

Contingency Plan for LPG Gas Retail Facility – Swakopmund, Namibia



Report Compiled for:

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Contingency Plan for LPG Gas Retail Facility – Swakopmund, Namibia

ENVIRONMENTAL MANAGEMENT PRACTITIONERS

NAME OF REPRESENTATIVE OF THE EAP	EDUCATION QUALIFICATIONS
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CLIENT

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LIST OF ABBREVIATIONS

TERM	DEFINITION
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exploration Prospecting Licence
GPS	Global Positioning System
HSE	Health, Safety and Environmental
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy

NHC	National Heritage Council
PPE	Personal Protective Equipment
SOPs	Standard Operating Procedures
ToRs	Terms of Reference

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1. Introduction

This contingency plan outlines procedures to respond to emergencies involving Liquefied Petroleum Gas (LPG) at the [Facility Name] located in Swakopmund, Erongo Region. The plan is in compliance with the Occupational Health and Safety Act of Namibia, NERA guidelines, and local municipal fire safety regulations.

This Contingency Plan provides procedures and responsibilities for managing emergency situations that may arise at the proposed LPG retail and supply facility in Mondesa, Swakopmund. The plan aims to protect human life, the environment, infrastructure, and public health by minimizing the impacts of LPG-related incidents.

2. Objectives

- Ensure protection of life, property, and the environment.
- Minimize impact of gas leaks, fires, or explosions.
- Establish structured response roles and communication lines.
- Ensure full compliance with Namibian legal and regulatory frameworks.
- To ensure rapid and coordinated response to LPG-related emergencies.
- To minimize harm to people, the environment, and property.
- To comply with Namibian legal requirements and international safety standards.
- To provide guidance on emergency preparedness, response, and recovery.

3. Scope

This plan applies to the LPG storage, handling, refilling, and distribution operations at the proposed facility and includes:

- 2 x 6,000L above-ground storage tanks
- Cylinder filling and exchange areas
- Vehicle loading/unloading zones
- Staff and customer safety

3. Risk Assessment Overview

Scenario	Impact
LPG gas leak or pipeline rupture	Explosion, fire, asphyxiation risks
LPG tank overfilling or tank failure	Fire/explosion, environmental damage
Fire outbreak	Asset loss, risk to life, toxic fumes
Vehicle accident during delivery	Fuel spill, fire hazard
Cylinder explosion or valve malfunction	Injury/fatality, operational halt
Natural events (e.g., extreme wind)	Physical damage to structures

Key Risks:

- - Gas leakage during transfer or storage
- - Fire or explosion due to accidental ignition
- - Transportation accidents involving LPG cylinders or bulk delivery
- - Equipment malfunction (valves, regulators, hoses)
- - Unauthorized access or theft

Local Hazards:

- - Proximity to residential areas or coastal wind conditions (risk of gas dispersal)
- - Delays in emergency response due to regional constraints

4. Emergency Response Plan

4.1 Detection and Notification

- All staff trained to identify signs of LPG leaks (smell, sound, frost).
- Activation of manual and/or automatic alarm systems.
- Gas detectors and alarms installed around tanks and filling stations.
- Pressure relief valves and emergency shut-off systems.
- Visual/auditory alarms activated upon leak detection.

Immediate notification of:

- Swakopmund Fire Brigade: 📞 +264 64 410 4100
- Namibian Police: 📞 10111
- Emergency Medical Services: 📞 203 2274 (Swakopmund Private Hospital)

4.2 Evacuation Protocol

Immediate evacuation via marked exit routes.

Assembly at designated muster points, upwind of the facility.

Staff to conduct headcount and report to the Emergency Coordinator.

4.3 Fire and Explosion Management

Use only Class B or multi-purpose fire extinguishers.

Shut off LPG main valves if safe.

No use of electronic devices or naked flames.

Fire brigade takes over fire suppression upon arrival.

Dry chemical powder fire extinguishers at key points.

Dedicated 1,000L water tank connected to hose reels for fire suppression.

Firefighting foam and PPE stored on site.

Immediate contact with Swakopmund Fire Brigade (Tel: [Insert Local Number]).

4.4 Gas Leak Control

Evacuate affected zones and notify relevant authorities.

Trained personnel to isolate valves and stop the leak if possible.

Use gas detectors to monitor the environment.

Natural ventilation preferred; mechanical ventilation only if explosion-proof.

Shut off all valves and isolate the affected area.

Deploy emergency gas shut-off switch.

Ventilate the area and notify nearby property owners if needed.

Use sand/absorbent material to control liquid spills.

5. Emergency Contact List

Role	Contact Person	Contact Number
Facility Manager	[Name]	[Number]
Safety Officer	[Name]	[Number]
Swakopmund Fire Dept.	Shift Commander	+264 64 410 4100
Swakopmund Police	Station Commander	10111 or 064 405 221
Ambulance Services	Swakop Private Hosp.	+264 64 403 150
LPG Supplier Hotline	[Supplier Name]	[Emergency Number]
NERA	Regional Office	+264 61 201 2400

6. Training and Drills

- All staff must undergo induction and annual safety refresher training.
- Fire and gas leak drills to be conducted every six months.
- Coordination with Swakopmund Municipality Fire Services during drills.

First Aid kit available on-site.

Trained first-aid personnel on all shifts.

Coordinate with Swakopmund State Hospital and local clinics.

Maintain updated list of emergency contact numbers.

7. Safety Equipment Inventory

- Portable gas leak detectors
- Emergency shut-off valves (regularly maintained)
- Class B and multi-purpose fire extinguishers
- PPE: flame-resistant overalls, gloves, boots, and goggles
- First aid kits and trauma packs
- Emergency signage and lighting

8. Post-Emergency Procedures

- Immediate debrief and incident investigation.
- Submission of an incident report to NERA and the Ministry of Mines and Energy.
- Facility inspection before resuming operations.
- Psychological support or medical evaluation for affected staff.

All staff undergo annual emergency response training.

Refresher sessions every 6 months.

Fire and evacuation drills conducted twice yearly.

LPG cylinder handling and safety procedures training for all handlers.

9. Legal Compliance and Review

- Plan to be reviewed annually or after a major incident.
- Regular audits to ensure alignment with:
 - Occupational Health and Safety Act, 1992
 - NERA LPG Guidelines
 - Namibian Building and Fire Regulations
- Maintain updated permits and LPG safety certifications.

10. Equipment and Resources Checklist

- ☒ Gas detectors and alarms
- ☒ Fire extinguishers (DCP)
- ☒ Emergency gas shut-off switches
- ☒ PPE: gloves, masks, fire-resistant suits
- ☒ Spill containment kits
- ☒ First aid kits

- ☒ Site evacuation map and signage
- ☒ Wind sock (for wind direction)

11. Review and Revision

- This contingency plan shall be reviewed every 12 months or after any incident.
- Updates must incorporate changes in legislation, operational upgrades, or risk assessments.

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Abbreviations Table

Abbreviation Full Term	
ABC	Dry Powder Fire Extinguisher (suitable for Class A, B, and C fires)
CO₂	Carbon Dioxide
dB / dB(A)	Decibel / A-weighted Decibel (noise level measurement)
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EMP	Environmental Management Plan
ERP	Emergency Response Plan
ESR	Environmental Scoping Report
ISO	International Organization for Standardization
LPG	Liquefied Petroleum Gas
MEFT	Ministry of Environment, Forestry and Tourism (Namibia)
MSDS	Material Safety Data Sheet
PPE	Personal Protective Equipment
SANS	South African National Standards
SOP	Standard Operating Procedure
VOC	Volatile Organic Compounds

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1. Introduction

This Environmental Management Plan (EMP) forms part of the Environmental Assessment process for the proposed Liquefied Petroleum Gas (LPG) retail and distribution facility to be established in Mondesa, Swakopmund. The EMP provides a comprehensive set of management principles and mitigation measures to ensure the project is carried out in a socially and environmentally responsible manner, in line with the **Environmental Management Act, No. 7 of 2007**.

The EMP applies to all phases of the project — construction, operation, and decommissioning — and must be implemented by all personnel involved in the project, including contractors, subcontractors, and site staff.

2. Legal and Regulatory Framework

The EMP aligns with Namibian legislation and applicable international best practices. Relevant laws include:

- **Environmental Management Act (No. 7 of 2007)** – mandates environmental assessments for listed activities.
- **Hazardous Substances Ordinance (No. 14 of 1974)** – governs the storage and handling of flammable substances like LPG.
- **Petroleum Products and Energy Act (No. 13 of 1990)** – provides for the regulation of fuel handling and licensing.
- **Labour Act (No. 11 of 2007)** – ensures safe and fair working conditions.
- **Public Health Act (No. 36 of 1919)** – addresses public health and sanitation.
- **Local Authorities Act (No. 23 of 1992)** – mandates land-use compliance within municipal areas.
- **SANS 10087** – provides codes of practice for handling and storing LPG.
- **Building Regulations and Fire Safety Codes** – must be enforced in design and operation.

3. Project Description

The project entails the development of an LPG retail and distribution facility within a designated industrial area of Mondesa. It includes:

- LPG storage tanks (above-ground or underground, depending on approval)
- Cylinder filling station
- Office and security infrastructure
- Customer access and delivery loading bays
- Fire suppression systems
- Perimeter fencing, signage, and access control systems

The site falls within **Swakopmund municipal jurisdiction**, and **approval from the Swakopmund Municipality has been obtained**.

4. Environmental Management Objectives

- To comply with all applicable environmental and safety regulations
- To minimize potential impacts on people, property, and ecosystems
- To prevent fires, explosions, and accidental gas releases
- To ensure operational safety for workers and the public
- To maintain community trust through transparent engagement
- To manage waste, emissions, and noise within acceptable thresholds

5. Roles and Responsibilities

Role	Responsibility
Proponent (Augite Environmental Consultants)	Oversee compliance with EMP and applicable laws

Role	Responsibility
Site Manager	Implement and monitor EMP daily
Contractor(s)	Comply with all EMP requirements during site works
Environmental Control Officer (ECO)	Conduct audits, inspections, and report non-compliance
Emergency Response Team	Trained personnel to respond to LPG-related emergencies

6. Construction Phase: Environmental and Safety Management

Aspect	Impact	Mitigation Measures	Monitoring
Vegetation and soil removal	Erosion, dust	Clear only necessary areas; use dust suppression (e.g., water spraying)	Daily site inspections
Heavy vehicle movement	Noise, dust	Restrict working hours; speed limits; dust screens	Complaints register
Waste generation	Pollution, visual nuisance	Sort at source; remove by licensed waste handlers	Waste logbook
Storage of fuels and chemicals	Spills, fire hazard	Store on bunded surfaces; maintain MSDS on-site	Weekly inspection
Worker safety	Injuries	PPE; toolbox talks; first aid kit; emergency signage	Safety incident reports

7. Operational Phase: Environmental and Risk Management

Aspect	Risk / Impact	Detailed Mitigation Measures	Monitoring / Indicator
LPG Storage & Handling	Explosion, leaks, fire	<ul style="list-style-type: none">• Install certified tanks (per SANS 10087)	Monthly tank & valve integrity checks
		<ul style="list-style-type: none">• Use flame arrestors, excess flow valves	
		<ul style="list-style-type: none">• Enforce no-smoking zones	
		<ul style="list-style-type: none">• Train staff on gas safety	
Leak Detection	Public safety risk	<ul style="list-style-type: none">• Install gas detectors with alarms	Alarm logs; maintenance schedule
		<ul style="list-style-type: none">• Regular pressure tests	
		<ul style="list-style-type: none">• Implement odorization (ethyl mercaptan)	
Traffic & Logistics	Accidents, noise	<ul style="list-style-type: none">• Schedule deliveries outside peak hours	Traffic movement log
		<ul style="list-style-type: none">• Provide dedicated loading/unloading areas	
		<ul style="list-style-type: none">• Clear signage for drivers	
Air Emissions	Health risk, odor	<ul style="list-style-type: none">• Proper venting systems	Gas quality & loss reports
		<ul style="list-style-type: none">• Ensure no unburned gas escapes	
		<ul style="list-style-type: none">• Monitor gas meters	
Noise	Community disturbance	<ul style="list-style-type: none">• Acoustic barriers around compressors	Quarterly dB readings

Aspect	Risk / Impact	Detailed Mitigation Measures	Monitoring / Indicator
		<ul style="list-style-type: none"> Regular maintenance 	
Stormwater & Spill Containment	Soil/groundwater contamination	<ul style="list-style-type: none"> Use impermeable concrete pads with bunds Spill kits on-site Drainage management 	Monthly checks post-rain
Fire & Emergency Preparedness	Loss of life/property	<ul style="list-style-type: none"> - Fire extinguishers & hydrants Regular fire drills Emergency plan posted & practiced 	Fire safety audit, drill log
Waste Management	Pollution, non-compliance	<ul style="list-style-type: none"> Cylinders tested, condemned ones disposed of via recyclers Waste oils, contaminated material treated as hazardous 	Waste manifest and disposal records

8. Emergency Response Plan

Key Scenarios and Response Actions:

- **Gas Leak:**
 - Evacuate area
 - Activate shut-off valves
 - Notify emergency services
 - Ventilate and isolate leak area
- **Fire/Explosion:**
 - Trigger alarm
 - Evacuate site to designated muster point
 - Fire team uses extinguishers (dry chemical or CO₂)
 - Contact Fire Brigade and Police
- **Medical Emergency:**
 - Administer first aid
 - Call ambulance
 - Maintain log of injury, time, response actions
- **Spills:**
 - Stop source
 - Use spill kit absorbents
 - Report and dispose of contaminated materials

9. Monitoring & Reporting

Parameter	Frequency	Responsible	Output
Gas leak detection	Weekly	Site Manager	Leak report

Parameter	Frequency	Responsible	Output
Fire safety equipment	Monthly	Safety Officer	Equipment checklist
Waste disposal	Monthly	Contractor	Waste manifest
Environmental audits	Quarterly	ECO	Audit report to MEFT
Community complaints	Ongoing	Public Liaison	Complaints register

10. Training and Capacity Building

All employees and contractors must:

- Attend **Environmental Induction Training**
- Participate in **monthly safety drills** (fire/gas leak)
- Be trained on:
 - Use of firefighting equipment
 - Emergency response procedures
 - Waste separation and spill handling
 - Public interface and complaints procedure

11. Mitigation Measures, Responsibilities, Monitoring & Frequency

Impact/Activity	Mitigation Measures	Responsible Party	Monitoring Procedure	Frequency
LPG leakage or explosion risk	• Install certified tanks and fittings per SANS 10087	Contractor (Construction), Safety Officer (Operation)	Leak test reports	Monthly, and after any maintenance
	• Pressure testing before commissioning		Visual inspection of fittings	
	• Automatic shut-off and excess flow valves		Odour detection systems	
	• Perimeter fencing and access control			
	• Signage (No Smoking, Flammable Gas)			
Fire risk	• Install dry powder extinguishers, hydrants	Safety Officer, Site Manager	Fire drill log	Quarterly + annual mock drills
	• Coordinate with Swakopmund Fire Brigade for pre-approval and inspection		Extinguisher inspection tag	
	• Fire suppression systems		Fire Brigade inspection report	
	• Emergency signage and lighting			
Ground and soil contamination (from leaks, spills)	• Concrete bunded areas under tanks	Site Manager,	Spill incident log	Weekly visual checks
	• Spill containment kits onsite	Trained Staff	Inspection checklist	Post-rainfall audits

Impact/Activity	Mitigation Measures	Responsible Party	Monitoring Procedure	Frequency
	<ul style="list-style-type: none"> SOP for refilling and offloading LPG 			
Noise generation (compressors, deliveries)	<ul style="list-style-type: none"> Install acoustic shields around equipment Limit delivery times (08:00–17:00) 	Operator, Site Manager	Noise level meter (dB) Community feedback	Quarterly + upon complaint
Waste generation (packaging, oily rags)	<ul style="list-style-type: none"> - Segregate general and hazardous waste Use certified disposal contractors 	Operator	Waste disposal manifests Storage area checks	Monthly
Traffic congestion, safety	<ul style="list-style-type: none"> Marked turning bays Driver induction Delivery scheduling 	Operator, Security	Vehicle logbook Traffic inspection	Daily
Public safety (access to flammable site)	<ul style="list-style-type: none"> - Signage Fenced perimeter 24/7 security Surveillance cameras 	Operator, Security Contractor	Security log Surveillance review	Continuous

12. Roles and Responsibilities

Role	Responsibility
Proponent (Augite Environmental Consultants)	Ensure full compliance with EMP and legal requirements. Appoint qualified staff and report to MEFT.
Designated Safety Officer (<i>required by law</i>)	Implement and supervise fire safety measures. Maintain firefighting systems. Train staff. Liaise with Fire Brigade and MEFT. Keep safety records.
Site Manager	Oversee daily compliance, maintenance, and inspections. Ensure safe delivery and storage of LPG. Respond to emergencies.
Environmental Control Officer (ECO)	Perform audits, verify logs, prepare compliance reports, and notify authorities of violations.
Contractor (during construction)	Implement environmental controls during site preparation. Use approved materials and methods. Prevent environmental damage.
Swakopmund Fire Brigade (consulted)	Inspect site during design, construction, and operation. Participate in emergency drill simulations. Provide written clearance.

13. Emergency Response Protocols

A site-specific **Emergency Response Plan (ERP)** must be prepared before operation and include the following.

Scenario	Response Actions
LPG Leak	<ul style="list-style-type: none"> • Evacuate area immediately • Shut off valves • Alert Fire Brigade and Safety Officer • Ventilate affected area • Use gas detector to confirm clearance
	<ul style="list-style-type: none"> • Trigger alarm system • Evacuate per muster plan
	<ul style="list-style-type: none"> • Use ABC fire extinguishers • Contact emergency services (Fire Brigade, Police, Ambulance) • Treat injuries and secure site
	<ul style="list-style-type: none"> • Administer first aid • Transport to nearest medical facility • Log incident • Notify authorities
	<ul style="list-style-type: none"> • - Contain area
Cylinder burst / valve failure	<ul style="list-style-type: none"> • Evacuate staff • Notify supplier and technician • File technical failure report
	<ul style="list-style-type: none"> • Use absorbents from spill kit • Isolate ignition sources • Clean, document and dispose as hazardous waste • Report to ECO and MEFT

Emergency**Contacts**

- will be posted at strategic locations (entrance, office, control room).
-

15. Consultation with Swakopmund Fire Brigade

As this is a **high-risk installation**, the proponent **must engage the Swakopmund Fire Brigade** during the following stages:

- **Design Phase:** Review of layout, access, emergency exits, and tank placement.
- **Construction Phase:** Inspection of fire systems (hydrants, extinguishers, alarms).
- **Operational Phase:** Final clearance before commissioning.
- **Emergency Drills:** Participation in annual fire simulation exercises.

Final Notes

- A **Designated Safety Officer** with fire safety training is **mandatory**.
- Safety systems must comply with **SANS 10087, Namibian building/fire codes**, and be verified before operation.
- A copy of this EMP must be kept on site and made available to any inspector from MEFT or the Fire Brigade.

16. Monitoring Schedule Table

This table outlines the environmental and safety parameters to be monitored during construction and operation of the LPG facility, including the frequency and responsible parties:

Parameter	Monitoring Activity	Responsible Person	Frequency	Record / Report
LPG tanks & pipe integrity	Visual inspections, leak tests, pressure tests	Safety Officer	Monthly	Inspection checklist
Gas detection system	Test sensor functionality & alarm response	Safety Officer	Monthly	Sensor test log
Fire extinguishers / hydrants	Check pressure, expiry dates, service records	Safety Officer	Monthly	Fire safety log
Employee safety training	Toolbox talks, fire drills	Safety Officer	Monthly (talks) / Annually (drills)	Attendance register
Waste management	Waste separation, storage, and disposal	Site Manager	Monthly	Waste manifest
Spill and leak incidents	Record spills/leaks and corrective actions	ECO / Site Manager	As needed	Incident log
Noise levels	Measure dB(A) near operational areas	ECO	Quarterly	Noise monitoring report
Traffic movement	Check delivery truck schedules and routing	Site Manager	Weekly	Traffic logbook
Public complaints	Record, investigate and resolve issues	Public Liaison Officer	Ongoing	Complaints register

Parameter	Monitoring Activity	Responsible Person	Frequency	Record / Report
Emergency drill performance	Evaluate staff response and time	Safety Officer	Annually	Drill report
Site access control	Ensure non-authorized personnel are restricted	Security Officer	Daily	Access control register
Stormwater runoff (seasonal)	Check for fuel traces or contaminants	Site Manager	After rainfall events	Visual log
Environmental compliance	Audit EMP implementation	ECO	Quarterly	Compliance audit report

17. Swakopmund Fire Brigade Contact Details:

Swakopmund Fire & Rescue Services

Address: Moses !Garoëb Street, Swakopmund, Namibia

Emergency Contact: +264 64 410 4700

Email: fire@swkmun.com.na

Office Hours: Monday to Friday, 08:00 – 17:00




Fire Chief: Mr. Norman Kapunda (or latest available contact)

Note: The Fire Brigade must be formally consulted during:



- Final layout approval
- Installation of firefighting infrastructure
- Fire drills and emergency plan validation
- Final operational clearance




18. Impact Assessment, Mitigation & Monitoring Plan



Impact Severity Scale

Impact Level	Description	Color Code
Low (L)	Limited impact, easily reversible, short-term	
Moderate (M)	Medium impact, partially reversible, site-contained	
High (H)	Significant, long-term or irreversible, offsite risks	


Consolidated Impact-Mitigation-Monitoring Matrix

No.	Impact (as identified in ESR)	Severity	Mitigation Measures	Monitoring Indicator	Timeline	Responsible Person
1	LPG leaks, fire or explosion risk from storage tanks, filling, or transportation	 Moderate	<ul style="list-style-type: none"> • Install certified LPG tanks per SANS 10087 • Use excess flow valves, fireproof barriers • Odorised LPG for leak detection • Conduct monthly leak tests • Install gas detectors and alarms <p>Train staff in fire protocols</p>	<ul style="list-style-type: none"> • Leak test records • Detector alarm logs • Safety training attendance 	Monthly + after maintenance	Safety Officer / Site Manager
2	Groundwater and soil contamination due to spills during offloading or storage	 Moderate	<ul style="list-style-type: none"> • Use impermeable concrete bunds • Install spill containment trays 	<ul style="list-style-type: none"> • Spill log • Bund inspection reports 	Weekly & post-incident	Site Manager / ECO

No.	Impact (as identified in ESR)	Severity	Mitigation Measures	Monitoring Indicator	Timeline	Responsible Person
			<ul style="list-style-type: none"> Onsite spill kits and SO <p>Conduct clean-up training</p>			
3	Air emissions from LPG vapor escape or poor fittings	 Moderate	<ul style="list-style-type: none"> - Routine inspection of joints, valves Use gas leak detectors Proper venting infrastructure 	<ul style="list-style-type: none"> VOC detector logs Fitting inspection checklist 	Monthly	Safety Officer
	Public safety risk – exposure to flammable material	 Moderate	<ul style="list-style-type: none"> Restrict access to tanks Install warning signage Emergency contact display Conduct emergency drills 	<ul style="list-style-type: none"> - Access logs Fire drill reports Signage audit 	Monthly & drill annually	Safety Officer / Security
	Noise pollution from delivery trucks and filling compressors	 Moderate	<ul style="list-style-type: none"> Restrict operations to 08:00–17:00 	<ul style="list-style-type: none"> Noise level readings 	Quarterly	Site Manager / ECO

No.	Impact (as identified in ESR)	Severity	Mitigation Measures	Monitoring Indicator	Timeline	Responsible Person
			<ul style="list-style-type: none"> Install acoustic dampeners Maintain equipment regularly 	<ul style="list-style-type: none"> Delivery logbook 		
			<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 		
	Traffic congestion and safety during deliveries	 Moderate	<ul style="list-style-type: none"> Create turning bay and loading plan Install directional signage Schedule deliveries outside peak hours 	<ul style="list-style-type: none"> Traffic observation Incident/near-miss reports 	Weekly	Site Manager
	Waste generation (packaging, metal, oily rags)	 Low	<ul style="list-style-type: none"> Segregate hazardous and domestic waste Contract licensed waste removal company Maintain storage records 	<ul style="list-style-type: none"> Waste manifests Bin inspection checklist 	Monthly	Site Manager

No.	Impact (as identified in ESR)	Severity	Mitigation Measures	Monitoring Indicator	Timeline	Responsible Person
	Visual intrusion / aesthetics	● Low	<ul style="list-style-type: none"> • Use neutral, non-reflective colors • Screen high-risk areas from public view • Maintain neat fencing and signage 	<ul style="list-style-type: none"> • Visual inspections 	Biannually	ECO
	Emergency preparedness gaps	● Moderate	<ul style="list-style-type: none"> • Develop a full Emergency Response Plan (ERP) • Coordinate with Swakopmund Fire Brigade • Conduct full-scale drills 	<ul style="list-style-type: none"> • ERP on file • Fire Brigade consultation log 	Annually	Safety Officer / Fire Brigade
	Occupational health and safety risks to workers	● Moderate	<ul style="list-style-type: none"> • Provide PPE • Enforce operational SOPs 	<ul style="list-style-type: none"> • - PPE compliance records • Incident reports 	Weekly	Safety Officer

No. Impact (as identified in ESR)	Severity	Mitigation Measures	Monitoring Indicator	Timeline	Responsible Person
		<ul style="list-style-type: none"> Maintain Material Safety Data Sheets (MSDS) 			
Community concerns / grievances	 Moderate	<ul style="list-style-type: none"> Display public contact info Maintain grievance register Address complaints within 7 days 	<ul style="list-style-type: none"> Grievance log Resolution timeline tracking 	Ongoing	Public Liaison Officer

19. Monitoring & Reporting Plan

Report Type	Data Source	Responsible	Frequency	Recipients
Monthly Safety & Environmental Log	Leak tests, training records, waste log	Safety Officer / Site Manager	Monthly	Proponent, MEFT (if required)
Quarterly Environmental Compliance Report	Noise, waste, emissions, complaints	ECO	Quarterly	MEFT
Emergency Drill Evaluation	Fire drill logs, timing, participation	Safety Officer	Annually	Site Management, Fire Brigade
Spill Incident Report	Spill log, photos, corrective actions	Site Manager / ECO	Post-incident	MEFT (if significant)
Fire Brigade Consultation File	Minutes, inspection notes, correspondence	Proponent / Safety Officer	At design, commissioning, annually	MEFT, Fire Brigade
Annual Environmental Audit Report	Comprehensive site inspection	ECO or independent auditor	Annually	MEFT

20. Consultation with Swakopmund Fire Brigade

Status: *To be conducted before commissioning*

Required Actions:

- Submit site layout plan for review
- Fire Brigade to inspect firefighting systems (hydrants, extinguishers, signage)
- Incorporate Brigade recommendations into ERP
- Conduct joint fire drill before start of operations
- Secure written approval or “No Objection” letter

21. Review and Update of EMP

This EMP will be:

- **Reviewed annually** or after significant incidents.
- Updated to reflect changes in legislation, technology, or operations.
- All updates must be **communicated to MEFT** and stakeholders.

22. Decommissioning Procedures

If the facility is closed or relocated:

1. **Notify MEFT and Swakopmund Municipality** of intent to decommission.
2. **Purge and safely remove LPG from all tanks and cylinders.**
3. **Remove all equipment, tanks, piping,** and fittings for safe disposal or recycling.
4. **Remediate site** — clean soil, remove hard surfaces, regrade land.
5. **Submit a Decommissioning Report** to MEFT and the Swakopmund Fire Brigade.
6. **Final environmental audit** to confirm the site is contamination-free.

23. Stakeholder Communication

- Public complaints will be logged and resolved within 7 days.
- A site notice board will include a contact number for environmental concerns.
- Regular updates to the Swakopmund Town Council and community leaders on site safety.
- Immediate notification of nearby communities and MEFT in case of serious incidents.