purpose of this guideline is:

- To monitor contents of polluting substances in the atmospheric air;
- To control observance of approved limiting permissible emissions at man-made sources;
- To monitor natural sources and a number of man-made sources of emission at work sites at the operational phase;
- To monitor noise emissions;
- Sources of noise emissions;

B- Scope

Scope of work include

- Evaluation of present ambient air quality and noise level at existing area.
- Evaluation of impact of impact of traffic movement at the proposed site and noise level.
- Evaluation of impacts on roads and in the adjacent area due to ongoing operation.
- Recommendations for mitigation techniques to redress the expected impacts both for design phase and operational phase.

C- Definitions

In common use the word noise means unwanted sound or noise pollution. Excessive noise permanently damages hearing, but a continuous low-level sound can be dangerous too.

D- Procedure

One type of industry that has the potential to cause air pollution emissions is the scrap metal or waste industry.

It can be noted that recycling scrap offers an increasingly long list of both environmental and economic benefits, which are being recognized on a global basis. That includes reducing our landfill use, utilizing a finite amount of natural resources, and reducing the cost of creating new products¹⁷.

Metal recycling prevents habitats from being destroyed from mining new ore, and it stops the toxins contained in metals – like mercury and lead – from seeping out into landfill space as contaminated material. Recycling scrap offers health benefits to people and to the natural habitat of our wildlife.

8.3 IMPACTS TO HUMAN HEALTH AND THE ENVIRONMENT RESULT.

Scrap metal that ends up in landfill ends up poisoning the soil – leading to other issues and types of pollution. Recycling scrap metal also lessens the demand for virgin ore mining operations. Because of this, air – and other types – of pollution occur less due to the lack of mining.

E- Noise and Air Emissions Management Options

¹⁷ <https://glescrap.com/scrap-metal-recycling-reduces-air-pollution/>

Noise and air emissions monitoring includes:

- Strategic environmental planning (e.g., plant sitting and fatal flaw analyses)
- Pollution control device feasibility, troubleshooting, and cost evaluations
- Innovative solutions and flexible permitting.
- Enforcement assistance, economic evaluations, expert testimony.
- Environmental Management System (EMS) development
- Air permitting such as Prevention of Significant Deterioration (PSD), New Source Review (NSR), and relevant permits
- Air quality modelling and monitoring of air and noise emissions.
- Risk Management Plans
- Emission release inventories
- Leak Detection and Repair
- Pollution control technology assessment, emission inventory development, capture efficiency, control equipment performance and equipment specifications and warranties, compliance assessment, non-compliance resolution, negotiation of commercial terms for air pollution and control equipment and control systems, and Development of parametric monitoring, periodic monitoring, and compliance assurance monitoring.

8.4 EROSION PROTECTION REQUIREMENTS

A- Purpose Erosion Protection

Erosion control projects protect public and private land value and can help reduce sediment pollution by minimizing the degrading effects of erosion. Erosion control is necessary at the project sites which are interfacing with land.

B- Scope

Soil erosion by water and wind affects the natural environment. Soil loss, and its associated impacts, is one of the most important, yet probably the least well-known, of today's environmental problems. The scope of this activity is to control the erosion through practice of preventing or controlling wind or water erosion.

C- Definitions

The natural process by which the surface of the land is worn away by the action of water, wind, or chemical action is termed as Erosion.

erosion protection works are structures or measures constructed or installed to prevent or minimize erosion in the critical area i.e. is most likely to be the area influenced by the project.

D- Procedure

The best erosion control methods involve the restoration of natural environments within the facility. Paving can stabilize soil while enhancing habitats at the same time. Structural barriers, such as bulkheads, compact soil, alter the composition of the land, and often undermine natural ecology.

Mulching - Applying plant residues or other suitable materials, not produced on the site, to the surface of

the soil. This application will help conserve moisture; prevent surface compaction or crusting; reduce runoff and erosion; control weeds; and help establish plant cover.

E- Management Options

Adequate management and/or structural best management practices to minimize accelerated erosion prevent sediment pollution to the waters of the coastal area and maintain the resource base. Generally, this will require a conservation plan that meets the soil loss tolerance. Soil loss tolerances denote the maximum level of soil erosion that allows high levels of sustainable economic crop productivity.

- Where no significant erosion is occurring, structural erosion control measures should not be encouraged.
- Structural erosion control measures should only be used in areas designated for this activity and when non-structural measures are impractical or ineffective.
- A conservation plan includes best management practices to address erosion and sedimentation control and protection of the soil resource. In the absence of a complete conservation plan, an erosion and sedimentation control plan consisting of appropriate numbers and locations of sediment removal best management practices, must be developed, installed and maintained.

8.5 CLEAN-UP AND RE-VEGETATION

A- Purpose

This involves removal of waste during operational phase as well as during decommissioning. After clean-up, disturbed areas are stabilized, smoothed, mulched, reseeded, and fertilized as required. After decommissioning is complete and clean-up is in progress, temporary controls may be removed and permanent landscaping measures installed where required as part of final facility reinstatement.

B- Scope

Topsoil is segregated from subsoils during this operation. Top soil is stored in temporary topsoil stockpile areas for later use in re-vegetation programs. Regular visual inspection is conducted to monitor the growth of vegetation and to ensure that no erosion occurs on slope areas while the trees and other vegetation get established to protect the slope surfaces. The re-vegetation programs will be continued by the operation.

C- Procedure

To determine the number of protected species if any in or around the scrapyard in order to assess damage inflicted on the natural environment through the loss of these species and the damage to their ecotopes from the time the operations started:

- To determine number of rare species growing within the determined populations in the clearance zone.
- To determine proximity of the rest of the species population to the site / scrapyard facility in order to assess the operations and decommissioning possible impact on the whole of the population.
- To assess the condition of rare species in the impact zone prior to and in the course of the operations, as well as during decommissioning of the facilities.

D- Management of Clean-up

i- Responsibilities

The Environmental Team is responsible for verifying that clearing and re-vegetation is performed in compliance with applicable environmental requirements and specifications.

ii- Instructions

- The site environmental team will verify that the layout at the facility work area and temporary use areas conform to project.
- The team will verify that clearing is performed in accordance with operational Specifications
- The team will verify that all necessary measures are taken to minimise erosion and transport of sediment and silt from graded and disturbed work areas. Erosion control specifications and site-specific erosion control plans will be followed to ensure that disturbed areas are stabilised and erosion is minimised to the greatest extent practicable.
- Environmental inspection will be conducted throughout the project life span

E- Recording & Reporting

The team will document on a Daily Environmental Inspection Reports (DIR) the progress of clearing and re-vegetation activities and status of compliance.

8.6 WASTE MANAGEMENT PLAN

A- Purpose of Waste Management

The purpose of this procedure is to provide guidelines and simplify the process of categorizing, quantifying, managing, and disposing of solid wastes. Waste management is a critical component of company's operating policies. Waste management includes the proper handling, collection, storage, manifesting, transportation, and disposal/recycling of the solid waste generated. The procedure is designed to assist in a company wide effort to provide protection to the environment and to comply with company's corporate requirement, environmental laws and regulations regarding proper waste management.

B- Scope

The Waste Management Plan has since been developed by Q&J Namib Metals been developed by the to ensure that the Management of solid waste generated as a result of the metal recycling activities and associated activities is consistent, efficient, and in conformance with the laws and regulations.

With respect to monitoring, the waste management sets out the following objective:

- To monitor and inspect waste management-related facilities and activities directly resulting from executing the scope of the contract in order to ensure compliance. Guidelines for proper handling, categorization, recording, minimization, recycling and disposal of all types of waste associated with company operations and projects are part of this procedure.

C- Definitions

i-Waste

Any material, for which no further use is intended, is considered a waste. It can be solid, semi solid or liquid. Additionally, abandoned materials and materials intended to be recycled are considered wastes. It is very important to understand this concept, because even though something is going to be recycled, it must be managed as a waste until it is actually recycled.

ii- Hazardous Waste

Waste is categorized as a hazardous waste if it has one or more of the following properties:

- Ignitability (flash point less than 60 0 C);

- Corrosivity (pH less than or equal to 2.0, or greater than or equal to 12.5);
- Reactivity (inherently unstable under ordinary conditions or when exposed to water);
- Irritability (when in contact with body causes inflammation)
- Toxicity (may cause risk of injury to health of organisms or the environment.)

iii- Non-hazardous Waste:

The wastes are categorized as non-hazardous wastes, if they do not possess any of the hazardous characteristics as defined above. However, non-hazardous waste may still present hazards to employees who handle them. All recommended safety and handling practices must be followed.

D- Procedure

Priorities to manage the waste are listed below:

- Eliminate waste production whenever and wherever possible. Use the material only for its intended purpose on site
- Minimize waste production
- Reuse
- Recycle waste on site.
- Dispose of waste through properly designed waste disposal facility.

i- Waste Minimization

To minimize waste, the following steps shall be taken by all personnel working on scrapyards:

- Only the needed amount of materials shall be ordered. Before purchasing hazardous material, all alternatives for non-hazardous material should be explored.
- Prior consideration shall be given to the sizes of containers available when ordering products that could potentially generate waste. The intent is to avoid unused products and / or their containers from becoming wastes that require special handling.

ii- Waste Categorization

All wastes generated at scrapyards facilities shall be categorized in two major categories (i.e. Hazardous wastes and Non-hazardous wastes). Each category has different types of requirement for handling, storage and disposal.

iii- Labelling

- Name of the waste (e.g., waste oil, solvents).
- Waste category (e.g., toxic, ignitable).
- Facility name and address (disposal site, etc.).
- Date of waste accumulation: (date when waste was placed in drum).
- Wastes are segregated and located in designated areas to optimize control; storage areas.

iv- Segregation

Waste management becomes very complicated if different types of waste are mixed together. A small amount of hazardous waste, mixed with a non-hazardous waste or recyclable material, can make the whole mixture a hazardous waste. Disposal costs and liabilities for hazardous waste are very high, so it is extremely important to identify wastes and keep them segregated.

The scheme of segregation is as follows:

- All hazardous waste shall be segregated from other types of hazardous wastes as well as non-hazardous wastes at the point of generation of waste

- At all facilities, following types of containers, with colour coding for easy identification, shall be kept to collect and segregate common wastes:
- Food waste shall be collected in separate containers.
- All containers must be properly and clearly labelled. The label must clearly mention the name or type of waste. Also, if the waste is hazardous, it should be clearly labelled on the container along with its hazardous characteristics (e.g. flammable, toxic, radioactive, etc.). This is important to workers and to emergency response teams, who need to know what they are dealing with. Missing or unreadable labels must be replaced.

v- Storage and Handling

- Waste that will be sent for recycling or off-site disposal shall be temporarily stored at waste storage facilities available at different sites such as Junkyard, Scrap yard, pits, etc.
- The oily sludge, contaminated soil and other hazardous liquid waste (e.g. rinsate, chemicals, etc.) shall be stored in lined pits with HDPE liner. Liner shall be of sufficient thickness (at least 20mil) and adequate strength to withstand tears and punctures.
- All other wastes awaiting disposal shall be kept in closed containers separately. Care must be taken to prevent wastes giving rise to secondary environmental problems, such as odors or soil and groundwater pollution through rainwater leaching.
- All stored wastes must be clearly labelled with type of waste and warning signs.
- Daily estimates of hazardous and non-hazardous waste and volumes generated on site.
- Waste segregation, waste storage containers, general housekeeping and the provision of adequate resources will be monitored.
- All workers handling wastes shall use proper PPE.

vi- Recycling

Recycling and reuse minimizes the quantity of waste requiring disposal. Some of the wastes can be reused within the facilities while others can only be recycled

- Waste material (Colour or code)
- Glass (blue);
- Metals (green);
- Plastic (white);
- Oily rags (black);
- Used oil (red);
- Rubbish / trash (yellow)

Coding system for different type of waste at off-site recycling centers. For example; batteries may be sent back to manufacturer or distributor for recycling. Waste shall not be sold to the unauthorized contractors/companies, who may not have proper recycling facilities, to avoid misuse and to reduce associated liabilities. The possibilities of recycling of each waste are discussed in relevant documents.

Disposal becomes the only available alternatives, if reuse and recycling options are exhausted. A material should be classified as a waste for disposal only if no other useful purpose can be identified and if the material cannot be beneficially reused or recycled. The choice of a suitable disposal option for any waste depends on both environmental and economic considerations. The final disposal can be either at on-site disposal facilities or at off-site disposal facilities.

E- Waste Management Options

- Waste will be managed accordance with the following requirements.
- Garbage collection containers, which will be located on the land site.
- Environmental inspectors/technicians will document, in their daily report, the compliance to measures outlined in this plan.
- Kitchen and food waste will be segregated from other waste materials; the main collection container for these wastes will be emptied at least twice a day in the interests of health and hygiene.
- Other wastes such as tins, glass, packaging, plastics, etc., will be placed in the
- appropriately designated collection container; the main waste containers will be emptied at an approved waste storage site.
- All wastes will be segregated upon receipt at the waste storage area.
- Inert waste will be segregated and stored to promote reuse; it will not be stored where it can be easily moved into a wetland or water body.

The main garbage collection container(s) will be regularly collected and transported by a waste collection firm who specialise in waste disposal as per regulations.

The impact caused by handling (including stockpiling, labelling, packaging & storage), collection, transportation and disposal of wastes shall be addressed in detail and appropriate mitigation measures shall be proposed. This assessment shall cover the following areas:

- Potential hazards;
- Air and odour emissions;
- Noise;
- Wastewater discharge;
- Public transport; and landscape and visual impacts, if any.
- Wildlife protection requirement
- Fisheries protection

F- Recording & Reporting

Q&J Namib Metal has to record the information about source, composition, quantity, and final disposal of the waste. This information is needed for regulatory compliance, risk assessment and setting reduction targets and objectives as well as corporate statistics.

The Waste Tracking Form, shall be used to record this information by all Q&J Namib Metals teams, while waste is being dispatched outside facility or controlled location. It is the responsibility of the Team Leader to assign a suitable person (such as Lead Operator at all manned fields) to sign off the Waste Tracking Form, before the waste is dispatched outside.

8.7 ENVIRONMENTAL MONITOR/ INSPECTOR

A- Purpose Environmental Monitor / Inspector

This procedure identifies environmental responsibilities for the project offices and for the facility. It also provides procedural guidance for environmental training, inspection, monitoring functions during operation.

B- Scope

Primary scope of environmental inspector/monitor is to comply with the environmental requirements of the project. Q&J Namib Metals is also responsible for inspecting, documenting, and ensuring that meets operation environmental responsibilities through an integrated program of personnel orientation and training, and inspection of operation activities. In addition, the company will assist in implementing environmental management plans through its program of operation inspection.

C- Definitions

Consists of examining operation activities and document that activities are carried out in compliance with scrapyards operations and procedures and environmental Permits, specifications relating to environmental protection, and mitigation plans approved for the Q&J Namib Metals scrap yard project.

D- Procedure

The company will establish a plan detailing the procedures and documents required for implementing environmental management plan thereby complying to the environmental legislations and regulations during the operational phase of the project.

An environmental inspector will be assigned oversee the environmental compliance inspection process. In addition to performing duties, the environmental inspector (IE) will;

- Communicate with the Environmental Manager on daily basis.
- Provide key liaison role in coordinating attendees and facilitating agreements in the field, as appropriate, with agency representatives.
- Coordinate daily with (operation) inspectors, the contractor, and biological and culture monitors to ensure that required monitors are present when operation activities are scheduled in all requiring monitors.
- The EI will be on a peer status with other project inspection staff.
- The EI will act as a liaison between the contractor and agency field representative and will coordinate regularly with the various operation inspectors are apprised of the status of environmental issues in their respective areas.
- The EI will be responsible for determining noncompliance activities and anticipating activities and situation that could result in noncompliance to plan of Development, environmental permits, and project stipulations.
- The EI will play a significant role suggesting methods to bring operation activity into compliance and/or to temporarily halt certain activities that may cause damage to sensitive environmental resources.

E- Management Options

Functions and responsibilities that will be assigned to company's ES&H department include:

- Orientation of Q&J Namib Metals project personnel in environmental requirements and procedures particularly in context to the sensitive resource issues at the site.
- Environmental training particularly in environmental monitoring is to be imparted to all project personnel.
- Inspection of facilities activities for compliance with environmental regulations,
- Specifications, stipulations, drawings, mitigation plans, and procedures.
- Documentation of all training, inspection, and monitoring activities should be exercised.
- Coordinate with the owner's environmental representatives and management personnel on environmental issues.
- Provide technical support to Owner for obtaining environmental permits or other Authorizations as needed or modified during operation.

F- Recording & Reporting

Environmental compliance records will be completed daily (as applicable) on standard reporting forms. Other records may include daily logbooks, meeting notes, correspondence, or records of telephone conversations. Compliance reports and other appropriate records will be logged into the field ES&H office and copies transmitted to the project office.

Forms will be used to document field inspection activities. They become permanent documents when completed by the Site trainer and reviewed and signed by the appropriate supervisor, as required. Documentation that will be used by field environmental compliance personnel is summarized below.

i- Daily Environmental Inspection Checklist

The purpose of the checklist is to document the results of the environmental inspection activities conducted during the day with respect to compliance of observed operation activities relative to applicable environmental requirements.

The ES&H Manager reviews the report for adequacy and accuracy and identifies potential problem areas. operation sign-off is required only if there is a non-compliance requiring action and/or acknowledgement by operations. Copies of all checklists are filed in the site ES&H files.

The checklist is designed to be site specific and will remain dynamic through-out operation shipto ensure it remains relevant to current activities.

ii- Weekly Inspection Report

A weekly inspection report is prepared by the Environmental Team after completing a general inspection of site and submitted to the Manager, with copies to the Ministry of Environment, Forestry and Tourism, as well as the Walvis Bay Municipality (as a courtesy) and as enshrined under the Equator Principles. The report includes:

- Summary of inspection and monitoring efforts on the spread over the past week;
- No Smoking" signs will be conspicuously posted in areas where flammable materials are present.
- Fire extinguishers will be placed in all areas where a fire hazard may exist.
- Before workers begin operations in an area, the foreman will give instruction on egress procedures and assembly points. Egress routes will be posted in work areas and exit points clearly marked.

The following procedures will be implemented in the event of a fire:

- Anyone who sees a fire will notify their supervisor who will then contact the Site Manager and the Health and Safety Officer by radio. The Health and Safety Officer will activate the emergency air horns and contact the local Walvis Bay Municipality Fire Department.
- When the emergency siren sounds, workers will disconnect electrical equipment in use (if possible) and proceed to the nearest fire exit.
- Work crews will be comprised of pairs of workers (buddy system) who join each other immediately after hearing the fire alarm and remain together throughout the emergency. Workers will assemble at a predetermined rally point for a head count.
- When a small fire has been extinguished by a worker, the Site Manager and the Health and Safety Officer / Team will be notified.

A- Evacuation Procedures

In the event on-site evacuation of remedial action personnel is necessary, the following actions will be taken:

- The emergency signal will be activated (one single long blast on the air horn).
- No further entry of visitors, contractors, or trucks will be permitted. Vehicle traffic within the site will cease in order to allow safe exit of personnel and movement of emergency equipment.
- Shut off all machinery if safe to do so.
- All on-site personnel, visitors, and contractors in the support zone will assemble at the entrance to the site for a head count and await further instruction from the Site Superintendent.
- All persons in the exclusion zone and contamination reduction zone will be accounted for by their immediate crew leaders (e.g., foremen).
- During exit, the crew leader will try to keep the group together. Immediately upon exit, the crew leader will account for all employees in his crew.
- Upon completion of the head count, the crew leader will provide the information to the Site Superintendent.
- Contract personnel and visitors will also be accounted for.
- The names of emergency response team members involved will be reported to the Site Superintendent.
- A final tally of persons will be made by the Site Superintendent or designee. No attempt to find persons not accounted for will involve endangering lives of employees by re-entry into emergency.
- In all questions of accountability, immediate crew leaders will be held responsible for those persons reporting to them. Visitors will be the responsibility of those employees they are seeing. Contractors and truck drivers are the responsibility of the Site Superintendent. The Health and Safety Officer will aid in accounting for visitors, contractors, and truckers by reference to sign-in sheets available from the guard shack.
- Personnel will be assigned by the Site Superintendent to be available at the main gate to direct and brief emergency responders.
- Re-entry into the Site will be made only after clearance is given by the Site Superintendent. At his direction, a signal or other notification will be given for re-entry into the Site.
- Drills will be held periodically to practice all of these procedures and will be treated with the same seriousness as an actual emergency

8.8 HAZARDOUS SPILL CONTINGENCY PLAN

In the event of an emergency involving hazardous material spill or release, the following general procedures will be used for rapid and safe response and control of the situation.

Emergency contacts in provide a quick reference guide to follow in the event of a major spill. Hazmat spill responses will be coordinated through the local Emergency Response Centre.

A- Notification Procedures

If an employee discovers a chemical spill or a vapour or material release, he or she will immediately notify the Site Superintendent.

The Site Superintendent will obtain information pertaining to the following:

- The material spilled or released.
- Location of the release.
- An estimate of quantity released and the rate at which it is being released.
- The direction in which the spill, vapour or smoke caused by the release is heading.
- Any injuries involved.

- Fire and/or explosion or possibility of these events.
- The area and materials involved and the intensity of the fire or explosion.

This information will help the Site Superintendent to assess the magnitude and potential Seriousness of the spill or release.

B- Procedure for Containing/Collecting Spills

The initial response to any hazardous spill or discharge will be to protect human health and safety, and then the environment. Identification, containment, treatment, and disposal assessment will be the secondary response.

As called for in regulations developed under the **Comprehensive Environmental Response**, designated Response personnel will take the following measures:

- Avoid breathing vapors of spilled material.
- If possible and safe to do so, turn off any ignition source or gas emergency shutoff valve.
- Make sure all unnecessary persons are evacuated from the hazard area.
- Put on protective clothing and equipment.
- If a flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment for recovery of material.
- Determine the major components in the waste at the time of the spill and remove all surrounding materials that could be reactive with the spilled material.
- If wastes reach a storm sewer; try to dam the outfall by using sand, earth, sand bags, etc. If this is done, pump this material out into a temporary holding tank or drums as soon as possible.
- If volatile emissions may occur, spray the spill area with foam, if available.
- Apply appropriate spill control media to absorb discharged liquids.
- For large spills, establish diking around leading edge of spill using booms, soil or other appropriate material. If possible, use a diaphragm pump to transfer discharged liquid to drums or a holding tank.

C- Emergency Spill Response Clean-Up Materials and Equipment

The supply of appropriate emergency response clean-up and personal protective equipment on hand will be inventoried and visually inspected on a weekly basis.

The materials listed below will be kept on-site for spill control depending on the types of hazardous materials present. The majority of this material will be located in the support zone, in a supply trailer or storage area.

- Activated charcoal (carbon) to adsorb organic solvents (hydrocarbons) and to reduce flammable vapours.
- Appropriate solvents, e.g., for decontamination of structures or equipment.

The following equipment will be kept on-site and dedicated for spill clean-up:

- Plastic shovels for recovering corrosive and flammable materials.
- Sausage-shaped absorbent booms for diking liquid spills, drains, or sewers.
- Sorbent sheets (diapers) for absorbing liquid spills.
- Over pack drums for containerizing leaking drums.
- open-top drums for containerization of waste materials.

Once a hazard has been recognized, take immediate action to prevent the hazard from

becoming an emergency. This may be accomplished by the following:

- Daily safety meeting
- Task-specific training prior to commencement of activity
- Lock-out/tag-out
- Personal protective equipment (PPE) selection/use
- Written and approved permits for hot work, confined space
- Air monitoring
- Following all standard operating procedures
- Practice drills for fire, medical emergency, and hazardous substances spills.

8.9 HOUSEKEEPING

In order to reduce the possibility of accidental spills and safety hazards, good housekeeping practices will be followed. They include prompt removal of small spills, regular maintenance of walking areas, regular removal of refuse, and staging of similar materials together.

8.10 SECURITY

All rules and regulations set up by Q&J Namib Metals will be followed by all personnel on site.

8.11 TRAINING

All site personnel are trained to operate the equipment that is present at the site.

8.12 FIRE DETECTION AND WARNING

Portable Fire extinguishers will be used in buildings and onsite / facility and as protection during "Hot Work" activities throughout the site. As operations progress and systems are commissioned within specific buildings, personnel will be informed of the differential of alarm sounds.

- Large office accommodation will be protected by the use of hard-wired smoke detection devices with battery backup.
- A suitable means of raising the alarm in the event of a fire or other emergency at the scrapyard facility will be established. The alarm system will be appropriate to ensure all personnel can be notified immediately of any emergency situation and evacuation, or other actions required. The alarm system will be tested on a regular basis.

8.13 SITE ACCOMMODATION

- Site accommodation (all temporary facilities) shall be designed and laid out in such a manner so as to reduce the risk of fire to the minimum.
- Good housekeeping shall be observed at all times throughout buildings with desks cleared at the end of each working day and sensitive documents locked away in flame proof cabinets/ lockers.
- All site accommodation shall have sufficient multipurpose dry powder extinguishers located at the access door with signs indicating their positions.
- Additional CO2 extinguishers shall be provided to cover other electrical equipment.
- All fire extinguishers are visually checked on a regular basis through weekly area inspections and quarterly in accordance with equipment tagging process.

8.14 FIRE DRILLS

- The SHE Team shall ensure that monthly drills are carried out that ensure all personnel are familiar with the evacuation procedure and their respective muster points.
- Simulated fires shall be carried out to ensure the readiness and competency of the fire brigade to fight a major fire. During the drill equipment shall be tested and shall adequately work. In the event any piece of equipment should fail it shall be immediately replaced.
- Review of brigade competency shall be determined during the drills. Brigade members shall be retrained if any evidence of in-competency exists.

8.15 MATERIALS STORAGE

- The SHE Team must be informed of all flammable gases and liquids being brought onto site.
- Oxygen and fuel gas cylinders shall not be stored together. The minimum distance between cylinders is to be 3 meters. Singular oxygen, acetylene carts will be acceptable as long as they are in use together.
- No flammable materials including solids, gases or liquids shall be stored next to any temporary facilities.
- Storage of flammable gases shall be a minimum of 5 meters from any occupied building suitably secured and with a prominent sign stating "**DANGER HIGHLY FLAMMABLE**".
- Storage facilities for flammable gases will be inspected by the Site ES&H Manager prior to being used.
- Material storage within the warehouse facility will maintain an excellent standard of housekeeping at all times. Flammable material packaging shall be removed to a safe location as it becomes redundant. Sprinkler systems shall be investigated in warehousing facilities, and where possible installed.
- Materials shall be stored in compliance with statutory regulations.

8.16 FIREFIGHTING EQUIPMENT

The following firefighting equipment shall be maintained in good order at the Project and Equipment will also be suitable for fighting bush fires in and around the scrapyard facility:

- Fire Extinguishers of adequate size and number
- Fire hose and nozzles
- Bunker gear
- Air packs
- 1 pumper truck with internal tank
- 1 water tanker with pumping capabilities
- Fire pumps of sufficient size to fill tanker or pumper
- Assorted accessories for connecting hoses and fighting fires (wrenches, hose clamps, axes, etc.
- Rescue gear for high level rescue (if this is assigned to this group)
- Equipment shall be maintained and tested to ensure serviceability in the event of a fire.
- Tests shall be conducted monthly.
- A water fill station including a storage tank of adequate size to meet scrapyard operation fire requirements shall be installed to facilitate the filling of the pumper truck and tanker.
- The plant fire suppression system shall be prioritised and serviceable as soon as practical during operation.

8.17 TRAINING

All employees shall receive general firefighting training (i.e., fire extinguisher use), with the minimum training encompassing:

- Use and limitations of the firefighting equipment
- Firefighting strategies and methods
- Use of respiratory equipment and its limitations

- Donning bunker gear and its care
- Care and maintenance of firefighting equipment and hoses
- Confined space entry and fire fighting in a confined space
- First aid
- High level rescue (if the site assigns this responsibility to this group)

To waste, to destroy our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and

Theodore Roosevelt

9. ENVIRONMENTAL COMPLIANCE

Proponent will be responsible for regular audit and review of environment and safety management of the facility. This will include both on-site auditing and review of performance reports. Additional onsite inspections and investigations will be undertaken in the event of significant environmental incidents. These will be undertaken in conjunction with the relevant government agencies.

Plant management will participate in the audits and inspections and investigations. Plant management will also be responsible for regular review of the environmental performance of the site and site personnel, and for the reporting on the implementation of commitments made in the EMP.

There is also likely to be some compliance auditing associated with the licensing of the Q&J Namib Metals scrapyards, for each government recommendation and proponent commitment, the following information:

- The recommendation or proponent commitment being addressed;
- The issue to be addressed by the proponent;
- How the issue is to be addressed by the proponent;
- Where the issue is addressed in the EMP;
- When the issue is to be addressed by; and
- To whose satisfaction the issue is to be addressed.

The finalisation of the EMP will see the completion of **Compliance Audit Table**, which will record dates of compliance by the proponent with recommendations and Commitments and a reference to appropriate documentation from the relevant approving authority. The Compliance Table is meant to be a live document and will be updated periodically throughout the life of the project.

9.1 Audits

in particular, there will be:

- Annual audit reports.
- A triennial review and improvement of the EMP.

Proponent recognises that periodic external compliance audits and inspections will be made to monitor, assess and validate the level of Proponent performance and compliance pursuant to the commitments made in the accepted Environmental Management Plan.

9.2 Site Internal Environmental Audit

- Operational Area
- Administration Building
- Guard House
- Loading / Off-loading Bay

To enable site management to assess the day-to-day environmental management of activities at the site. Environmental activities include all aspects of operations that result in emissions, effluent or wastes.

9.3 Environmental Management

Systems Audit

- To assess the implementation and operational success of the EMS at the site. This is achieved by assessing the objectives, organisational structure, responsibilities,
- Procedures, processes and resources available at the site. The EMS Audit is a systems assessment, rather than an audit of environmental compliance, which is assessed through the Site Internal Environmental Audit.
- Potential areas of concern for audit during operational of the scrap yard

10. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

An Environmental Management Plan (EMP) or Programme (EMPr) is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning specific to a project are prevented; and that the positive benefits of the project are enhanced. The following tables form the core of this EMPr for the current operational phase of the development. These tables should be used as a checklist on site. The aim of this EMPr is to derive measures that should be implemented during the current operational phase.

This EMPr combines a variety of scrap metal recycling operating programs into a single, integrated, flexible, always-improving management scheme. It specifies how to:

- Operate and maintain facility equipment
- Identify and mitigate safety and environmental hazards
- Change operating equipment, processes, and personnel
- Respond to and investigate accidents, upsets, and “near misses”
- Purchase equipment and supplies
- Work with contractors
- Train personnel
- Review the EMPr to ensure it works and make it better.

The MMS has four principal EMPr objectives:

1. Focus attention on the influences that human error and poor organization have on accidents
2. Continuous improvement in the scrapyards industry’s safety and environmental records
3. Encourage the use of performance-based operating practices
4. Collaborate with industry in efforts that promote the public interests of scrapyards worker safety and environmental protection.

Table 1: OPERATIONAL PHASE - Legal Compliance

STATUTORY REQUIREMENT: Legal Compliance	
PHASE:	Operational
IMPACT:	Compliance
TASK/ENVIRONMENTAL IMPACT:	Legal Compliance
OBJECTIVE:	To conform to prevailing Namibian and international standards during operational phase of the scrapyards
ACTION REQUIRED:	Respective permits and consents to be obtained from respective government agents and local authority, which is Walvis Bay Municipality.
TARGETS TO MONITOR COMPLIANCE AND	Proper filing, Recording and documentation of all permits, consent letters, Municipal Fitness certificates

REPORTING THERE ON:	
RESPONSIBILITY:	Proponent, Health & Safety Officer, Relevant Government Ministries and Departments
TIME FRAME:	Current operational phase.

Table 2: OPERATIONAL PHASE - Environmental Clearance Certificate

STATUTORY REQUIREMENT: Legal Compliance	
PHASE:	Operational
IMPACT:	Compliance
TASK/ENVIRONMENTAL IMPACT:	<ul style="list-style-type: none"> Environmental Clearance Certificate must be renewed every three years, next renewal is in 2024
OBJECTIVE:	<ul style="list-style-type: none"> To maintain Environmental Clearance Certificate.
ACTION REQUIRED:	<ul style="list-style-type: none"> monthly Environmental Inspection renewal of the Environmental Clearance Certificate in 2024
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> Official Environmental Clearance Certificate issued by the Ministry of Environment, Forestry and Tourism (MEFT) on file.
RESPONSIBILITY:	Proponent, Health & Safety Officer
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing Scrap metal facility.

Table 3: OPERATIONAL PHASE - Socio-economic

SOCIO-ECONOMIC: Job Opportunities and Economic Upliftment	
PHASE:	Operational
IMPACT:	BENEFICIAL / AFFIRMATIVE
TASK/ENVIRONMENTAL IMPACT:	socio-economic development, skills transfer and capacity development of local communities

OBJECTIVE:	<ul style="list-style-type: none"> Advantages for local previously disadvantaged communities in terms of employment, empowerment and socio-economic upliftment.
ACTION REQUIRED:	<ul style="list-style-type: none"> Locals will be given first preference for employment purposes Where possible, employment of local persons should be used for capacity building which will sustain economic development through Capability development
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> Record of local workers employed. A yearly report on skills development and training should be compiled.
RESPONSIBILITY:	Proponent, Human Resources Consultants
TIME FRAME:	Ongoing operations

Table 4: OPERATIONAL PHASE - Socio-economic

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

Table 5: OPERATIONAL PHASE - Socio-economic

Socio-economic: Contribute to upgrading of existing infrastructure

PHASE:	Operational
IMPACT:	BENEFICIAL
TASK/ENVIRONMENTAL IMPACT:	Contribute to upgrading of existing infrastructure
OBJECTIVE:	Upgraded municipal bulk services
ACTION REQUIRED:	All recommendations made by the civil, traffic and electrical engineer and approved by the Municipality must be installed as per standard specifications.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Implementation of infrastructure as per approved engineering plans
RESPONSIBILITY:	Proponent, Management, Health & Safety Officer
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing Scrap metal facility.

Table 6: OPERATIONAL PHASE - Security and Surveillance

Security and Surveillance: Control of access.	
PHASE:	Operational.
IMPACT:	Security and Surveillance.
TASK/ENVIRONMENTAL IMPACT:	<ul style="list-style-type: none"> The control of access points (Gates and Doors) to Scrap Metal Sales to prevent unauthorized entry potentially causing injury to untrained people or theft or destruction of company property.
OBJECTIVE:	<ul style="list-style-type: none"> Control of access points (Gates and Doors) to Scrap Metal Sales.
ACTION REQUIRED:	<ul style="list-style-type: none"> Staff training to ensure that no unauthorized entry will be permitted and persons wishing to enter the premises legitimately are escorted by a member of staff for their own safety and well-being. Security procedures and measures to be reviewed yearly and any amendments to be communicated to management and employees.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> Video surveillance records to be downloaded and stored for security related incidents together with reports detailing the events.
RESPONSIBILITY:	<ul style="list-style-type: none"> Proponent, Management, Health & Safety Officer

TIME FRAME:	<ul style="list-style-type: none"> On-going operational phase.
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Table 7: OPERATIONAL PHASE – Bio-Physical: Exotic plant species

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

Table 8: OPERATIONAL PHASE – Legal Compliance: Aesthetic / Visual Intrusion & Light Pollution

Socio- economic: Visual Intrusion & Light Pollution	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT	Aesthetic / Visual Intrusion & Light Pollution
OBJECTIVE:	<ul style="list-style-type: none"> To mitigate the potential negative impact on "genius loci" and visual impact, should architecture not be in line with natural character of area, through the appropriate application of form, scale, materials and finishes
ACTION REQUIRED:	<ul style="list-style-type: none"> Light pollution should be minimized. Lighting on site is to be sufficient for safety and security purposes, Littering, rubbish and illegal dumping on the site is NOT allowed. Refuse must be contained and disposed of at the Walvis Bay Municipal land fill site site. Refuse bins must be provided. These must be sufficient in number and easily accessible. The buildings may not be visually intrusive. The buildings must be regularly painted. All lights used for non-security purposes should be energy efficient for example compact fluorescent lights (CFL). Fluorescent lamps give five times the light and last up to 10 times as long as ordinary bulbs. Outside lights will have to be downward shining (eyelid type), low wattage and should not be positioned higher than 1 m above the ground surface.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No complaints from surrounding property owners
RESPONSIBILITY:	Proponent, Management, Health & Safety Officer
TIME FRAME:	Planning and ongoing operational phases

Table 9: OPERATIONAL PHASE – Legal Compliance: Traffic

Socio- economic: Traffic	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Traffic control
OBJECTIVE:	Possible increased pedestrian hazard and increased road damage.
ACTION REQUIRED:	<ul style="list-style-type: none"> • Signs must conform to the standards of Manual for Outdoor Advertising Control. • Areas that have been landscaped must be maintained. • It will be a Condition of the Zoning that a solid 3m high boundary wall be erected around the site, thereby screening the activities of the filling station from the adjoining sites. • Access to the site is from 8th Street. The proposed access arrangements are based on the standards contained in the "Guidelines for Access to Filling Stations (BB2 document)" (November 2003 - SA). • Road surfaces in the immediate vicinity of the site should be monitored. If the road is damaged the relevant authority must be notified • Advertising boards must not block the visibility of the B1 road to and from the existing SCRAP METAL facilities access road. • Access to and from the site must not have a negatively impact on the traffic on the main road . • All requirements by the Traffic engineer and Provincial and Local Traffic Department must be adhered to.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No complaints from road users
RESPONSIBILITY:	Proponent, Management, Health & Safety Officer
TIME FRAME:	Planning, design and current operational phases

Table 10: OPERATIONAL PHASE – Legal Compliance: Noise

Socio- economic: Noise	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	<p>Noise:</p> <ul style="list-style-type: none"> • Excessive noise in the workplace presents a risk of hearing damage and other health problems. • The parts of the ear that process high frequency sounds are usually the First to be affected. The degree of hearing loss depends on the loudness of the noise and how long exposure is. • Typical noise sources are Power tool operation and Hand tools (use of hammers on metallic surfaces).
OBJECTIVE:	To minimize impact of noise on surrounding properties and environment
ACTION REQUIRED:	<ul style="list-style-type: none"> • Noise levels shall be kept within acceptable limits, and forecourt staff must abide by National Noise Laws and local by-laws regarding noise. • Equipment such as mechanical equipment, extraction fans, refrigerators that are fitted with noise reduction facilities (e.g. side flaps, silencers etc.) must be used as per operating instructions and maintained properly. • Noise levels should comply with the SANS Code of Practice 10083-2013 (recommended noise levels). SANS 10083:2012 – The Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes. • Employees operating Power tools and Hand tools like hammers that generate excessive noise should comply with Health and Safety standards that require them to wear ear protection. • Scrap Metal Sales must ensure that PPE is provided and training given how and when it should be worn.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> • No complaints from surrounding property residents. • A complaints register Should be kept to log any complaints by the public and the complaints should be investigated and action taken if deemed necessary.
RESPONSIBILITY:	Proponent, Management, Health & Safety Officer
TIME FRAME:	Current operational phases and if any upgrades or construction take place on the existing SCRAP METAL facility.

Table 11: OPERATIONAL PHASE – Legal Compliance: Dust

Socio- economic: Noise	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Dust: Walvis Bay has seasonal winds which can cause excessive dust that can pose hazards to the public and industrial operations.
OBJECTIVE:	To minimize impact of noise on surrounding properties and environment
ACTION REQUIRED:	<ul style="list-style-type: none"> • Operations involving handling and transport of scrap material must be avoided under high wind conditions or when a visible dust plume is present. • Staff working outside should be issued dust masks and goggles that will mitigate the effects.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> • No complaints from surrounding property owners • A complaints register Should be kept to log any complaints by the public and the complaints should be investigated and action taken if deemed necessary.
RESPONSIBILITY:	Proponent, Management, Safety Officer
TIME FRAME:	Current operational phases and if any upgrades or construction take place on the existing SCRAP METAL facility.

Table 12: OPERATIONAL PHASE – Legal Compliance: Atmospheric Pollution & Odours

Socio- economic: Atmospheric Pollution & Odours	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Atmospheric Pollution & Odours
OBJECTIVE:	Minimize atmospheric pollution and Odours
ACTION REQUIRED:	<ul style="list-style-type: none"> • Emissions from the SCRAP METAL retail facility will be low level and thus disperse into the atmosphere. • The emissions from the existing SCRAP METAL facility would be dispersed according to the prevailing wind direction, with increased distance the concentration of the emitted particles will decrease. • All general waste areas are to be maintained in a neat and orderly manner and bins must have secure lids. • The existing SCRAP METAL facility must fully comply with the No. 5430 Government Gazette 27 March 2014 and No. 35
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	No reports of negative health incidents or complaints from surrounding property residents
RESPONSIBILITY:	Proponent, Management, Health & Safety Officer
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing SCRAP METAL facility.

Table 13: OPERATIONAL PHASE – Legal Compliance: Safety & Security.

Socio- economic: Safety & Security	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	The control of access points (Gates and Doors) to Scrap Metal Sales to prevent unauthorized entry potentially causing injury to untrained people or theft or destruction of company property.
OBJECTIVE:	Ensure safety and security of staff and users of the facility
ACTION REQUIRED:	<ul style="list-style-type: none"> • Appropriate measures should be in place for the correct storage and handling of material as well as the procedures for dealing with dangerous situations. • Staff should be adequately trained with respect to dealing with crime. • Equipment and materials must be handled by staff that have been supervised and adequately trained. • Staff must be regularly updated about the safety procedures. • Emergency facilities must be available and adequately supplied for use by staff and customers. • Emergency contact details for the police, Security Company and fire department must be readily available. • Staff training to ensure that no unauthorized entry will be permitted and persons wishing to enter the premises legitimately are escorted by a member of staff for their own safety and well-being. • Security procedures and measures to be reviewed yearly and any amendments to be communicated to management and employees.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Video and camera surveillance records to be downloaded and stored for security related incidents together with reports detailing the events.
RESPONSIBILITY:	Operational Manager and Safety Officer.
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing SCRAP METAL facility.

Table 14: OPERATIONAL PHASE – Legal Compliance.

Legal Compliance: Health and Safety	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Legal Compliance - Health and Safety.
OBJECTIVE:	<p>The daily operations of Scrap Metal Sales pose various health and safety risks to people:</p> <ul style="list-style-type: none"> • Loading & Offloading/Sorting /Bailing • Operation of Forklifts and Trucks without training. • Employees working with no or incorrect PPE. • Manual handling injury of scrap material. • Trip and fall hazards. <p>Deconstruction/Flame Cutting</p> <ul style="list-style-type: none"> • Operation of Power tools, gas flame cutters and hand tools without adequate training. • Fire hazards. • Trip and fall hazards. • Dust • Employees working with no or incorrect PPE. • Manual handling injury of scrap material. • Working in confined spaces. • Working at height.
ACTION REQUIRED:	<p>Scrap Metal Sales must ensure that employees are aware of the risks to health and safety to their well-being on site and Scrap Metal sites must comply with the health and safety standards stated in the Labour act.</p> <p>The health and safety management system mitigation measure are:</p> <ul style="list-style-type: none"> • Vehicle and forklift operators must have the relevant licenses to operate such equipment with site specific training as well as pre-inspection checklists before operation of vehicles or forklifts. • Personal Protective Equipment is available and employees are trained in their proper use. • Training in proper lifting techniques to prevent manual handling injuries. • Good Housekeeping standards and procedures. • Training to mitigate trip and fall hazards • Employees operating the Bailing machine and Power tools to be trained in their proper and safe use. • Gas flame cutters to have training in the use of compressed gas and safe storage of compressed gas. • Ensure danger, warning, caution, notice and safety signs are on site where relevant. • First Aid kits are available on site; The proponent is encouraged to make use of fume

TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> • Scrap Metal Sales must ensure Employees are identified and trained in First Aid and that emergency contact details are accessible and displayed on signage on every site. • First Aid Kits to be made available on site. • A register of incidents must be kept and should incident occur, then actions are taken to mitigate or eradicate these incidents from occurring.
RESPONSIBILITY:	Operational Manager and Safety Officer.
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing SCRAP METAL facility.

Table 15: OPERATIONAL PHASE – Bio-Physical: Risks of Fires & Explosions

Bio-Physical: Risks of Fires & Explosions	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT:	Risks of Fires & Explosions
OBJECTIVE:	Prevent emergency incidents
ACTION REQUIRED:	<p>The design of the existing SCRAP METAL facility must conform to the following fire safety standards and legislation:</p> <ul style="list-style-type: none"> • Labour Act 11 of 2007 • Local Authorities Fire Brigade Services Act, 2006 (Act No. 5 of 2006), <p>The following signs must be installed in accordance with the Fire Department:</p> <ul style="list-style-type: none"> • "NO SMOKING" • "NO NAKED FLAME" • Firefighting facilities must conform to the oil industry standard and be regularly inspected. • The existing SCRAP METAL facility management must develop an EMERGENCY PLAN. All staff must be adequately trained in the implementation of this plan.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	<ul style="list-style-type: none"> • Approved Emergency Response Plan • Record of regular training of staff • Record of regular monitoring
RESPONSIBILITY:	Proponent, Operational Manager, Safety Officer
TIME FRAME:	Current operational phase and if any upgrades or construction take place on the existing facility.

Table 16: OPERATIONAL PHASE – Bio-Physical: Risks of Fires & Explosions – Continue

Bio-Physical: Risks of Fires & Explosions	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL	<ul style="list-style-type: none"> • Fire and explosive hazards include compressed gas, combustible and flammable liquids and substances, and/or when hot work is performed • Fire and explosion can occur when the temperature has reached the flash point of the volatile material, and where there is sufficient vapour present in the atmosphere. • Storage of these items present an inherent fire risk and operating procedures and safety measures should be in place to mitigate this hazard during operation and storage as human error mainly contributes to these hazards causing a fire and or explosion.
OBJECTIVE:	Prevent emergency incidents
ACTION REQUIRED:	<p>To ensure the prevention or mitigation of these hazards the employer must:</p> <ul style="list-style-type: none"> • Develop safe work procedures for fire and explosive hazards in the workplace, including storage, handling and operation of these items according to MSDS instructions and guidelines. • Regular site inspections to identify potential hazards. • Good maintenance and electrical components to prevent oil spillages or sparks that could lead to a fire hazard. • Good housekeeping practices to prevent accumulation of flammable material such as plastics, oily rags and wood. • Training of employees in the safe work procedures. • Employees are trained in identifying fire and explosive hazards, and are encouraged to report unsafe conditions so action can be taken immediately. • Ensure that workers comply with the safe work procedures. • Sufficient fire protection equipment and fire extinguishers are present in the workplace. • Regular inspection of Water Supply points and Fire Fighting Equipment. • Purging with effective removal methods are performed before any hot work begins on pipes or containers containing flammable substances. • Personnel working with flame Cutting equipment should be issued with the correct PPE. • Fire Evacuation Drills to be done yearly to ensure familiarity with access routes and muster points.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THEREOF:	<ul style="list-style-type: none"> • Reporting should be recorded of all incidents. • Also, to be recorded are the dates when Fire Drills are practiced and when fire equipment was inspected and if needs be, replaced and water supply points tested.
RESPONSIBILITY:	<ul style="list-style-type: none"> • Proponent
TIME FRAME:	<ul style="list-style-type: none"> • ongoing operational phase and if any upgrades or construction take place on the existing facility.

Table 17: OPERATIONAL PHASE – Bio-Physical: Waste Generation & Disposal

Bio-Physical: Waste Generation & Disposal	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT	<ul style="list-style-type: none"> Waste is created during operations and includes waste created from offices, industrial operations (scrap material including wood, plastics and contaminated soil) and waste bins. These wastes are to be collected and stored to be taken to an allocated waste disposal facility.
OBJECTIVE:	Prevent pollution of ground & surface water and the environment as a whole
ACTION REQUIRED:	<ul style="list-style-type: none"> Waste collection and cleaning must be done on a regular basis to prevent hazards associated with pest control and fire. Waste that can be recycled must be separated to be taken to the appropriate recycling facility. Scrap Metal Sales has identified waste collection points on site and placed suitable receptacles for waste collection. Recycling and the provision of separate waste receptacles for different types of waste must be encouraged. Waste that has been identified as hazardous (contaminated soils, hydrocarbon-soaked rags, filters etc.) should be separated and taken to a waste disposal facility to be disposed of appropriately. Training of personnel to identify waste that is Hazardous, non-hazardous and what is recyclable. Solid waste generated needs to be collected at a central point. This waste will be disposed of as normal domestic waste at the closest municipal waste disposal site. Waste management at the existing SCRAP METAL facility shall be strictly controlled and monitored. Only approved waste disposal NO burning, on-site burying or dumping of waste shall occur on site. Hazardous waste will only be produced during emergency situations such as a spill that has been cleaned up with an absorbent material. This will be disposed of at a registered hazardous landfill site. These materials may be removed by an appropriate hazardous waste Contractor. Proof of appropriate disposal must be obtained by the Contractor.
TARGETS TO MONITOR COMPLIANCE AND REPORTING THERE ON:	Any hazardous waste that is disposed of must be recorded in a register, making record of the type of hazardous waste, the weight and the waste disposal facility that received it. Proof of receipt of the hazardous waste
RESPONSIBILITY:	Proponent, Safety Officer, Contractor/s
TIME FRAME:	Ongoing operational phase.

Table 18: OPERATIONAL PHASE – Bio-Physical: Contamination

Bio-Physical: Contamination	
PHASE:	Operational
IMPACT:	ADVERSE
TASK/ENVIRONMENTAL IMPACT	<ul style="list-style-type: none"> • Land can become contaminated due to releases of hazardous materials, wastes and oils. Releases of these materials may be the result of historic or current site activities, including accidents during their handling and storage, or due to poor management or disposal • Land is considered contaminated when it contains hazardous materials concentrations, including oil, above baseline and/or naturally occurring levels • Contaminated soils may involve topsoil's or subsurface soils that, through leaching and transport, may affect groundwater, surface water, and adjacent sites. • Common spillage occurs due to mechanical breakdown in vehicles or transfer of oil or fuel from one receptacle to another.
OBJECTIVE:	Prevent pollution of ground & surface water and the environment as a whole.
ACTION REQUIRED:	<ul style="list-style-type: none"> • Soil contamination should be avoided by preventing or controlling the release of hazardous materials, hazardous wastes, or oil to the environment. When soil contamination is suspected or confirmed during operations, the cause of the ' uncontrolled release should be identified and corrected to avoid further releases and associated adverse impacts. • Create specially designated areas for vehicle, machinery and equipment maintenance. • Good maintenance and housekeeping practices will minimize the potential for spills to occur and the resulting rehabilitation of soil on site. • If hazardous spillage does occur it must be stopped and cleaned immediately. • Temporary hazardous storage and refueling areas must be bounded with an impermeable liner to protect groundwater quality. • Temporary storage areas containing hazardous substances/ materials must be clearly signed. Staff handling hazardous substances/materials must be aware of their potential impacts and follow appropriate safety measures.
TARGETS TO MONITOR REPORTING THERE ON:	<ul style="list-style-type: none"> • Hazardous materials should be stored at demarcated areas taking into account health and safety requirements and MSDS requirements for handling and storage. • A spill report must be kept recording what type of spill, the severity, the location and corrective action taken to mitigate the impact to the environment. • Spill kits, drip trays, funnels and an adequate supply of absorbent must be available on site.
RESPONSIBILITY:	Safety and Health Officer
TIME FRAME:	Current operational phase

We ourselves (one single species) have taken over vast tracts of the inhabitable surface of the planet. Surely, we should allow those other creatures we share the planet with to retain some part of their ancient heritage. **David Attenborough**

11. BY WAY OF A CONCLUSION

The Q&J Namib Metals Environmental Management and Monitoring Plan, developed for its Scrapyard operations in Walvis Bay, if religiously executed, will greatly assist in minimising the negative socio-environmental impacts. Where negative impacts sprout, the proponent is expected to take impromptu decisions and action, to help minimise negative effects. This document, the EMP, will be availed to all employees and contractors, and it should be reviewed throughout the operation and decommissioning of the Q&J Scrapyard activities.

An EMP is a project-specific and site-specific document, based on the site-specific EIA, that contains a set of over-arching EMP requirements plus a set of highly specific component plans that, when implemented collectively as a management system, are intended to avoid, eliminate or reduce the severity of adverse environmental effects. The site-specific EMP shall serve as a reference document for all project personnel, so that they are aware of their responsibilities and what is expected of them concerning environmental protection. The requirements included in the EMP will apply to any person, Contractor or subcontractor involved in the project. It is intended to be a "living" document that may require amendments as the project advances through operations. These amendments must follow the submittal and acceptance process to Q&J Namib Metals, prior to any changes.

On a side note, it can, however, be concluded that, Recycling scrap metal has become a more and more important part of preserving the environment. Tossing scrap metal into the trash poses a problem as our landfills begin to reach capacity. This is just the beginning; there are a number of other benefits to recycling. As mentioned earlier, recycling scrap metal means less metal will end up taking up space in landfills that should be reserved exclusively for non-recyclable items. Metals like aluminium cans, tin cans, copper wiring and pipes, steel products, and more can all be recycled and transformed into new materials. When left to waste away in a landfill, they release methane and contribute to air and groundwater pollution.

Recycling scrap metal preserves natural resources that naturally occur in nature and aren't renewable. Making new metal from virgin mineral ore uses much more energy than recycling scrap metal. Additionally, producing new metals releases more greenhouse gas emissions than the recycling process does. Similarly, recycling scrap metal uses far less energy and less water than mining for ore. Mining these virgin ores causes pollution because the chemicals used in the mining process contaminate the air quality, soil, and groundwater. Mining also involves the destruction of open land and ruins the habitat of local wildlife. Recycling reduces the need to mine for ore. Although this isn't an environmental bonus, it certainly is a plus: it's been shown that recycling scrap metals creates more jobs than incinerating metal waste.

As such, we earnestly pray the ENVIRONMENTAL CLEARNCE CERTIFICATE shall be granted to Q&J Namib Metals, thereby enable them operate in a more sustainable manner and environment.

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ADDENDUM B: EMERGENCY RESPONSE

The operation of the existing **SCRAP METAL SALES** facility requires installation of equipment that will house and contain hazardous substances. At the same time, the transport of dangerous goods will form an integral part of the operation of such a development. Accidents such as fire, explosion, spills or release of hazardous materials endanger life, property and the environment.

Emergency Planning:

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

Management of Fire Risks

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

Incident Reporting

- The contractor shall take corrective action to mitigate an incident appropriate to the nature and scale of the incident, immediately after the occurrence of the incident.
- Residual environmental damage that remains after having taken corrective action shall be rehabilitated,
- Change operating procedures where necessary to prevent recurrence of similar accident,
- Record all incidents on an Environmental Incident Report, within 24 hours of the incident occurring. Additional documents, including photos shall be appended to the incident report to provide a comprehensive record of the incident and the corrective and preventative action taken. Failure to do so shall result in a penalty.
- All incidents will be investigated in collaboration with the ECO.

ADDENDUM C: SPILL CONTINGENCY

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

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

Customer Spill and Leak Procedure

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

Spill and Leak Prevention

- All personnel who have anything to do with fuel or oil use systems should know their individual responsibilities for controlling and/or reducing pollution. Employees should be well informed and apply the appropriate techniques.
- All employees involved in spillages and leaks must be informed about the spill/leak emergency response plan and must know how to act in the event of a spillage or leak.
- Equipment installed or used to avoid pollution should be operated efficiently and well maintained,
- Spill clean-up equipment, like absorbing fibres (Drizit), squeegees, sandbags, etc. should be located in a clean, dry and easily accessible storage facility.
- Spill fighting material should be kept near places where spills and leaks are most likely to occur.

The proposed procedure:

- Place two 200-liter waste bins at each area.
- One bin to be used for storage of unused fibres (e.g. unused Drizit) and one bin to be used for receiving the used fibres (e.g. used Drizit).
- Apply the fibres (Drizit) as per the instructions as soon as the spill occurs. Used fibres (Drizit) should be disposed of in an environmentally friendly way by either burning or dispatching to a class 1 waste dump, using companies such as Waste-tech.
- Ensure that Emergency Spill/Leak Response Plans and the necessary associated equipment are
- appropriate for your operation and are the subject of regular exercises, where possible in conjunction with the industry and/or local authorities.
- Provide regular training for key response employees in dealing with emergencies.

Spill Response

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

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

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

Minor Spills

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

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

Major Spills

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

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

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

- Wherever possible, limit the spillage by turning off all activities that causes the spill.
- Contain the spill and prevent spread of the substance by using sandbags, sand or soil, absorbent booms or planking to divert flow.
- Prevent any of the oil substances from entering your drains, storm water systems or septic tanks, or from contaminating any natural water systems by forming a barrier from soil, sand, sandbags or absorbing materials.
- Prevent any of the oil substances from contaminating groundwater. It may be necessary to remove contaminated soil for disposal or rehabilitation.

- Remove or mop up as much of the spill as possible by using spill fighting materials. Water the soil to bring oil to the surface and "mop up" with absorbent material such as Drizit.
- Plough soil for aeration and apply fertilizer/suitable neutralizing chemicals if viable (not detergents).
- All contaminated spill prevention material (such as fibres, Drizit, soils, sandbags etc.) have to be disposed of in an environmentally acceptable way, e.g. by using Waste-tech.

Spill Reporting

The MEFT, external auditor and local protection services should be notified whenever:

- A spill in excess of 200 litres occurs.
- For every major spill (over 200 litres of product) that occurs, the Incident Report Form must be completed. Investigate spill cause and implement recommendations for preventing re-occurrence.
- If watercourses and ground water are contaminated, then the MEFT and Namwater must be notified.

Customer Inspection

Site operating staff should check regularly if all systems and equipment are in good condition. A spillage resulting from malfunctioning equipment might be prevented. Inform fuel supplier when tank systems, pipe-work or equipment need maintenance.

Leak Reporting Procedure

- Notify the supplier immediately of any suspected leaks or malfunctioning of equipment.
- Any loss or suspected loss must be confirmed in writing.
- For every suspected leak the Incident Report Form has to be completed.
- Investigate leak and implement recommendations for preventing reoccurrence.