APP-006611

TRANSPORTATION OF HAZARDOUS AND NON-HAZARDOUS CARGO THROUGHOUT NAMIBIA AND THE SADC REGION

ENVIRONMENTAL MANAGEMENT PLAN

Prepared by:

Prepared for:

j/v

BacktoBack Transport and Logistics Namibia

January 2026

Project:	**ENVIRONMENTAL MANAGEMENT PLAN FOR THE TRANSPORTATION OF HAZARDOUS AND NON-HAZARDOUS CARGO THROUGHOUT NAMIBIA AND THE SADC REGION**	
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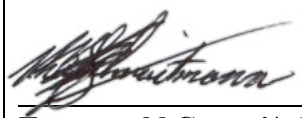
Report Approval	 **André Faul** Conservation Ecologist	

I KAI SCHNAITMANN acting as the Proponent's representative (Transworld Cargo j/v BacktoBack Transport and Logistics Namibia), hereby approve this report and confirm that the project description contained in herein is a true reflection of the information which the Proponent has provided to Geo Pollution Technologies. All material information in the possession of the Proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report.

Signed at WALVIS BAY on the 12 day of JANUARY 2026.



Transworld Cargo j/v BacktoBack Transport and Logistics Namibia

Company Registration **Transworld Cargo**	**Company Registration** **BacktoBack Transport and Logistics Namibia**

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1 INTRODUCTION

Geo Pollution Technologies (Pty) Ltd was appointed by Transworld Cargo (Pty) Ltd in a joint venture with Transworld Cargo j/v BacktoBack Transport and Logistics Namibia (Pty) Ltd, hereafter referred to as the Proponent, to prepare an environmental management plan (EMP) for the overland transport of hazardous and non-hazardous cargo managed by the Proponent. Associated loading and offloading activities at its operational facilities and Namibia's commercial harbours are covered under their own EMPs. This EMP is thus limited to the management of environmental aspects related to transport operations and does not address the operation of fixed warehouse infrastructure. The cargo are exported out- and imported into Namibia, and include marine grade oils, greases and lubricants for offshore vessels and rigs, metal ores, concentrates, anodes and cathodes, and chemicals for various mines and industries in Namibia and southern Africa.

The EMP will serve as a tool used to take pro-active action by addressing potential problems before they occur. This limits potential future corrective measures that may need to be implemented and allows for application of mitigation measures for unavoidable impacts. The EMP will be used to apply for an environmental clearance certificate (ECC) in accordance with the regulations of Namibia's Environmental Management Act (Act No 7 of 2007).

2 SCOPE

The scope of the EMP is to:

1. Provide a brief overview of components and their operations, related to the transport activities and associated support functions.
2. Summarise the legal and regulatory framework governing the transportation of hazardous and non-hazardous.
3. Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels.
4. Provide sufficient information to the relevant competent authorities and the Ministry of Environment, Forestry and Tourism (MEFT) to make informed decisions regarding the transport operations and any associated ECC processes and applications.

3 PROJECT DESCRIPTION

The Proponent is a joint venture between two Namibian-based logistics and freight companies, providing integrated transport, warehousing and cargo handling services to industrial and commercial clients. From its main hubs in Windhoek and Walvis Bay, supported by airport and border branches, the Proponent coordinates imports and exports, customs clearing, storage and distribution of cargo for sectors such as mining, oil and gas, manufacturing, agriculture and general trade within Namibia and the wider Southern African Development Community (SADC) region.

Cargo includes marine-grade oils, greases, lubricants, mining chemicals and reagents, industrial metals, explosives, concentrates, anodes, and general palletised or containerised products. In addition, the Proponent's operations encompass a broad range of commodity and cargo types, including but not limited to:

- Abnormal and oversized cargo, including construction machinery, modular plant components, mining equipment, transformers, and infrastructure sections requiring escort and permit movement.
- Refrigerated and frozen cargo, such as perishable foods, seafood, meat, dairy, pharmaceuticals, and other temperature-controlled goods.
- Dry and liquid bulk commodities, including fuel, petroleum products, bitumen, industrial chemicals, fertilizers, cement, grains, animal feed, salt, and other bulk solids and liquids.
- Break-bulk and project cargo, comprising crated, bundled, or individually handled freight such as machinery, steel, cable drums, and packaged industrial goods.

- Hazardous and dangerous goods across all ADR/IMDG classes, including flammable liquids and gases, corrosives, oxidizers, toxic substances, and explosive materials, transported under valid national and international permits.
- General and containerised cargo, including palletised consumer products, packaged goods, retail items, and manufactured components.
- Livestock and agricultural produce, including feedstock, processed food ingredients, horticultural products, and farming inputs.
- Waste and recyclable materials, including industrial by-products, used oils, scrap metals, and other regulated recoverable materials handled in accordance with environmental legislation.
- Construction materials and equipment, including aggregates, sand, cement, steel, timber, and site machinery for infrastructure projects.
- Energy and utility cargo, including solar components, cables, batteries, fuel tanks, and power generation equipment.

All transport operations are undertaken in compliance with Namibian and SADC road transport legislation, environmental management standards, and international safety protocols applicable to each cargo type.

Cargo is moved in bulk, break-bulk (drums, boxes, palletised, etc) and containerised form by road and, where applicable, rail. Transport is undertaken using fleet vehicles of Transworld Cargo and BacktoBack Transport and Logistics Namibia as well as approved subcontracted transporters where additional capacity or specific routing is required.

The Proponent's transport operations make use of established national and regional corridors linking Walvis Bay and other Namibian centres with neighbouring SADC countries (Figure 3-1). Typical routing includes, but is not limited to, the following:

- **South Africa** – Trans-Kalahari Corridor (via Gobabis–Buitepos to Gauteng) and Trans-Oranje Corridor (via Keetmanshoop–Ariamsvlei to the Northern Cape / Western Cape).
- **Eswatini (Swaziland)** – Via the Trans-Kalahari Corridor to Gauteng, then N17/N4 into Eswatini.
- **Lesotho** – Via the Trans-Kalahari Corridor to Gauteng, then N1/N5 into Lesotho.
- **Botswana** – Trans-Kalahari Corridor: Walvis Bay / Windhoek to Gobabis to Buitepos / Mamuno to Ghanzi to Gaborone.
- **Malawi** – Trans-Zambezi / Trans-Caprivi to Zambia (Katima Mulilo–Sesheke / Kazungula), then Great East Road to Chipata to Mchinji / Mwami into Malawi.
- **Mozambique** – Via Botswana / South Africa to Komatipoort, or via Zimbabwe (Beitbridge to Mutare to Beira), depending on destination.
- **Tanzania** – Via Zambia on the Walvis Bay–Ndola–Lubumbashi / Trans-Zambezi route to Nakonde / Tunduma, then T2 north.
- **Zimbabwe** – Trans-Zambezi to Victoria Falls / Kazungula, then onwards via Bulawayo / Harare corridors.
- **Zambia** – Trans-Zambezi / Trans-Caprivi: Walvis Bay to Rundu / Katima Mulilo to Sesheke / Kazungula to Livingstone to Lusaka / Copperbelt.
- **Democratic Republic of Congo (DRC)** – Walvis Bay–Ndola–Lubumbashi Development Corridor (WBNLDC) via Zambia to Kasumbalesa to Lubumbashi.
- **Angola** – Trans-Cunene via Oshikango / Santa Clara to Ondjiva / Lubango, and northwards to Luanda.

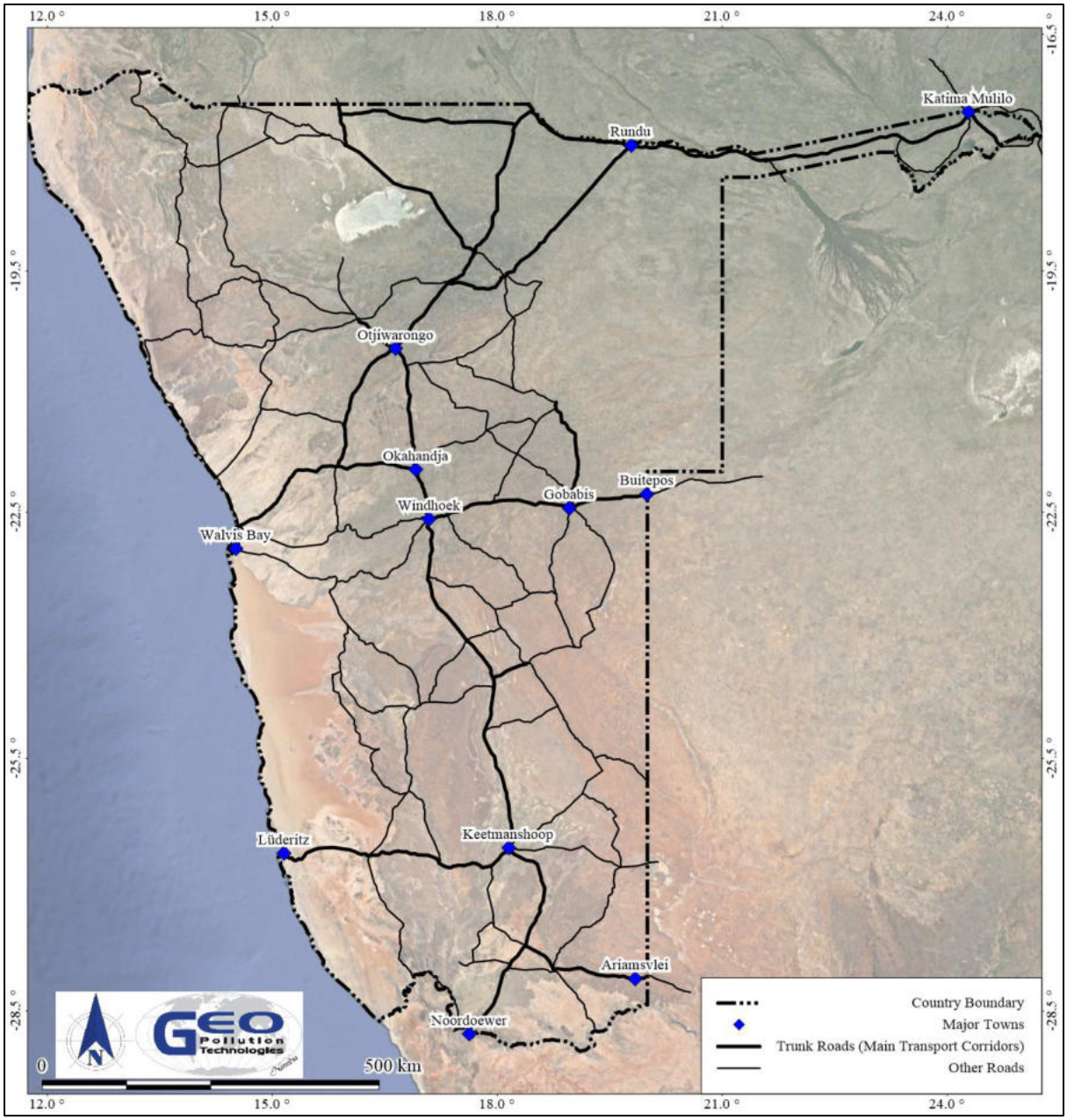

Figure 3-1 Main transport corridors in Namibia

This EMP relates specifically to the environmental management of the Proponent's transport operations for hazardous and non-hazardous cargo along these corridors. The focus is on the movement of goods between ports, depots, customer facilities and cross-border destinations, including associated loading, unloading and short-term staging activities at operational sites. The EMP addresses the key environmental risks associated with these activities, such as spills, emissions, waste generation and traffic-related impacts and is intended to complement the Proponent's Transportation Contingency Plan (TCP) by providing the environmental management framework within which transport-related emergency response and day-to-day operational controls are implemented.

The Proponent's transport operations are undertaken within a regional logistics environment that is subject to variations in trade volumes, ongoing development of transport corridor infrastructure, cross-border regulatory requirements, and climatic conditions. Transport routes, cargo types and volumes, and operational intensity may therefore vary over time in response to client requirements, infrastructure development, or regulatory changes. This Environmental Management Plan is intended to provide a practical framework for the management of environmental aspects associated with these transport operations and may be reviewed and updated should material changes to the operations occur.

4 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided Table 4-1 to Table 4-3 govern the environmental assessment process in Namibia and/or are relevant to the operations.

Table 4-1 Namibian law applicable to the operations

Law	Key Aspects
The Namibian Constitution	♦ Promotes the welfare of people ♦ Incorporates a high level of environmental protection ♦ Incorporates international agreements as part of Namibian law
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	♦ Defines the environment ♦ Promotes sustainable management of the environment and the use of natural resources ♦ Provides a process of assessment and control of activities with possible significant effects on the environment
Environmental Management Act Regulations Government Notice No. 28-30 of 2012	♦ Commencement of the Environmental Management Act ♦ List activities that requires an environmental clearance certificate ♦ Provides Environmental Impact Assessment Regulations
Road Traffic and Transport Act Act No. 22 of 1999; Government Notice No. 282 of 1999	♦ Provides for the control of traffic on public roads and the regulations pertaining to road transport ♦ Provides the legal foundation for road safety, traffic control, and transport regulation ♦ Grants government authority to issue regulations and establish mechanisms to improve road safety ♦ Provides for regulations in respect of the transportation of dangerous goods defined or described in the regulations, their classification, the conditions and requirements to be complied with in the transportation of such goods, the prohibition of the transportation of specified dangerous goods and the powers and duties of traffic officers and road transport inspectors in respect of the transportation of dangerous goods
Road Traffic and Transport Regulations Government Notice No 53 of 2001	♦ Provides regulations related to the transportation of cargo and specifically also dangerous goods ♦ Prescribes various South African National Standards (SANS) for the transportation of dangerous goods ♦ Prescribes signage to be present on vehicles transporting dangerous goods ♦ Makes provision for exempt quantities of specific dangerous goods
Roads Act Act No. 4 of 2025; Government Notice No. 163 of 2025	♦ Requires notification to Roads Authority of any activity that will increase traffic volumes on National roads and to local authorities for roads under their jurisdiction ♦ Makes general prohibitions relating to roads, among others prohibits damaging and obstruction of roads. ♦ Not in force yet

Law	Key Aspects
Vehicle Mass Act Act No. 6 of 2024; Government Notice No. 63 of 2024	♦ Aimed at minimising damage to the national road network ♦ Sets the permissible mass for vehicles using the national road network and makes provision for weigh stations and other enforcement mechanisms ♦ Not in force yet
Water Resources Management Act Act No. 11 of 2013; Government Notice No. 332 of 2013	♦ Provides for management, protection, development, use and conservation of water resources ♦ Prevention of water pollution and assignment of liability
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	♦ Defines the powers, duties and functions of local authority councils ♦ Regulates discharges into sewers
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	♦ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters ♦ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation
Labour Act Act No 11 of 2007, Government Notice No. 236 of 2007	♦ Provides for Labour Law and the protection and safety of employees ♦ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	♦ Governs the control of noxious or offensive gases ♦ Prohibits scheduled process without a registration certificate in a controlled area ♦ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Hazardous Substances Ordinance Ordinance No. 14 of 1974	♦ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export ♦ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings
Pollution Control and Waste Management Bill (draft document)	♦ Not in force yet ♦ Provides for prevention and control of pollution and waste ♦ Provides for procedures to be followed for licence applications
Explosives Act, 1956 Act 26 of 1956	♦ Regulates manufacture, storage, transport and use of explosives and blasting agents.

Table 4-2 Relevant multilateral environmental agreements

Agreement	Key Aspects
Convention on Biological Diversity (CBD)	♦ Primary goal is the conservation of biodiversity ♦ Prescribes the precautionary principle ♦ Parties to the convention are obliged to: ♦ Establish a network of protected areas; o Create buffer areas adjacent to these protected areas using environmentally sound and o sustainable development practices; and ♦ Rehabilitate degraded habitats and populations of species.

Stockholm Declaration on the Human Environment, Stockholm 1972	♦ Recognises the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment
1985 Vienna Convention for the Protection of the Ozone Layer	♦ Aims to protect human health and the environment against adverse effects from modification of the Ozone Layer are considered ♦ Adopted to regulate levels of greenhouse gas concentration in the atmosphere
United Nations Framework Convention on Climate Change (UNFCCC)	♦ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention
SADC Protocol on Transport, Communications and Meteorology, 1996	♦ Provides a framework for corridor development and management, including the Trans-Kalahari, Trans-Caprivi/Trans-Zambezi and other regional corridors.
Geneva Convention on Road Traffic, 1949	♦ Establishes international rules for road traffic and mutual recognition of domestic and international driving permits between contracting states. ♦ Aims to improve road safety in international road traffic and underpins requirements for drivers operating vehicles across borders.
SACU Memorandum of Understanding on Road Transportation (non-binding) (Proc. 6 of 1998, GG 1803)	♦ Supports implementation of the SADC Protocol on Transport, Communications and Meteorology and seeks to reduce transport costs and transit times through coordinated regulation and enforcement.
Memorandum of Understanding on the Development and Management of the Trans-Kalahari Corridor, 2003 (non-binding) Between the Governments of Botswana, Namibia and South Africa; published in GN 193/2007, GG 3927	♦ Establishes a framework for joint development, management and operation of the Trans-Kalahari Corridor (TKC). ♦ Aims to ensure the efficient, safe and predictable movement of goods and persons along the TKC, including harmonisation of laws, procedures and controls.
Bilateral Road Transport Agreement between Namibia and Zimbabwe Proc. 7 of 2000, GG 2359	♦ Regulates permits, competent authorities, routes and operating conditions for cross-border carriers on the Walvis Bay–Zimbabwe corridors.

Table 4-3 Standards or codes of practise

Standard or Code of Practise	Key Aspects
International Dangerous Goods Code (IMDG Version 10 of 2010)	♦ For handling and storage of dangerous cargo
South African National Standards	♦ Various standards as periodically updated. Specifically the SANS 10232 series, focusing on Transport of Dangerous Goods: ♦ SANS 10232-1 - Road Transport ♦ SANS 10232-2 - Rail Transport ♦ SANS 10232-3 - Emergency Response Guides ♦ SANS 10232-4 - Transport Emergency Card
United Nations Recommendations on the Transport of Dangerous Goods: Model Regulations Volume 1 (UN orange Book)	♦ Serves as the global framework for the safe transport of dangerous goods across all modes (road, rail, air, and sea). ♦ Provides a uniform system for classifying, packaging, marking, and labelling dangerous goods so that countries and international organizations can adopt consistent regulations.

The project is listed as an activity requiring an environmental clearance certificate as per the following points from:

Section 9 of Government Notice No. 29 of 2012: Hazardous Substance Treatment, Handling and Storage

- 9.1 "The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974."

5 ENVIRONMENTAL MANAGEMENT PLAN

The EMP provides management options to ensure impacts of the transport operations are minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The environmental management measures are provided in the descriptions below. These management measures should be adhered to during the various phases of the transport activities and associated support operations. This section of the report can act as a stand-alone document. All personnel involved with transport activities should be made aware of the contents in this section, so as to plan and execute transportation accordingly and in an environmentally sound manner.

The objectives of the EMP are:

- to include all components of transport activities (planning, movement, maintenance, etc.) and associated operations related to the project;
- to prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- to monitor and audit the performance of operational and contractor personnel in applying such controls; and
- to ensure that appropriate environmental training is provided to responsible transport and operational personnel.

5.1 IMPLEMENTATION OF THE EMP

Various potential and definite impacts will emanate from transport operations. The majority of these impacts can be mitigated or prevented. The impacts, risk rating of impacts as well as prevention and mitigation measures are listed below.

As illustrated in the subsections below, impacts related to the operational phase are expected to mostly be of low to medium significance and can mostly be mitigated to have a low significance. The extent of impacts are mostly route-specific to local and are not of a permanent nature. Due to the nature of the surrounding areas, cumulative impacts are possible and include noise pollution and traffic impacts.

5.1.1 Planning

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

- Ensure that all necessary permits and authorisations from the various ministries, local authorities and any other bodies that may govern the transport and support activities are in place and valid. This includes suitably licenced and road worthy vehicles and licenced drivers.
- Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel present or who will be present within the operations.

- Make provisions to have a health, safety and environmental (HSE) coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance for the transport operations.
- Make provisions to have a community liaison officer who will handle complaints and community input.
- Have the following available for the operations where reasonable to deal with all potential emergencies:
    - EMP, MSDS, TCP, emergency response plans (ERP) and health safety and environmental manuals;
    - Safety standards such as SANS;
    - Spill containment, clean up and firefighting equipment and materials required for emergencies;
    - Adequate protection and indemnity insurance cover for incidents.
- If one has not already been established, establish and maintain a fund for future spill clean-up and ecological restoration of any affected areas should a spill or related accident occur and environmental restoration or pollution remediation be required.
- Establish and / or maintain a reporting system to report on aspects of transport operations as outlined in the EMP.

5.1.2 Employment

Employment of skilled and professional labour are sustained through the operational transport activities related to the project. Vehicle operators are, and will be sourced in Namibia, with support staff from the different towns at the various warehouses and facilities. The operations thus contribute to reducing unemployment in Namibia.

Desired Outcome: Provision of contracts and employment to local Namibians.

Actions

Mitigation:

- The Proponent must contract and employ local Namibians where possible.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on contractor and employee records.

5.1.3 Skills, Technology and Development

As part of ongoing operations, on-the-job training and upskilling will continue to be provided to transport and logistics personnel. Skills are transferred to an unskilled workforce for general tasks. Technologies used in transport planning, vehicle tracking, and cargo handling may be new to some local operators, supporting improvements in efficiency and safety. Development of people and technology are key to economic development.

Desired Outcome: To see an increase in skills of local Namibians, as well as development and technology advancements in associated industries.

Actions

Enhancement:

- The Proponent must contract and employ local Namibians where possible.
- Skills development and improvement programs to be made available as identified during performance assessments of employees.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Record should be kept of training provided.
- Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- Bi-annual summary report based on records kept.

5.1.4 Revenue Generation

The transport operations contribute to the national treasury. Employment of skilled and professional labour continues as part of the Proponent's operations, and related wages and salaries are paid. Revenue is generated through the provision of transport services and related logistics functions. Various contractors and businesses provides goods and services such as fleet maintenance and servicing, tyres, fuel, etc. which stimulates the national economy.

Desired Outcome: Contribution to the local and national economy. Contribution to national treasury.

Actions

Enhancement:

- Payment of levies, taxes and fees according to Namibian legislation.
- The Proponent must employ local Namibians and source Namibian contractors, goods and services as far as is practically possible. Deviations from this practise must be justified.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on employee records.

5.1.5 Demographic Profile and Community Health

The transport operation relies on a stable workforce, primarily for the movement of cargo across Namibia and the SADC region. Local personnel in Windhoek, Walvis Bay and other transport hubs are used for vehicle operations, coordination, and logistics support. As it is an existing operations, there is no anticipated immediate change in the demographic profile of the local communities where the Proponent is based.

Truck drivers frequently travel across borders and regions, spending time in truck stops and rest areas. This often contribute to the spread of communicable diseases such as tuberculosis, HIV/AIDS, and more recently, COVID-19. Long-distance trucking corridors in Southern Africa have historically been identified as hotspots for disease transmission. Long working hours, isolation, and fatigue can lead some drivers to rely on alcohol or stimulants to cope. This not only endangers road safety, but also creates social challenges in communities along trucking routes where substance abuse becomes more prevalent.

Trucking hubs and depots often bring transient populations into small towns, which can strain local infrastructure, increase crime rates, and alter social dynamics. While trucking provides jobs and supports trade, the associated health risks, accidents, and social issues (disease spread, substance abuse, congestion) create hidden costs for regional governments and communities.

Desired Outcome: To prevent the in-migration and growth in informal settlements, prevent the spread of communicable disease and prevent / discourage socially deviant behaviour.

Actions:

Prevention:

- Establish health and social welfare programs for truck drivers (HIV/AIDS, TB, COVID 19 screening and education) and integrate health checks into employment and rest schedules.
- Provide a list of health service providers along major trucking corridors.
- Partner non-governmental organizations and regional health authorities to reduce disease transmission risks.
- Educate drivers on the dangers of stimulant and alcohol use while driving.
- Introduce mandatory alcohol and drug testing for drivers at depots and checkpoints.
- Plan truck routes and logistics hubs away from sensitive residential areas.
- Engage communities in transport planning to balance economic benefits with social concerns.
- Identify truck stops with adequate lighting, sanitation and security to reduce crime and improve living conditions.
- Where possible, promote multimodal transport (rail and road) to reduce heavy reliance on trucks.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on educational programmes and training conducted.
- Bi-annual report and review of employee demographics.

5.1.6 Health, Safety and Security

Some cargo handled and transported are hazardous or dangerous with inherent health risks to personnel when exposure occurs through inhalation, accidental ingestion, eye or skin contact or due to its flammability or explosivity. Some chemicals may in themselves not be particularly dangerous, but may become dangerous when in contact or mixed with incompatible materials. This may happen when for example incompatible materials are loaded, offloaded or temporarily staged together, during containment failure (e.g. ruptured bags), when vehicle accidents occur, or when different spilled products are cleaned and stored in the same container. If not contained, a further health risk is posed to nearby receptors and the public.

Truck drivers face elevated risks of chronic diseases (cardiovascular, diabetes, obesity, joint and musculoskeletal pain), sleep disorders, stress, and substance use due to the demands of their work. Long hours, irregular schedules, and sedentary lifestyles contribute to significant health challenges. Injuries can among others occur due to vehicle accidents, incorrect lifting of for example heavy tyres, falling from trucks, and stacked and improperly secured cargo tipping over.

Security risks are related to theft and hi-jacking of trucks. Security risks are increased as a result of high value commodities, e.g. copper cathodes, being transported and handled at depots, parking areas and along transport routes.

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

Actions

Prevention:

- Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes: operational, safe work and medical procedures, permits to work, ERP, housekeeping rules, vehicle signage and TREM cards (Transport Emergency Cards), MSDS's and signage requirements (personal protective equipment (PPE), flammable etc.).
- For selected cargo, such as explosives, radioactive material and cyanide, special approvals are required from the relevant authorities and only selected routes may be used. Liaison with the Namibian Police and/or authorities are key and no transport of usch material may be undertaken without the necessary approvals.
- Develop ERP for all possible health, safety and security impacts related to transport and appoint responsible personnel in key positions to activate and oversee such plans when required.
- The contact details of all emergency services must be readily available.
- Provide all employees with required and adequate PPE which include coveralls, respirators and protective eyewear.
- Ensure that all personnel who will work in transport operations (including depots, and along transport routes) receive adequate training on:
    - operation of equipment (mainly the forklift).
    - reading and understanding of MSDS instructions (take note that MSDS documents are not always 100% adequate and that some extra information for hazardous chemicals may be required).
    - handling of hazardous substances.
    - containment of hazardous substance spills.
    - correct application of neutralising agents, absorbents, etc. which may be used for spilled products (knowledge of incompatibilities is key).
    - identification of incompatible chemicals and the need to separate them during transport (segregation).
    - identification of potential hazardous conditions or events.
    - first aid and actions to be taken for specific highly dangerous chemicals should contact, inhalation or ingestion occur.

- firefighting and compatible firefighting media for specific chemicals
- A MSDS file in which a particular MSDS can quickly be found, must be accessible to drivers.
- For specific highly dangerous chemicals (e.g. highly toxic, flammable, explosive, or reactive with other chemicals and substances, flammable, etc.), emergency procedures should be prepared that summarise the key do's and don'ts for each of these chemicals. These should accompany the cargo at all times (loading, staging or transport).
- Emergency equipment and first aid kits must be present on all trucks, relevant to the potential dangers posed by the specific cargo being transported.
- Security protocols, selection of safe transport routes and real-time vehicle tracking must be implemented to ensure driver safety.

Mitigation:

- For all emergency situations, the appropriate ERP must be implemented as soon as possible in order to minimize the magnitude of impacts or prevent such impacts from developing into more severe impacts.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

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

5.1.7 Traffic

Truck traffic on Namibia's national road networks is expected to rise as the country's ports strengthen their reputation as reliable and efficient hubs for international trade. However, possible future use of rail transport will decrease the total number of trucks on the roads.

The transport activities are primarily associated with national and regional roads, port access routes, truck staging areas and border posts, and will result in an increase in heavy vehicle traffic along these established transport corridors. Slower moving truck traffic impacts other road users, especially on roads with few overtaking opportunities, and this leads to frustration and often reckless overtaking, cumulating in accidents. This is aggravated during long weekends and school holidays when significant increases in traffic is experienced.

Heavy motor vehicles turning in these roads and at access points to depots, truck staging areas and border facilities may result in an increased, cumulative impact on the road surface of the area. In addition, any accident, breakdown or spill incident involving a truck can create a temporary obstruction, increasing the risk of secondary collisions if the scene is not properly secured and signposted. If not properly managed, trucks may obstruct access to designated facilities, intersections or lay-bys and increase the likelihood of accidents and incidents.

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

Actions

Mitigation:

- All truck drivers must be suitably trained and licenced.
- Trucks delivering or collecting goods should not be allowed to obstruct any traffic in the surrounding road network.
- Trucks should not be driven in convoy, with insufficient gaps in-between, making overtaking difficult and increasing the possibility of accidents.
- Truck drivers should adhere to a schedule allowing sufficient rest periods.
- Trucks should preferably be fitted with GPS tracking and cameras (dashcams).
- Trucks should not be parked outside designated truck stops, parking areas, depots or port/truck staging facilities for extended periods of time, neither should they obstruct formal access points used by other road users.
- Trucks associated with a facility should not be allowed to park or overnight on road shoulders or in informal parking areas, and may only overnight at areas designated for this purpose.
- Adhere to The Road Traffic and Transport Regulations, 2001 and all other applicable legislation related to road transport and maximum axle loads.
- If any traffic impacts are expected, traffic management should be performed to prevent these. This specifically relates to abnormal loads requiring safety vehicles and/or police escorts.
- Identify vehicles on which hazardous substances are to be transported and handle all dangerous or hazardous goods according to MSDS instructions and under supervision of trained staff. Ensure the correct documentation (e.g. dangerous goods declaration, transport emergency card (TREM card), etc.) is provided in the vehicle. Verify that the driver of the vehicle has undergone appropriate training.
- Provide training to operators on ERP.
- Ensure that incident scene management procedures, as set out in the TCP, are followed during any breakdown, accident or spill, including the placement of warning triangles / cones, use of hazard lights and, where safe, controlling approaching traffic to reduce the risk of secondary collisions.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- The Road Traffic and Transport Regulations, 2001.
- Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- Records of all traffic-related incidents (including secondary collisions at incident scenes) must be kept and reviewed to identify recurring problem areas and required corrective actions
- A bi-annual report should be compiled of all incidents reported, complaints received, and action taken.

5.1.8 Air Quality

Reduced air quality as a result of exhaust gases (greenhouse gases) of trucks used for the operations may have localised health impacts along transport routes near receptors. It also contribute to greenhouse gas emissions that in turn contribute to climate change. Exhaust gases also have the potential to damage or stain the paintwork of buildings. Where accidents result in fires or significant product release, short-term local air quality impacts for people in the immediate vicinity can be more severe.

Some chemicals transported and handled during loading and unloading are noxious and can cause serious health impacts, especially when inhaled. Accidental loss of containment during transport, loading or unloading near communities, busy road sections or sensitive receptors can therefore pose an acute inhalation risk..

Air quality as a result of windblown dust can cause health effects, especially through chronic inhalation of such dust, in the nearby communities. Since the gangue materials present in ore dust are not necessarily known, but could potentially include for example asbestos, it is crucial that the inhalation / ingestion of dust is prevented at all times. Sources of such dust can originate from insufficiently covered or contained cargo being transported.

Desired Outcome: To prevent health impacts and to reduce greenhouse gas emissions.

Actions

Prevention:

- All cargo must be secured on trucks to prevent cargo from falling off and subsequent damage to containment.
- All bulk cargo loads must be covered with a tarpaulin at all times.

Mitigation:

- All vehicles operated by the Proponent must be serviced regularly and make use of technology to reduce emissions. This include selective catalytic reduction, diesel particulate filters and diesel oxidation catalysts. Where relevant, the Proponent must appoint transport contractors who implement the same as far as is reasonably possible.
- Any spilled products must be cleaned immediately to minimize dust impacts.
- In the event of a major spill or fire with potential air quality impacts on nearby road users or communities, the emergency procedures described in the TCP must be followed, including cordoning off the area, warning approaching traffic and notifying the relevant emergency services and authorities.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Investigate the cause and apply corrective action if regular complaints pertaining to excessive exhaust emissions and dust originating from the Proponent's fleet vehicles are received.
- Any incidents resulting in reduced air quality along transport corridors must be recorded with action taken to prevent future occurrences.
- A bi-annual report should be compiled of all complaints and incidents reported. The report should contain dates when vehicles were inspected and maintained.

5.1.9 Fire

Some cargo transported and handled are flammable in nature and can even become explosive when exposed to incompatible materials (e.g. oxidisers when mixed with a fuel source like hydrocarbons). Vehicles, trailers and handling equipment can also act as ignition sources if not properly maintained or when brakes lock up and overheats. Collisions, brake failures or tyre fires involving loaded vehicles can further escalate into cargo fires or explosions. Uncontrolled fires and explosions can cause extensive damage to surrounding properties and infrastructure, can cause veld fires, and can lead to casualties.

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

Actions:

Prevention:

- A fire protection and prevention plan must be developed specific to transport of cargo. This should include aspects such as regular vehicle inspection and maintenance, fire extinguishers compatible with the type of cargo, firefighting training, segregation of incompatible materials, signage on trucks, regular safety checks along the route, and contact details of emergency response along the route.
- Ensure that vehicles transporting flammable or combustible cargo are regularly inspected for fuel, oil and exhaust leaks and that no unauthorised smoking or use of open flames occurs in or near vehicles and loading areas.

Mitigation:

- For any fire related emergency situation, the appropriate ERP must be implemented as soon as possible in order to minimize the magnitude of impacts or prevent such impacts from developing into more severe impacts. This includes immediate dispatching of the closest fire brigade.
- For fires occurring on public roads, drivers and controllers must follow the procedures set out in the TCP, including stopping in a safe location where possible, activating vehicle hazard devices, isolating the scene, warning approaching traffic, protecting nearby receptors and notifying emergency services and the Proponent's control room without delay.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

5.1.10 Noise

Truck traffic increases ambient noise levels and is a nuisance to nearby receptors. This includes engine noise, air brakes, downshifting, audible reverse alarms, tarpaulins not secured and flapping in the wind, and damaged silencers.

Desired Outcome: To limit the nuisance caused by truck noise.

Actions

Mitigation:

- Avoid unnecessary hooting, prolonged idling of trucks, downshifting, using air brakes, near any sensitive receptors, where this can be done without compromising road safety.
- Trucks must be regularly serviced and maintained, especially the exhaust system, silencers, suspension and brakes to minimise truck noise.
- Fit low noise tyres where available.
- Truck drivers must be trained in responsible driving, such as no unnecessary revving, braking and acceleration to minimize noise.
- Secure cargo properly to prevent rattling, tarpaulin and vibration noise.
- Where possible, plan transport routes to bypass residential areas and especially places like hospitals, retirement villages and old age homes, schools, and churches

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Maintain a complaints register.
- Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences.

5.1.11 Waste Production

Minimal waste will be produced along transport routes. Waste mainly includes food and food packaging wastes and damaged tyres. In the event of accidents, cargo or truck body parts can be a waste that requires clean-up.

Spill response activities on public roads and at depots can generate contaminated soil, absorbents, PPE and damaged containers, which must be handled as hazardous waste. Contaminated soil and water is considered as a hazardous waste.

Desired Outcome: To reduce the volume of waste and prevent pollution and littering.

Actions

Prevention:

- A waste management plan specific to the transportation of cargo should be prepared and drivers must be trained on proper waste management.
- Drivers must be educated on the importance of not littering and all non-hazardous waste such as left-over food, food packaging, paper, glass and tins must be kept and discarded in refuse bins at for example truck stops.
- Burst or damaged tyres must not be left in or next to the road, but loaded on the truck for proper disposal. This also eliminates safety risks for other road users.
- Collection, containment and disposal of hazardous waste must be conducted by a suitably trained in-house team or by reputable contractors along the transport route. The drivers of trucks must be provided with a list of contracted clean-up crews along the transport route who can immediately be contacted in case of an accident or product loss.
- Ensure that any contaminated soil, absorbent and debris collected after road incidents are documented, transported safely and disposed of at an appropriate facility, and that subcontractors follow the same requirements.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- Any complaints received regarding waste should be recorded with notes on action taken.
- All information and reporting to be included in a bi-annual report.

5.1.12 Ecosystem and Biodiversity Impact

Transport routes may traverse areas of ecological sensitivity, including river crossings, wetlands and wildlife movement corridors, where spills or accidents can impact soil, surface water, vegetation and fauna. Further impacts will mostly be related to pollution of the environment or collisions with wildlife.

Desired Outcome: To avoid pollution of and impacts on the ecological environment.

Actions.

Mitigation:

- For incidents occurring near watercourses, wetlands or conservation areas, ERP must prioritise containment close to the source, protection of drainage paths and rapid notification of the relevant authorities.
- Where route risk assessments identify particularly sensitive ecological sections, or areas with frequent wildlife road crossings, additional precautions (e.g. reduced speed, preferred stopping points, restrictions on night driving where practicable) should be considered.
- Truck drivers should remain alert and, where it is safe, avoid running over wildlife including small, slow-moving animals such as tortoises and chameleons, as well as reptiles like snakes that often use warm road surfaces to regulate their body temperature.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Records of any incidents affecting natural habitats, watercourses or wildlife must be maintained and used to review and update route risk assessments and mitigation measures.

5.1.13 Groundwater, Surface Water and Soil Contamination

Along public roads, especially near watercourses, culverts, wetlands and unpaved shoulders, spills or leaks from trucks or product loss due to accidents or cargo falling from trucks, can directly contaminate soil and surface water. Dust that is not contained can also reach sensitive receptors. Oil, hydraulic fluid and fuel leaks from vehicles may also present a pollution risk.

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

Actions

Prevention:

- Care should be taken during securing of cargo to prevent shifting of and damage to containers, tanks and packaging that could lead to leaks or spills.
- Pre-trip and en-route inspections should be carried out to identify and repair leaks (fuel, oil, hydraulic fluid, product) as soon as possible, and vehicles should not be parked over stormwater drains where leaks could enter drainage systems.

Mitigation:

- Clean-up action must be taken immediately for all spillages (e.g. liquid spillages, torn bags, etc.), according to the respective MSDS instructions.
- Collection, containment and disposal of hazardous waste must be conducted by a suitably trained in-house team or by reputable contractors along the transport route. The drivers of trucks must be provided with a list of contracted clean-up crews along the transport route who can immediately be contacted in case of an accident or product loss.
- For spills occurring on public roads or near watercourses, the procedures in the TCP must be followed, including containing the spill at source where safe, preventing product from entering drains or surface water, notifying emergency services and authorities, and arranging for the recovery and disposal of contaminated materials.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, must be audited and corrections made where necessary.
- A report should be compiled bi-annually of all spills. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, etc.

5.1.14 Cumulative Impact

The main cumulative impact associated with the operational phase is the combined effect of multiple heavy vehicles using the same national and regional corridors, truck ports, border posts and depot access roads. This includes cumulative traffic volumes, noise, exhaust emissions, small but recurring fuel and oil leaks at parking and staging areas, and dust from bulk cargo where it is not adequately contained. These factors together can affect traffic flow and safety, roadside environments and, in some locations, nearby communities and sensitive receptors.

The Proponent's operations form part of a broader logistics system with many other operators using the same routes, so even relatively small individual contributions may add to corridor-wide cumulative impacts if not properly managed.

Desired Outcome: To minimise all cumulative impacts associated with the transport operations.

Actions

Mitigation:

- Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.
- Use incident, spill and complaint records to identify recurring "hotspots" along routes (e.g. specific truck stops, lay-bys, border areas) and implement additional controls where needed, such as stricter housekeeping, preferred parking arrangements or revised procedures.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Review bi-annual summary reports based on all other impacts to gain an overall assessment of the impact of the operational phase.
- Incorporate route-specific observations from drivers, contractors and inspections into periodic reviews of cumulative impacts along key corridors.

5.2 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS 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;
- An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy;
- Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS; and
- The EMP.

6 CONCLUSION

The operations of the Proponent play a role in the provision of logistics services and the overland transport of cargo imported into and exported from Namibia and the wider SADC region. Various potential and definite impacts will emanate from transport activities and vehicles. The majority of the negative impacts can be mitigated or prevented, while positive impacts should be enhanced. Impacts related to the operational phase are expected to mostly be of low to medium significance and can mostly be mitigated to have a low significance. The extent of impacts are mostly route-specific to local and are not of a permanent nature where effective management and rehabilitation are implemented.

Operations benefit communities through the provision of employment, sustaining of employees' livelihoods and increasing their overall spending power. Revenue for the National Treasury is generated through the payment of taxes and related charges.

Health and safety, fire, spills to soil and water, air quality and traffic are considered the main potential negative impacts resulting from the transport operations and are therefore environmental concerns requiring priority management. Exhaust emissions and dust from bulk cargo can affect air quality and, if uncontrolled, may impact human health and the environment. The transport and handling of chemicals with various properties and incompatibilities increases the potential for fires and hazardous releases if segregation, containment and emergency procedures are not strictly adhered to. Due to the nature of the surrounding environments along major transport corridors, cumulative impacts are possible and include noise, traffic impacts, chronic small leaks at parking and staging areas, and pollution of roadside environments.

This EMP report specifies some of the enhancement measures aimed at increasing the positive impacts of the project. This includes maximising the appointment of Namibian companies and citizens for support services. The EMP also describes a monitoring programme to be carried out by the Proponent and its contractors and is intended to be implemented in conjunction with the TCP, which sets out the detailed response to transport-related incidents.

Appendix A: Transportation Contingency Plan

TRANSPORTATION OF HAZARDOUS AND NON-HAZARDOUS CARGO THROUGHOUT NAMIBIA AND THE SADC REGION

TRANSPORTATION CONTINGENCY PLAN

Prepared by:

Prepared for:

j/v

BacktoBack Transport and Logistics Namibia

January 2026

Project:	**TRANSPORTATION CONTINGENCY PLAN FOR THE TRANSPORTATION OF HAZARDOUS AND NON-HAZARDOUS CARGO THROUGHOUT NAMIBIA AND THE SADC REGION**	
Report: **Version/Date:**	Final January 2026	
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1 INTRODUCTION

Transworld Cargo (Pty) Ltd (TWC) is a Namibian-based logistics and transport service provider operating across Namibia and throughout the Southern African Development Community (SADC) region. The company delivers cargo through a combination of in-house fleet operations, co-owned capacity under BacktoBack Transport and Logistics Namibia (Pty) Ltd (B2B) and subcontracted or partner carriers where required.

As part of its commitment to safe, compliant, and reliable freight movement, this Transportation Contingency Plan (TCP) has been developed to guide emergency preparedness and response during the overland transport of cargo by road and rail.

This TCP applies to the operations of TWC involving the movement of containerised, bulk, palletised, and packaged cargo, including hazardous and non-hazardous materials, along key regional logistics corridors. It outlines coordinated procedures to be followed by internal staff, subcontractors, operators under B2B, and emergency services in the event of incidents such as vehicle accidents, cargo spills, fires, equipment failure, or other transport-related emergencies.

The TCP forms part of the company's broader Health, Safety, Environmental, and Quality (HSEQ) management system and is designed to reduce operational risks, protect the environment, and uphold the safety of personnel, communities, and property throughout all transport activities.

This plan is general in scope and does not apply to the transport of goods that require specialised authorisation or regulatory permits, as outlined in Table 4-1. These include explosive, radioactive, or otherwise restricted cargo subject to specific national control legislation or international protocols.

2 PURPOSE AND SCOPE

The purpose of this TCP is to establish a clear and practical framework for managing emergency situations that may arise during the transport of cargo under the responsibility of TWC and B2B. The TCP supports our operational objective to ensure safe, compliant, and uninterrupted transport activities, while minimising potential harm to personnel, the public, the environment, and cargo in the event of an incident.

This plan applies to TWC and B2B managed road and rail operations involving a variety of cargo types and packaging formats, including hazardous materials, industrial goods, mining-related products, containerised freight, and general cargo. It is applicable to both national and cross-border movements, including transit through multiple SADC countries.

The TCP outlines emergency preparedness measures, immediate response actions, communication procedures, and roles and responsibilities applicable to TWC drivers, staff, subcontractors, and authorised third-party responders. It covers incidents such as accidents, cargo spills or leaks, equipment failures, fires, and other unplanned disruptions during transport.

3 ROLES AND RESPONSIBILITIES

TWC and B2B are committed to ensuring that all individuals involved in our transport operations understand their responsibilities during routine operations and in the event of an emergency. Clear delegation of roles supports effective decision-making, rapid response, and compliance with safety and environmental requirements.

3.1 TWC MANAGEMENT

TWC management is responsible for the implementation, oversight, and continuous improvement of this TCP. Key responsibilities include:

- Ensuring that the TCP is maintained, communicated, and reviewed periodically.
- Appointing an Emergency Response Coordinator (ERC) to oversee incident management.
- Ensuring drivers, subcontractors, and staff are trained in emergency procedures.
- Maintaining up-to-date emergency contact directories and resource inventories.
- Supporting post-incident debriefs and corrective actions.

3.2 EMERGENCY RESPONSE COORDINATOR (ERC)

The ERC is the designated individual responsible for coordinating the company's response to an incident.

Key responsibilities:

- Acting as the primary point of contact during emergencies.
- Verifying incident reports and activating the appropriate response level.
- Communicating with external emergency services and regulatory authorities.
- Providing technical support and guidance to the driver and response teams.
- Recording actions taken and initiating post-incident reporting.

3.3 DRIVERS AND VEHICLE OPERATORS

Drivers are the first line of response and must act in accordance with their training and this TCP.

Key responsibilities:

- Taking immediate actions to protect lives and reduce escalation of the incident.
- Notifying the ERC and relevant emergency services as soon as it is safe to do so.
- Providing accurate information about the cargo, location, and situation.
- Deploying spill control or firefighting equipment only if trained and safe.
- Remaining on site (if safe) to assist responders and maintain scene control.

3.4 SUBCONTRACTED TRANSPORTERS

Where subcontractors are engaged by TWC, they are required to comply fully with the provisions of this TCP.

Key responsibilities:

- Ensuring drivers are trained, vehicles are equipped, and procedures align with TWC standards.
- Reporting all incidents immediately to TWC.
- Cooperating with investigations, reporting, and corrective actions.

3.5 EXTERNAL EMERGENCY SERVICES

This includes local and regional fire departments, police, ambulance services, and environmental authorities.

Key responsibilities:

- Assuming command at the scene upon arrival.
- Coordinating containment, rescue, evacuation, and hazard mitigation.
- Liaising with the ERC and other on-site personnel.
- Advising on clean-up and regulatory follow-up where required.

4 CARGO TYPES AND EXCLUSIONS

This TCP applies to the transport of a wide range of cargo types managed by TWC, including both hazardous and non-hazardous materials. Transported goods may be containerised, bulk-loaded, palletised, shrink-wrapped, or packaged in drums, IBCs, bags, or other appropriate formats, depending on the nature of the cargo.

Typical cargo types include:

- Industrial chemicals and reagents
- Mining inputs and mineral concentrates
- Commercial and retail goods
- Agricultural products and fertilisers
- General containerised freight
- Packaged consumer products
- Non-specialised bulk liquids and solids

This TCP applies to national and cross-border transport via road and rail, including intermodal operations where relevant.

4.1 HAZARD CLASSIFICATION AND EXCLUSIONS

The table below summarises the major classes of dangerous goods, with examples and their general transport control status:

Table 4-1 UN Dangerous Goods Classes and Associated Transport Controls in Namibia

Class	Hazard Type	Permit/Control Status in Namibia
Class 1	Explosives	Special transport permit required. Highly regulated. Movement only by authorised operators under the Explosives Act.
Class 2	Gases	Requires proper labelling, packaging, driver training, and documentation (e.g. TREM card). High-risk gases (e.g. flammable or toxic) may require police notification.
Class 3	Flammable Liquids	Controlled under general dangerous goods regulations. Requires TREM card, MSDS, trained drivers, placarding.
Class 4	Flammable Solids / Reactive	Requires hazard documentation and secure containment. Specific controls depend on reactivity and packaging.
Class 5	Oxidising Agents and Organic Peroxides	Requires segregation from incompatible cargo. MSDS, labelling, and emergency response planning required.
Class 6	Toxic and Infectious Substances	Infectious substances require health ministry or port authority clearance. Toxic industrial chemicals follow standard hazardous goods transport regulations.
Class 7	Radioactive Materials	Strictly requires special licencing. Controlled under the Atomic Energy and Radiation Protection Act. Must be moved by certified operators.
Class 8	Corrosive Substances	Requires MSDS, PPE for responders, vehicle placarding, and spill preparedness.
Class 9	Miscellaneous Hazardous Goods	Often covered under general dangerous goods handling. Lithium batteries and environmentally hazardous substances may need special declarations.

This TCP does not apply to any cargo requiring specialised permits, escorts, or authorisation from national regulators due to elevated risk, security, or international treaty obligations. Transport of excluded cargo types must be managed under separate, cargo-specific contingency and response plans in line with applicable Namibian legislation and international protocols.

5 TRANSPORT CHAIN OVERVIEW

TWC and B2B operates across a network of established national and cross-border corridors within Namibia and throughout the SADC region. While routing may vary based on cargo destination, regulatory requirements, or operational constraints, transport typically follows recognised freight corridors that offer the necessary infrastructure, border access, and emergency response support.

Primary corridors used by TWC include:

- **Trans-Kalahari Corridor:** Walvis Bay – Windhoek – Gobabis – Buitepos, extending into Botswana and onward to Gauteng, South Africa.
- **Trans-Oranje Corridor:** Walvis Bay – Keetmanshoop – Ariamsvlei, connecting to the Northern and Western Cape regions of South Africa.
- **Trans-Cunene Corridor:** Walvis Bay – Otjiwarongo – Oshikango, extending into Angola via Santa Clara.
- **Trans-Zambezi / Trans-Caprivi Corridor:** Walvis Bay – Rundu – Katima Mulilo, linking into Zambia and the DRC.
- **Walvis Bay–Ndola–Lubumbashi Development Corridor (WBNLDC):** Serving Zambia and southern DRC via Sesheke, Livingstone, Lusaka and Ndola.
- **Beitbridge and Komatipoort Routes:** For transit to Mozambique, Malawi, and Eswatini via Zimbabwe and South Africa.
- **Nakop and Noordoewer Border Routes:** Supporting access into central and southern South Africa.

Cargo transported along these corridors may cross borders into:

- South Africa
- Botswana
- Zambia
- Zimbabwe
- Angola
- Mozambique
- Malawi
- Eswatini
- Lesotho
- Democratic Republic of Congo

Routing is determined on a per-shipment basis and considers road conditions, security, vehicle configuration, cargo type, and any applicable restrictions. Alternate routes may be used as contingency options if primary corridors are inaccessible due to operational, safety, or environmental reasons.

6 RISK ASSESSMENT AND HAZARD IDENTIFICATION

This TCP requires that risk assessments be conducted to support safe, compliant, and responsible movement of cargo across all operational routes.

6.1 GENERAL TRANSPORT RISK ASSESSMENTS

All routine road and rail transport operations must be supported by risk assessments that consider:

- Cargo type (hazardous vs. non-hazardous)
- Packaging format and handling method
- Vehicle configuration and capacity
- Route-specific conditions (e.g. terrain, road quality, remoteness, weather exposure)
- Proximity to sensitive environments or populated areas
- General safety, security, and emergency response limitations

These assessments are to be reviewed periodically and used to inform route selection, driver briefings, subcontractor instructions, and contingency planning.

6.2 SPECIFIC OR NON-ROUTINE TRANSPORT RISK ASSESSMENTS

Specific risk and hazard assessments must be carried out for:

- Non-standard, irregular, or project-based transport assignments
- Valuable, sensitive, or security-critical cargo
- Unusual or high-risk routing (e.g. detours, remote regions, congested urban areas)
- New cargo types or untested packaging configurations
- Cargo requiring escorts, route clearances, or third-party coordination

These assessments must be completed prior to dispatch and must inform any additional protective measures, documentation, or approvals required. Where necessary, cargo-specific emergency instructions must also be appended to the transport documentation.

7 EMERGENCY COMMUNICATION AND NOTIFICATION PROCEDURES

Prompt and coordinated communication is essential to ensure effective response in the event of an incident. All personnel involved in transport operations must follow the communication protocols outlined in this section to support safety, containment, and legal compliance.

7.1 IMMEDIATE NOTIFICATION REQUIREMENTS

In the event of an incident (e.g. accident, spill, fire, equipment failure, or security threat), the driver or first responder must immediately notify the following:

1. TWC and B2B Emergency Response Coordinator (ERC)
2. Local emergency services (fire brigade, police, ambulance), if there is a risk to life, property, or the environment
3. Cross-border or corridor-specific authorities, if applicable

Notification must include:

- Location (GPS coordinates if available)
- Nature and severity of the incident
- Type of cargo involved
- Injuries, fire, or environmental risks
- Immediate actions taken
- Where possible, drivers should use:
    - Vehicle radio or in-cab emergency alert systems
    - Mobile phone or satellite communication
    - On-board tracking system (panic button or alert function)

7.2 INTERNAL REPORTING FLOW

The ERC will:

- Confirm the report and gather further details
- Initiate TWC and B2B's internal response procedures
- Notify TWC and B2B management and operational contacts
- Coordinate technical guidance and on-site support
- All incidents must be documented and escalated according to severity level, as defined in internal procedures.

7.3 EXTERNAL NOTIFICATION RESPONSIBILITIES

The ERC or TWC and B2B management will notify external parties as required by law and depending on the nature of the incident. This may include:

- Local and national emergency services
- Ministry of Environment, Forestry and Tourism (for spills or environmental risk)
- Road or rail authorities (for infrastructure-related disruptions)
- Relevant cross-border or corridor agencies
- Insurance providers and cargo owners

For significant incidents, notification must be made as soon as practicable and no later than the regulatory timeframes set out under Namibian law.

7.4 MEDIA AND PUBLIC COMMUNICATION

Only designated TWC and B2B spokespersons are authorised to speak to the media or issue public statements. All personnel must refer external inquiries to TWC and B2B's communications officer or designated manager.

8 EMERGENCY RESPONSE PROCEDURES

This section outlines the standard response actions to be followed in the event of transport-related incidents. Procedures apply to all cargo types covered under this TCP and are intended to reduce risk, protect life and the environment, and support regulatory compliance.

8.1 GENERAL PRINCIPLES

- Do not endanger yourself or others.
- Assess the situation from a safe distance.
- Activate emergency signals (hazard lights, triangles, beacon).
- Notify the ERC and local emergency services immediately.
- Use spill or fire equipment only if trained and safe to do so.
- Prevent access to the site by the public or unauthorised personnel.

8.2 VEHICLE ACCIDENT

Initial Actions (Driver):

- Stop vehicle safely and activate hazard signals.
- Check for injuries and assist only if it is safe.
- Secure the area using triangles, cones, or flags.
- Contact the ERC and emergency services.
- Do not move the vehicle unless instructed by authorities.

Follow-Up (ERC):

- Notify relevant authorities and coordinate recovery.
- Ensure all incident details are logged and reported.
- Deploy a response team if cargo integrity is compromised.

8.3 CARGO SPILL OR LEAK

Initial Actions (Driver):

- Identify the substance involved (use TREC and labels).
- Move upwind and isolate the area.
- Prevent access and protect drains/water bodies if possible.
- Use spill kits only if trained and safe.
- Notify the ERC with cargo details and estimated volume spilled.

Follow-Up (TWC/Contractor):

- Dispatch a qualified spill response team.
- Notify environmental authorities if required.
- Document containment and clean-up measures.

8.4 FIRE (CABIN, CARGO OR TYRES)

Initial Actions (Driver):

- Stop vehicle and shut off the engine.
- Attempt to extinguish small fires with on-board extinguisher if safe.
- For cargo fires, evacuate and maintain a safe distance.
- If towing dangerous goods, unhook trailer if possible and safe.
- Notify ERC and emergency services immediately.

Follow-Up (TWC/Authorities):

- Coordinate with fire services and authorities.
- Secure cargo and site until recovery team arrives.

8.5 EQUIPMENT FAILURE OR BREAKDOWN

Initial Actions (Driver):

- Move vehicle safely off the roadway if possible.

- Activate hazard indicators and warning triangles.
- Contact the ERC for assistance or mechanical support.
- Stay with the vehicle until help arrives unless unsafe.

Follow-Up (TWC):

- Deploy technical support or recovery vehicle.
- Log all events and evaluate for maintenance trends.

8.6 Security Threat or Hijacking

Initial Actions (Driver):

- Avoid resistance; prioritise personal safety.
- Activate silent alarm or panic alert if available.
- Notify ERC as soon as safe.
- Move to a secure location once released.

Follow-Up (TWC):

- Notify police and relevant border/corridor security authorities.
- Provide vehicle tracking data and incident details.
- Support driver and coordinate recovery of cargo/assets.

9 SPILL CONTAINMENT AND ENVIRONMENTAL PROTECTION

This section outlines key measures to contain and mitigate spills or leaks involving hazardous or potentially polluting substances.

9.1 On-board Containment Resources

All TWC vehicles transporting hazardous or high-risk materials must carry the following as a minimum:

- Spill kit suitable for the cargo type (e.g. chemical, oil, or universal)
- Absorbent materials (pads, booms, granules)
- PPE (chemical-resistant gloves, goggles, apron or suit)
- Leak-sealing tools (drain covers, putty, absorbent socks)
- Fire extinguisher (dry chemical or foam, as applicable)
- Emergency contact sheet and cargo documentation

Drivers must be trained in the safe use of this equipment and should not attempt spill control unless properly equipped and the situation is stable.

9.2 Containment Procedure (Driver-Level, If Safe)

- Identify the substance (use Transport Emergency Cards (TREC) and container labelling).
- Park uphill and upwind of the release (if not already stopped).
- Use absorbent material to prevent the spread of the liquid.
- Protect storm water drains, surface water, and soil using booms, covers, or sand.
- Secure the area and restrict access.
- Notify the ERC immediately and provide volume estimate, location, and visible impacts.
- Do not wash or dilute spilled materials unless instructed to do so.

9.3 Specialist Spill Response and Clean-Up

If the spill exceeds vehicle-level capacity or presents health, fire, or environmental risks, the ERC will activate a pre-approved spill response contractor.

The contractor will:

- Take control of containment and neutralisation
- Recover free product and contaminated materials
- Dispose of waste through a licensed facility
- Provide a clean-up and disposal report to TWC and B2B

9.4 ENVIRONMENTAL REPORTING AND COMPLIANCE

The ERC must notify the Ministry of Environment, Forestry and Tourism if the spill:

- Has entered soil, groundwater, or any watercourse
- Exceeds the defined reporting threshold
- Poses a risk to protected ecosystems or communities

All such incidents must be logged and included in post-incident review.

10 TRAINING, AWARENESS AND DRILLS

This section outlines the minimum training and awareness measures required to ensure safe and compliant implementation of the TCP.

10.1 DRIVER AND OPERATOR TRAINING

All drivers and subcontracted operators involved in the transport of hazardous or regulated cargo must receive training that includes:

- Basic hazardous materials awareness
- Emergency response procedures (fire, spill, accident, security threats)
- Use of vehicle-mounted spill kits and firefighting equipment
- Interpretation of TREC and safety data sheets
- Incident reporting protocols
- Cross-border documentation and communication procedures

10.2 REFRESHER TRAINING

Refresher training must be conducted at regular intervals, and at minimum:

- Annually for drivers transporting dangerous goods
- After any major incident, route change, or plan update
- On boarding of new drivers, coordinators, or subcontractors

10.3 AWARENESS FOR SUPPORT STAFF AND SUBCONTRACTORS

TWC and B2B ensures that warehouse staff, dispatch personnel, and subcontracted drivers receive targeted briefings on:

- The contents and application of this TCP
- Internal reporting lines and communication expectations
- Route-specific risks and emergency contacts

10.4 EMERGENCY DRILLS AND SIMULATIONS

TWC and B2B will conduct simulated emergency drills to test the effectiveness of this TCP. These may include:

- Table-top exercises with internal teams
- Live spill response simulations (driver-level)
- Multi-agency coordination drills (where feasible)
- Frequency:
    - At least annually for each operating region or corridor
    - Additional drills as required by changes in operations or after incidents

Appendix A – Emergency contacts

Contact Type	Name / Organisation	Contact Number(s)
TWC Windhoek (Head Office)	Transworld Cargo	Privacy Block
TWC Walvis Bay (Depot)	Transworld Cargo	
Emergency Coordinator (Windhoek – Transport National / Cross-border)	Marius Van Taak	
	Mercia Howaes	
	Michelle Beukes	
Distribution Contact	Oliviera Schaneck	
Escalation (Windhoek)	Reggie Klazen Martin Gillmann	
Walvis Bay – All Hours Standby	TWC Standby Line	
Warehouse / Local Ops (Erongo)	Marshall Beukes	
Operations (Walvis Bay)	Felicity Nyambe	
Escalation (Walvis Bay)	David Leech Kai Schnaitmann	
Police Department (Walvis Bay)	NAMPOL	
NAMPOL (Direct)	–	
Municipal Traffic Department	–	
Fire Brigade (Walvis Bay)	–	
Ambulance – St. Gabriel's	–	
Ambulance – LifeLink	–	
Ambulance – EMed Rescue	–	
Hazmat Response – Sanitech	–	
Hazmat Response – WESCO	–	
Hazmat Response – Haz-Kem	–	
Security – Omega Security Services	–	
Security – Standby Surveillance Solutions	–	
CCTV / Surveillance – IP Camera Solutions	–	
Utilities – Erongo RED	–	
Utilities – Water Works	–	

Appendix B: Consultant's Curriculum Vitae

ENVIRONMENTAL SCIENTIST **André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 240 Environmental Impact Assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

CURRICULUM VITAE ANDRÉ FAUL

Name of Firm	:	Geo Pollution Technologies CC.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	23
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent
		English – speaking, reading, writing – excellent

EDUCATION AND PROFESSIONAL STATUS:

B.Sc. Zoology/Biochemistry	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	EMTSS, 2017, OSH-Med 2022
Basic Fire Fighting	EMTSS, 2017, OSH-Med 2022

PROFESSIONAL SOCIETY AFFILIATION:

Environmental Assessment Professionals of Namibia (Practitioner)

AREAS OF EXPERTISE:

Knowledge and expertise in:

- Water Sampling, Extractions and Analysis
- Biomonitoring and Bioassays
- Biodiversity Assessment
- Toxicology
- Restoration Ecology

EMPLOYMENT:

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

PUBLICATIONS:

Publications:	5
Contract Reports	+240
Research Reports & Manuals:	5
Conference Presentations:	1