



ASTRON ENERGY PTY LTD.

PROPOSED DECOMMISSIONING OF TWO 83 m³ AND TWO 23 m³ ABOVEGROUND STORAGE TANKS AND ASSOCIATED INFRASTRUCTURE ON FARM 52/458, LIME ACRES, NORTHERN CAPE.

July 2026

**SEC REFERENCE NUMBER: 0251010
DENC REF: NC/BA/05/ZFM/TSA/LIM1/2026**

**PO Box 30134, Tokai, 7966
Telephone: 021 712 5060
Email: info@environmentalconsultants.co.za**

TABLE OF CONTENTS

1. DETAIL AND EXPERIENCE OF THE EAP WHO PREPARED THE EMPR	3
2. INTRODUCTION.....	3
3. PROJECT LOCATION AND DESCRIPTION	4
4. DESCRIPTION OF ENVIRONMENTAL SETTING AND SENSITIVITY	5
5. ASPECTS COVERED BY THIS EMPR.....	6
6. LEGAL FRAMEWORK.....	6
7. ENVIRONMENTAL OBJECTIVES, OUTCOMES AND IMPACT MANAGEMENT ACTIONS	8
7.1. PLANNING & DESIGN PHASE.....	8
7.1.1. <i>Objective 1: Appoint an Environmental Control Officer (ECO).....</i>	8
7.1.3. <i>Objective 3: Establishment of Site Camp and Associated Site Facilities</i>	9
7.1.4. <i>Objective 4: Undertake Pre-Decommissioning ECO Visit</i>	10
7.2. DECOMMISSIONING PHASE	11
7.2.1. <i>Objective 1: Avoid Contamination and Pollution of the Soil and Groundwater</i>	11
7.2.2. <i>Objective 2: Limit Noise and Dust Impacts</i>	14
7.2.3. <i>Objective 3: Limit Traffic Impacts to Existing Road Users, Pedestrians & Road Infrastructure</i>	15
7.2.4. <i>Objective 4: Reduce the Visual Impact of the Decommissioning Phase Activities</i>	16
7.2.5. <i>Objective 5: Avoid Fire, Health & Safety Risk</i>	17
7.2.6. <i>Objective 6: Protection of Soil, Groundwater and the surrounding Environment.....</i>	18
7.2.7. <i>Objective 7: Enhance Business & Employment Opportunities</i>	19
7.3. POST-DECOMMISSIONING REHABILITATION PHASE	21
7.3.1. <i>Objective 1: Rehabilitate disturbed areas & ensure environmentally sensitive site closure</i>	21
7.4. OPERATIONAL PHASE	23
8. IMPLEMENTATION OF THE EMP	23
8.1. ROLES AND RESPONSIBILITIES, INCLUDING MONITORING AND AUDITING	23
8.2. DOCUMENTATION AND RECORD KEEPING	24
8.3. ENVIRONMENTAL AWARENESS AND TRAINING	25
8.4. MATTERS PERTAINING TO NON-CONFORMANCE ONSITE	26

List of Annexures

Annexure A	Site Layout Plan
Annexure B	Possible Method Statement Template
Annexure C	Incident Register and Basic Accident Register Templates

List of Acronyms

AST	Aboveground Storage Tank
BA	Basic Assessment
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EO	Environmental Officer (Engineer's Representative)
ESO	Environmental Site Officer (Contractor's Representative)
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
DENC	Department of Environmental and Nature Conservation
GN	Government Notice
GPR	Ground Probing Radar
NEMA	National Environmental Management Act, Act 107 of 1998, as amended
SABS	South African Bureau of Standards
SANS	South African National Standards
SEC	Sillito Environmental Consulting

1. DETAIL AND EXPERIENCE OF THE EAP WHO PREPARED THE EMPR

This report was prepared by Luke Saunders & Jonathan Lassen, and was reviewed by Chantel Müller of Sillito Environmental Consulting (Pty) Ltd.

Chantel has a BA in Social Dynamics and obtained her MPhil in Environmental Management at the University of Stellenbosch in October 2008. Chantel is a registered EAP with EAPSA as well as a member of the International Association for Impact Assessment South Africa (IAIAsa). Chantel is also an Accredited Professional with the Green Building Council of South Africa.

Jonathan Lassen obtained his Advanced Diploma in Marine Sciences from the Cape Peninsula University of Technology and is a Candidate Registered EAP with EAPASA as well as a professional member of IAIAsa South Africa.

Luke Saunders obtained his BSc Honours in Environmental Management from the University of South Africa and is a Candidate Registered EAP with EAPASA as well as a professional member of IAIAsa South Africa.

SEC has extensive experience in environmental impact assessment (EIA) procedures and has completed numerous such applications in most provinces of South Africa since 1998.

2. INTRODUCTION

This Environmental Management Programme (EMP) has been compiled in terms of the requirements of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2014, as amended.

This EMP is intended to ensure compliance with the principles of sound Environmental Management and the general “Duty of Care” specified in the National Environmental Management Act, so as to avoid or minimize potential negative impacts on the natural environment during the decommissioning phase of the proposed decommissioning of the two (2) 83m³ and two (2) 23m³ (212m³ in total) aboveground storage tanks and associated infrastructure.

This document provides measures that should be implemented to ensure that any environmental degradation that may be associated with the proposed decommissioning is avoided, or where such impacts cannot be avoided entirely, are minimized and mitigated appropriately.

This EMP forms part of the contractual obligations to which all persons including but not limited to, contractors/sub-contractors or employees involved in decommissioning work, must be committed. It also serves as a baseline information document for the project applicant and any entity working on behalf of the applicant, during the various phases of the proposed activity. The EMP aims to comply with Section 24N of the National Environmental Management Act No. 107 of 1998, as amended (NEMA), as well as any additional specific information requested by any government department, including the regulating authority for this specific project, the DENC.

The overall objective of the EMP is to direct and guide all responsible parties, binding all contractors, sub-contractors, and all other persons working on the site to adhere to the terms and conditions of the EMP during the decommissioning phases of the project. The overall outcome of the EMP is to prevent avoidable damage and/or minimize or mitigate unavoidable environmental damage associated with the decommissioning phase of the proposed project. The specific outcomes of the EMP will be achieved by ensuring that the mitigation and management measures detailed in the EMP are implemented and adhered to throughout the project duration. Compliance monitoring and independent assessment/auditing allow the verification of achievement of the EMP outcomes and ultimately, fulfilment of the EMP objectives.

The EMP:

- identifies project activities that could cause actual environmental damage (or potential environmental risks) and provides a summary of actions required;
- identifies persons responsible for ensuring compliance with the EMP;
- provides standard procedures to avoid and/or minimize the identified negative environmental impacts and to enhance the positive impact of the project on the environment;
- provides the site and project-specific rules and actions required, including a site plan/s showing:

- areas where decommissioning work may be carried out;
- areas where any material or waste may be stored;
- allowed access routes, parking, and turning areas for decommissioning or decommissioning-related vehicles;
- forms a written record of procedures, responsibilities, requirements, and rules for contractor/s, their staff, and any other person who must comply with the EMPr;
- provides a monitoring and auditing program to track and record compliance and identify and respond to any potential or actual negative environmental impacts; and
- provides a monitoring program to record any mitigation measures that are implemented

3. PROJECT LOCATION AND DESCRIPTION

The applicant, Astron Energy (Pty) Ltd, proposes two (2) 83 m³ and two (2) 23 m³ (212 m³ in total) aboveground storage tanks and associated infrastructure, located on Farm 52/458, Lime Acres, Northern Cape. Farm 52/458 is approximately 444.29m² in extent and is situated within Ward 4 of the Kgatelopele Local Municipality. Please refer to Figure 1 below to view the locality of the site.

Figure 1: Locality Map of the Facility (Source: CapeFarmMapper, 2025). The property boundary is outlined in red.



In summary, the following is proposed:

- Removal of two (2) 83m³ diesel AST's
- Removal of two (2) 23m³ diesel AST's
- Removal of associated tank infrastructure including pipelines, valves, fittings, supports and any associated infrastructure where applicable

4. DESCRIPTION OF ENVIRONMENTAL SETTING AND SENSITIVITY

The proposed decommissioning activity involves the removal of four aboveground storage tanks (ASTs) at the KP Lime facility in Lime Acres, Northern Cape, comprising two (2) 83 m³ tanks and two (2) 23 m³ tanks, which have reached the end of their operational lifespan and are no longer required. All decommissioning activities will occur within the existing industrial footprint of the KP Lime site and will include isolating, draining, degassing, cleaning, dismantling, and removal of the tanks, with all waste materials managed and disposed of at licensed facilities in accordance with applicable environmental requirements.

The site is located within a previously transformed and fully operational industrial environment associated with the KP Lime facility and contains no natural vegetation, watercourses, or wetlands within or in close proximity to the proposed decommissioning area. The project does not involve any expansion of infrastructure, vegetation clearance, or disturbance of undeveloped land, and instead represents a reduction in on-site storage capacity as part of routine asset lifecycle management. Given the long-standing industrial nature of the site and the confinement of activities within the existing operational footprint, potential impacts on fauna and sensitive environmental receptors are considered negligible.

The site is located on a minor aquifer, classified as fractured with a yield of 0.1 – 0.5l/s, the electrical conductivity of 70 – 150 mS/m with a recharge rate of 9.59 mm/a, and a depth of 15.02m. The aquifer is further classified as having a high susceptibility with most of the aquifer being vulnerable.

There are no environmentally sensitive areas that have been identified on site or recommended to be avoided by the proposed decommissioning activity.

5. ASPECTS COVERED BY THIS EMPR

This proposal entails the decommissioning of two (2) 83m³ and two 23m³ (212m³ in total) aboveground storage tanks and associated infrastructure on Farm 52/458. The potentially significant impacts identified are as follows:

1. **Soil & Groundwater Contamination & Pollution:** Fuel, oil, lubricants and other pollutants may leak from vehicles/ machinery and contaminate the soil. Pollution and soil contamination could also occur from chemical toilets and stormwater runoff may flow over the site camp area and carry contaminants off-site.
2. **Dust & Noise Impacts:** As a result of the decommissioning phase, noise and dust impacts are expected to occur in the area due to an increase in decommissioning vehicles and road tankers for the duration of the decommissioning phase while excavations are being made.
3. **Fire, Health & Safety Risk:** Exposure through breathing vapours, swallowing hazardous substances or skin contact may have possible health effects. There is a minor risk of a hydrocarbon pool fire and toxic combustion gases if an incident occurs at the existing facility while decommissioning takes place.
4. **Traffic, Safety and Access Impacts:** As a result of the decommissioning phase, traffic impacts are expected to occur in the area due to an increase in decommissioning vehicle and truck traffic in the area for the duration of the decommissioning phase
5. **Visual Impacts:** The decommissioning phase is associated with temporary disturbance as a result of the decommissioning activity (excavation, vehicles, machinery, fencing & signage) that may have a negative visual impact on the public.
6. **Air Quality Impact:** Any residual fuel vapour emissions may cause an odour nuisance or health impacts to adjacent residents, or staff on-site.
7. **Ecological impact:** potential proposed activities associated with decommissioning activities may impact the surrounding environment.
8. **Socio-economic – Creation of employment opportunities:** Temporary employment opportunities will be provided during the decommissioning phase to those residing in the geographical area.

No operational impacts were identified based on the nature of this proposal (i.e. decommissioning of two (2) 83 m³ and two (2) 23 m³ (212m³ in total) aboveground storage tanks and associated infrastructure). No operational activity is associated with this application. Therefore, no operational alternatives were considered. The proposed decommissioning will mitigate any potential source of contamination, or potential fire, health and safety impact, during the operational phase. This is a positive impact.

To minimise any negative impacts associated with the proposed activity it is imperative that the lifecycle and operation are subject to the conditions set out in this EMP. The conditions directly address the identified potential impacts, in order to ensure that the health, safety and environmental risks associated the decommissioning of the AST's can be avoided or minimised. It must be noted that no operational impacts were identified based on the nature of this proposal (i.e. decommissioning of ASTs).

6. LEGAL FRAMEWORK

This Environmental Management Programme (EMPr) has been compiled in fulfilment of the requirements of the National Environmental Management Act, Act No. 107 of 1998 (as amended) (NEMA). The contents of this EMPr comply with the requirements for EMPs as contained in Appendix 4 to the 2014 EIA Regulations.

The following activities in Listing Notice 1 of the 2014 EIA Regulations, as amended, and published under the NEMA are triggered by the proposed decommissioning project:

Listing Notice 1, Activity 31: *The decommissioning of existing facilities, structures or infrastructure for—*
(v) *any activity regardless the time the activity was commenced with, where such activity:*
(a) *is similarly listed to an activity in (i)[,] or (ii)[,] or (iii)] above; and*
(b) *is still in operation or development is still in progress*

This proposal is for the decommissioning of two (2) 83 m³ and two (2) 23 m³ (212 m³ in total) aboveground storage tanks and associated infrastructure) located at Farm 52/458.

A Basic Assessment EIA Process is therefore required with the aim of receiving an Environmental Authorisation to undertake the listed activities in the 2014 EIA Regulation published under NEMA.

This EMP has been compiled in fulfilment of the requirements of NEMA. The contents of this EMP comply with the requirements for EMPs as contained in Appendix 4 to the 2014 EIA Regulations.

The EMP should also adhere to the local authority by-law requirements as well as any other obligatory environmental and other legal requirements.

Changes to this EMP can only occur with the written approval of the DENC and an updated version should also be forwarded to all parties once the amended EMP has been approved by the DENC.

It is understood that Astron Energy (Pty) Ltd or any future development entity (where transfer of ownership occurs) will be fully responsible for this EMP and its requirements including any environmental rehabilitation that may be needed. This is required in terms of Section 28 (*Duty of Care and Remediation of Damage*) of the National Environmental Management Act, (Act No. 107 of 1998), as amended.

The applicant should adhere to all statutory requirements which may be relevant to the development, contained in, *inter alia*, the following legislation:

- The National Environmental Management Act, Act 107 of 1998, as amended (NEMA).
- National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) as amended (NEM: AQA) –
 - Section 35 (2) of the National Environmental Management: Air Quality Act (NEMAQA) 39 dated 2004 as amended – Chapter 4, Part 6: Measures in respect of offensive odours.
- Fire Brigade Services Act, 99 of 1987.
- Disaster Management Act, 57 of 2002.
- Occupational Health and Safety Act, 85 of 1993.
- Major Hazardous Installations (MHI) Regulations issued in terms of the Occupational Health and Safety Act.
- National Water Act, Act 36 of 1998, as amended.
- National Environmental Management Waste Act, Act 59 of 2008.
- National Building Regulations and Building Standards Act, 1977 (Act no. 107 of 1977).
- Relevant SANS codes for the decommissioning of aboveground storage tanks.
- The Operational Health and Safety Act, Act 85 of 1993.
- The National Environmental Management Air Quality Act, Act No. 39 of 2004.
 - National Dust Control, Regulation 827 dated 01 November 2013
 - (NEM: AQA) -Part 6: Measures in respect of dust, noise and offensive odours
 - Section 35 (2) - Chapter 4, Part 6: Measures in respect of offensive odours.
- National Heritage Resources Act, 1999 (Act No. 25 of 1999).
- “National Norms and Standards for the Storage of Waste” in terms of Government Notice No. 926 of 29 November 2013.
- National Dust Control, Regulation 827 dated 01 November 2013 promulgated in terms of the National Environmental Management: Air Quality Act 39 of 2004 (NEM: AQA) as amended.
- Any applicable requirements of the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform, the Department of Mineral and Petroleum Resources, the relevant local municipality, and other competent authorities.
- Any other relevant guidelines, permit requirements and/or legislation.

7. ENVIRONMENTAL OBJECTIVES, OUTCOMES AND IMPACT MANAGEMENT ACTIONS

7.1. PLANNING & DESIGN PHASE

No direct environmental impacts are associated with the planning and design phase. However, poor planning or inappropriate design decisions in this phase may result in environmental impacts arising during subsequent phases of the project. Planning and design activities must therefore take into account the environmental constraints and opportunities identified during the Environmental Impact Assessment process, to avoid or minimise the potential future impacts of the development.

The environmental management objectives (goals) listed below should take place during the detailed design phase, prior to the Decommissioning Phase:

1. Appoint an Environmental Control Officer.
2. Demarcation of Working Areas and No-Go Areas.
3. Establishment of Site Camp and Associated Site Facilities.
4. Pre-decommissioning ECO visit.

These environmental management objectives, as well as the management actions (mitigation measures) that should be implemented in order to achieve the desired objective and to avoid/minimize potential impacts, are discussed in more detail below.

7.1.1. Objective 1: Appoint an Environmental Control Officer (ECO)

Impact Management Outcome:	The requirements of the EMPr are implemented and monitored during all phases of the development, which will promote sound environmental management on site.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible		Time Period
1. A suitably qualified and experienced Environmental Control Officer must be appointed before any activities commence on-site. 2. The ECO should inspect the site <u>weekly for the duration of the decommissioning phase.</u> 3. The appointed ECO must be advised on the decommissioning start date before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training of decommissioning workers.	Astron Energy Pty Ltd		During design Phase
Performance Indicator	A qualified ECO is appointed before the commencement of any decommissioning activities taking place on-site.		

7.1.2. Objective 2: Demarcation of Working Areas and No-Go Areas.

Impact Management Outcome:	Decommissioning activities will be restricted to within the designated areas & NO-GO areas will be protected from disturbance.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible		Time Period
The following areas should be clearly demarcated on-site during the pre-decommissioning or Decommissioning Phases of the development, as appropriate. a) <u>Decommissioning Working Area</u>	Decommissioning Contractor in consultation with the ECO		Pre-Decommissioning Phase (prior to the arrival of decommissioning

➤ Prior to the commencement of any decommissioning activities, the outer boundary of the development area must be surveyed, pegged and fenced off. If deemed necessary by the ECO, the outer boundary of the working area can be enclosed with fencing, shade netting, droppers or wire, or similar – as feasible and practical. The fencing should be retained and maintained for the duration of the decommissioning period and must not be moved once approved during decommissioning unless agreed otherwise with the ECO. ➤ This demarcation boundary is to ensure that decommissioning activities are restricted to only that area strictly required. b) <u>Decommissioning Site Camp (if applicable) & Associated Facilities</u> The following site camp areas must be identified and demarcated during the pre-Decommissioning Phase of the development: • Access Route. • Site camp and site office. • Laydown area. • Ablution area (if applicable). • Eating area and rest area. • Vehicle & equipment maintenance yard. • Refuelling area. • Temporary stockpile area for excavated material. • Waste storage area.		equipment, machinery, or workers on site)
Performance Indicator:	No-go areas, working areas and areas for site camp facilities have been identified and appropriately demarcated to the satisfaction of the ECO before decommissioning activities commence on site.	

7.1.3. Objective 3: Establishment of Site Camp and Associated Site Facilities

Impact Management Outcome:	Before the start of the Decommissioning Phase, a site camp must be established with all the required ablutions (if required), waste management infrastructure and firefighting equipment where the vehicles and equipment can be stored.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible	Time Period	
1. Given the limited scale and short duration of the decommissioning activities, a dedicated site camp may not be required. Where temporary site facilities are established, or where existing KP Lime facilities are utilised by the Contractor, the following management measures shall be implemented, where applicable: ✓ Fencing & Security: The decommissioning work area and any temporary storage areas shall be clearly demarcated and access restricted to authorised personnel. Existing site security infrastructure should be utilised where practicable. ✓ Fire Fighting Equipment: Suitable fire-fighting equipment shall be readily available at the decommissioning work area and any temporary storage areas. Additional extinguishers shall be provided where hot work is undertaken. ✓ Waste Storage Area: Suitable containers shall be provided for the temporary storage of general and hazardous waste generated during the decommissioning activities. Waste shall	decommissioning Contractor in consultation with the ECO	Pre-Decommissioning Phase	

be removed regularly and disposed of at appropriately licensed facilities. ✓ Hazardous Substances Storage Area: Any fuels, lubricants or other hazardous substances temporarily stored on site shall be kept in suitable containers within a bunded area or other approved secondary containment. Spill kits shall be available where hazardous substances are stored or handled. ✓ Potable Water: An adequate supply of potable drinking water shall be available to all personnel. Existing site facilities may be utilised where available. ✓ Ablution Facilities (if applicable): Existing ablution facilities at the KP Lime facility should be utilised where available and adequate. Where these are unavailable, suitable temporary ablution facilities shall be provided and maintained in a clean and hygienic condition throughout the decommissioning phase. ✓ Eating Area & Rest Area: Existing designated eating and rest areas should be utilised where available. Where temporary facilities are required, these shall be maintained in a clean and orderly condition. ✓ Vehicle & Equipment Maintenance Yard: Routine servicing of vehicles and equipment should be undertaken off site. Any emergency maintenance carried out on site shall take place on an impermeable surface using drip trays or other suitable containment measures to prevent pollution. ✓ Housekeeping: The decommissioning work area and any temporary facilities shall be maintained in a neat and orderly condition. Waste, dismantled materials and equipment shall be removed from the site as soon as reasonably practicable.		
Performance Indicator:	The site camp and facilities are established to the satisfaction of the ECO before decommissioning activities commence on-site.	

7.1.4. Objective 4: Undertake Pre-Decommissioning ECO Visit

Impact Management Outcome:	An ECO undertakes the first inspection prior to decommissioning commencing to monitor the applicant's compliance with the pre-decommissioning mitigation measures listed above and the EA.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure		Responsible	Time Period
1. An ECO should be appointed to conduct a pre-decommissioning ECO inspection. 2. The ECO should undertake Environmental Awareness Training with the contractors and subcontractors prior to the commencement of any decommissioning activities.		Astron Energy Pty Ltd and the ECO	Prior to the commencement of decommissioning
Performance Indicator:	An ECO inspection and short report are undertaken before decommissioning commences.		

7.2. DECOMMISSIONING PHASE

During the decommissioning phase of the proposed development, dust, noise and traffic impacts are likely to occur. However, these impacts will transpire for the duration of the decommissioning phase only. Other impacts related to the Decommissioning Phase are visual impacts associated with the decommissioning activity and contamination or pollution of the soil and groundwater as a result of leaking vehicles and /or decommissioning machinery and/ or inappropriate waste management practices.

The environmental management objectives (goals) for this phase are to:

1. Avoid Contamination and Pollution of the Soil and Groundwater.
2. Limit Noise, and Dust Impacts.
3. Limit Traffic Impacts to Existing Road Users, Pedestrian Safety & Damages to Road Infrastructure
4. Reduce the Visual Impact of the Decommissioning Phase Activities.
5. Avoid Fire, Health & Safety Risks
6. Avoid risk to Receiving Environment
7. Enhance Business & Employment Opportunities.

7.2.1. Objective 1: Avoid Contamination and Pollution of the Soil and Groundwater

Decommissioning activities will generate waste. In addition, fuel, oil, lubricants and other pollutants may leak from vehicles/ machinery and contaminate the soil. Potential spillage/leakage of residual hazardous substances (e.g. residual fuel) may occur during the removal of the two (2) x 83m³ or two (2) 23m³ from the site – contaminating the surrounding environment.

Impact Outcome:	Management	To avoid the contamination of soil and groundwater by inappropriate waste management practices, fuel and oil spills, chemical toilet spills and inappropriate cement mixing.	
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure		Responsible	Time Period
The following mitigation measures should be implemented: 7. The appointed Environmental Control Officer (ECO) must undertake at least one site inspection weekly, for the duration of the decommissioning phase, and to produce an ECO report monitoring the compliance of the property developer with the conditions of the approved EMP. 8. During the decommissioning phase, an experienced contractor must be appointed, and it must be ensured that the correct protocols will be followed that relate to the handling of materials, thereby minimising the likelihood of any incidents occurring. 9. Adequate training of personnel will ensure that incidents resulting in product spills are minimised and that the correct actions are taken in the event of an incident(s). 10. In the event of such an emergency condition, a suitably trained clean-up contractor must be appointed to clean up the spill. Hazardous waste may be generated when absorbent materials are used to mop up a product spill. This will be suitably contained and handled by a specialist contractor using the correct personal protective equipment and hazardous waste temporary storage receptacles. 11. Disposal of such waste at a suitable hazardous landfill site with chain-of-custody documentation provided by the contractor as proof of end recipient.		Astron Energy Pty Ltd & Decommissioning Contractor	Decommissioning Phase

12. The ECO will supervise any remediation procedures in order to ensure that the correct material is treated and that the area of contamination has been adequately rehabilitated/remediated. <u>AST Removal:</u> 13. Gas-free certification must take place prior to any tank removal commencing, to ensure that the aboveground fuel storage tanks are free of flammable or explosive vapours and that it is safe to dismantle and to transport. 14. The four tanks must be completely emptied/ cleaned before they are removed from the site. Additionally, the ends of each fuel line must be blanked off with plastic bags to prevent the spillage of residual product within the lines. 15. Following gas-free certification and cleaning, steel tanks and associated piping should, where feasible, be recycled through a suitably licensed metal recycling facility. Documentation confirming the destination of the scrap material must be retained. 16. Any residual fuel must be consolidated and stored as hazardous waste until appropriately removed and disposed of at a registered hazardous disposal facility. 17. Waste disposal receipts are required as proof of safe disposal. 18. Where evidence of hydrocarbon staining, odours or suspected contamination is encountered beneath the ASTs or associated infrastructure, contaminated soil shall be sampled by a suitably qualified specialist to determine the extent of contamination and appropriate remediation measures. 19. Should the soil be contaminated, the contaminated substrate must be remediated/managed accordingly. 20. Contaminated soil removed during the decommissioning must be stockpiled on an impervious sheet/tarp to prevent the leaching of contaminants into the ground below. 21. Exposed stockpiles must be covered with impervious sheets/tarp before a rainstorm. 22. It should be noted that no contaminated soil may be used as fill material on site. Laboratory analysis must be undertaken on the stockpile soil to prove the absence of contamination. <u>Waste Management:</u> 23. Hazardous waste containers must be stored on an impermeable bunded surface capable of containing at least 110% of the volume of the bins. 24. Skips/ bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust. 25. Waste bins/skips must be regularly emptied and must not be allowed to overflow. 26. Workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site. 27. All hazardous wastes generated during tank decommissioning, including residual fuel, tank sludge, contaminated absorbent materials, contaminated personal protective equipment (PPE), filters, cleaning residues and contaminated piping or fittings, must be stored separately from general waste in clearly labelled containers pending removal to a licensed hazardous waste disposal facility.		
--	--	--

28. All waste (hazardous and general waste) generated on-site from the proposed activities must be disposed of appropriately at a licensed Waste Disposal Facility (WDF). Copies of the Waste Disposal Certificates must be kept on record (if applicable). <u>Pollution Management – hydrocarbons (oil, fuel etc.)</u> 29. Prior to disconnecting any tanks, pipelines or associated infrastructure, all fuel and product lines must be drained as far as reasonably practicable to minimise the risk of spills during dismantling and removal. 30. Any accidental release of fuel or hydrocarbons during tank cleaning, dismantling or transport must be contained immediately using appropriate spill response materials. Contaminated absorbent material must be collected and disposed of as hazardous waste. 31. Vehicles and machinery must be in good working order and must be regularly inspected for leaks. 32. If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. 33. Complete spill kits must be kept and maintained on-site. Personnel must be trained on how to use the spill kit. 34. Repairs to vehicles/ machinery may take place on site, within a designated maintenance area at the site camp. Drip trays, tarpaulin or other impermeable layers must be laid down prior to undertaking repairs. 35. Refuelling of vehicles/ machinery may only take place at the site camp or vehicle maintenance yard. Where refuelling must occur, drip trays must be utilised to catch potential spills/ drips. 36. Drip trays must be utilised during decanting of hazardous substances and when refilling chemical/ fuel storage tanks. 37. Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is a risk of leakage/spillage. 38. Contaminated soil resulting from hydrocarbon spills must be excavated, temporarily stockpiled on an impermeable surface where necessary, and disposed of or remediated in accordance with the recommendations of a suitably qualified environmental specialist. 39. Any areas contaminated must be remediated to the satisfaction of the ECO -. 40. The following information is to be included in the final Environmental Audit Report, which is to be submitted to the Competent Authority: 40.1. Gas-free certification. 40.2. Results of the laboratory analysis of the surrounding soils (if a laboratory analysis was undertaken following a suspicion of soil contamination). 40.3. Copies of the Waste Disposal Certificates (if applicable). 41. When the ASTs are removed and it is found that soil contamination by diesel or product seepage, the necessary steps must be undertaken to not only contain contaminated soil but also address any diesel odours which may be emitted.		
Performance Indicator:	➤ The ECO will monitor the site to check that the measures have been implemented.	

	➤ The environment is not polluted or contaminated as a result of decommissioning activities on site. ➤ Spillage incidents are effectively contained and do not lead to pollution of the soil or water resources. ➤ Waste is reduced, reused, and recycled where possible.
--	---

7.2.2. Objective 2: Limit Noise and Dust Impacts

As a result of the Decommissioning Phase of this development noise and dust impacts are expected to occur in the area due to an increase in decommissioning vehicles for the duration of the Decommissioning Phase while materials are being transported to the site and excavations are being made.

Impact Management Outcome:	The surrounding environment, land users, residents and passers-by do not experience significant nuisance impacts related to dust, noise and vibration.	
IMPACT MANAGEMENT ACTIONS:		
Mitigation Measure	Responsible	Time Period
<u>Dust Mitigation:</u> 1. Dust generated during the decommissioning activities shall be minimised as far as reasonably practicable. Where dust becomes a nuisance, exposed areas and access routes shall be dampened using non-potable water. Potable water shall not be used for dust suppression. 2. Vehicle speeds on unpaved surfaces shall be controlled to minimise dust generation. 3. Vehicles transporting waste, contaminated soil or other loose materials shall be covered where necessary to prevent dust emissions and the loss of material during transport. 4. Dust emissions shall not cause a nuisance to adjacent land users and shall comply with the applicable requirements of the National Dust Control Regulations (GN 827 of 1 November 2013). 5. Any dust or air quality complaints received during the decommissioning phase shall be investigated, and appropriate corrective measures shall be implemented where necessary. 6. The use of non-potable water as a dust suppressant is supported but run-off or stagnant water must be managed to prevent sand from being carried off-site through vehicular movement. 7. Where contaminated soil or residual hydrocarbons are encountered during the removal of the aboveground storage tanks, appropriate measures shall be implemented to contain the contamination and minimise petroleum odours. 8. Tank cleaning and degassing activities must be undertaken in a manner that minimises the release of volatile organic compounds (VOCs) and hydrocarbon vapours to the atmosphere. <u>Noise Mitigation:</u> 9. A noise complaints register must be opened. 10. Tank cleaning, dismantling, and lifting operations should be restricted to normal working hours (7:30 – 17:30) as far as possible. 11. Vehicles and equipment should be kept in good working condition. If deemed necessary, machinery and equipment should be fitted with mufflers/exhaust silencers. No unnecessary disturbances should be allowed to emanate from the decommissioning site.	Astron Energy Pty Ltd & Decommissioning Contractor	Decommissioning Phase

12. Noise levels must comply with the relevant health & safety regulations and SANS codes and should be monitored by the Health & Safety Officer as necessary and appropriate. 13. The appointed ECO must undertake regular site inspections for the duration of the decommissioning phase, and produce regular ECO monitoring audit reports, auditing the compliance of the property developer with the conditions of the Environmental Authorisation and the approved EMP.		
Performance Indicator:	➤ The appointed Environmental Control Officer (ECO) must undertake regular site inspections for the duration of the Decommissioning Phase, and produce regular ECO reports monitoring the compliance of the property developer with the conditions of the approved EMP. ➤ Excessive dust does not arise from the site. ➤ No dust or noise complaints are received from any member of the community.	

7.2.3. Objective 3: Limit Traffic Impacts to Existing Road Users, Pedestrians & Road Infrastructure

As a result of the Decommissioning Phase of this development traffic impacts may occur in the area due to an increase in decommissioning vehicle and truck traffic in the area for the duration of the Decommissioning Phase while materials are being transported to the site. Road safety impacts and road condition impacts could also occur.

Impact Management Outcome:	During the Decommissioning Phase, while materials are being delivered to the site, damages to road infrastructure do not occur and the safety of pedestrians is not at unacceptable risk.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible	Time Period	
1. The contractor must provide a traffic marshal for situations where heavy decommissioning traffic may impede normal traffic flows on any roads adjacent to the site. 2. All drivers and machinery operators must exercise due caution when entering/ exiting the site. 3. decommissioning vehicles must adhere to the load-carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by decommissioning vehicles. 4. The Contractor must ensure that any large or abnormal loads (including hazardous materials) that must be transported to/ from the site are routed appropriately, and that appropriate safety precautions are taken during transport to prevent road accidents. 5. All vehicles will be legally compliant. 6. All drivers will be competent and in possession of an appropriate valid driver's license. 7. All vehicles travelling on site will adhere to the specified speed limits. 8. The movement of all vehicles will be controlled such that they remain on designated routes. 9. No member of the workforce will be permitted to drive a vehicle under the influence of alcohol or narcotic substances. 10. Warning signage (i.e., "trucks turning") must be erected near the access point to the site.	Astron Energy Pty Ltd & Decommissioning Contractor	Decommissioning Phase	

11. A traffic marshal should be posted at the entrance to the site to assist with the safe and smooth flow of vehicles on the road whilst heavy decommissioning traffic is entering and exiting the site. 12. No decommissioning traffic may access the site after normal working hours as defined by the local authority. 13. Any mud, sand or debris deposited on public roads by vehicles associated with the decommissioning activities must be removed immediately to maintain road safety.		
Performance Indicator:	➤ The ECO will monitor these mitigation measures to ensure they are implemented. ➤ No safety incidents occur to pedestrians.	

7.2.4. Objective 4: Reduce the Visual Impact of the Decommissioning Phase Activities

The Decommissioning Phase is associated with temporary disturbance as a result of decommissioning (vehicles, machinery, fencing & signage) that may have a negative visual impact on the public.

Impact Management Outcome:	Sensitive receptors are not significantly impacted by decommissioning activities taking place.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible	Time Period	
1. The Contractor must consult with the ECO when selecting the location of the site camp and any temporary storage or laydown areas. The site camp must be kept neat and tidy and free of litter at all times. 2. Waste must be managed according to the EMPr. 3. Good housekeeping practices on site must be maintained to ensure the site is kept neat and tidy. 4. The site camp, temporary storage facilities, removed tanks, stockpiles, waste bins, and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. 5. Removed tanks, dismantled equipment and waste awaiting transport must be stored in an orderly manner and removed from the site as soon as reasonably practicable to minimise visual impacts and reduce unnecessary clutter. 6. Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time. 7. Special attention should be given to the screening of highly reflective material. 8. The use of lighting (if required) should take into account surrounding land users and should present little or no nuisance. Downward-facing, spill-off type lighting is recommended. 9. Decommissioning vehicles must enter and exit during working hours. 10. The appointed Environmental Control Officer (ECO) must undertake regular site inspections (at least once per week) during the decommissioning phase and prepare monitoring reports documenting the Contractor's compliance with the Environmental Authorisation and approved EMPr.	Astron Energy Pty Ltd & Decommissioning Contractor	Decommissioning Phase	
Performance Indicator:	➤ The ECO will monitor the performance of the impact management actions.		

	➤ Good “housekeeping” is evident on site. ➤ The site does not pose a visual impact on the surrounding community.
--	---

7.2.5. Objective 5: Avoid Fire, Health & Safety Risk

Exposure through breathing vapours, swallowing hazardous substances or skin contact may have possible health effects. There is a minor risk of a hydrocarbon pool fire and toxic combustion gases if an incident occurs at the existing facility while decommissioning takes place for the proposed development.

Impact Management Outcome:	Fuel delivery, storing and dispensing activities are undertaken responsibly and in line with National Standards so that the risk of explosion or exposure to hazardous vapours and liquids is avoided.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible	Time Period	
1. Employees are to be managed in accordance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993). The onus is on the contractor/ applicant to ensure that appropriate health and safety risk mitigation measures are implemented. 2. The decommissioning activity must comply with local authority bylaws and all procedures and equipment used must be in accordance with the Occupational Health & Safety Act (No. 85 of 1993). 3. Adequate training in emergency response situations of the contractor and personnel undertaking the decommissioning activities will be carried out. All workers on site must be informed of the emergency procedure and must wear appropriate personal protective equipment (PPE), to follow in the event of accidental fires. 4. No open fires are permitted on the decommissioning site during any phase of the project. No smoking will be allowed on the decommissioning site. 5. Suitable fire extinguishers must be provided at all areas where fuel handling, tank cleaning, hot work or other fire-risk activities are undertaken. Fire-fighting equipment must be regularly inspected and maintained. 6. Prior to cutting, dismantling or removing any fuel storage tank or associated pipework, the tanks must be emptied, cleaned and certified gas-free by a competent person. 7. Hot work (including welding, grinding and flame cutting) should be avoided where reasonably practicable. Where hot work is unavoidable, it may only be undertaken after gas-free certification has been obtained and under an approved hot work permit system, with appropriate fire protection measures in place. Appropriate fire prevention measures, including fire blankets, water sprays, firefighting foam and suitable shielding, must be used where required to minimise fire risks during decommissioning. 8. When Section 30 (emergency incident) of the National Environmental Management Act 107 of 1998, is triggered - the Act defines an emergency incident as ‘an unexpected sudden and uncontrolled release of a hazardous substance, including from a major emission, fire or explosion, that causes, has caused or may cause significant harm to the environment, human life or property, the relevant competent authority must be notified in writing within	Decommissioning Contractor, Resident Engineer and Applicant	Decommissioning Phase	

the prescribed timeframes, of such incidents that involve emissions to the atmosphere. Any emergency incident, originating at the facility, which falls within the definition of section 30(1)(a) of the National Environmental Management Act (NEMA), Act 107 of 1998, must be dealt with by the facility in accordance with Section 30 of NEMA. In the event of any incident, the facility must ensure containment by the responsible person and report the incident to the relevant competent authority. 9. Minimisation through spark quenching by wetting down and/or using power tools such as jackhammers under sprayed water. 10. A comprehensive site-specific first aid kit must be available on-site at all times. 11. At least one person trained in safety and first aid and familiar with the first aid equipment on site must be present at the site at all times. 12. Emergency procedures will be established prior to the start of decommissioning works on site. 13. Emergency contact numbers, emergency procedures and evacuation routes must be displayed prominently at the site office and other appropriate locations. 14. There should be adequate hazard signage for employees, customers and visitors to the premises to create awareness of possible hazards and to cultivate and encourage risk-conscious behaviour. 15. Access to the decommissioning work area must be restricted to authorised personnel only, and appropriate barriers and warning signage must be maintained throughout the decommissioning phase.		
Performance Indicator:	No health incidents, explosions, or disasters take place on-site.	

7.2.6. Objective 6: Protection of Soil, Groundwater and the surrounding Environment

Impact Management Outcome:	Ecological Impact: proposed activities associated with decommissioning activities may impact the surrounding environment.	
IMPACT MANAGEMENT ACTIONS:		
Mitigation Measure	Responsible	Time Period
1. The four tanks must be completely emptied/ cleaned before they are removed from the site. 2. Any residual fuel must be consolidated and stored as hazardous waste until appropriately removed and disposed of at a registered hazardous disposal facility. 3. Waste disposal receipts are required as proof of safe disposal. 4. Once ASTs have been removed, if any potential contamination is suspected, soil contamination verification must be undertaken to ascertain whether the decommissioning activity has contaminated the surrounding soil. 5. Should the soil be contaminated, the contaminated substrate must be managed accordingly. 6. Hazardous waste containers must be kept on an impermeable bunded surface capable of holding at least 110% of the volume of the bins. 7. Skips/ bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust.	Developer / Applicant	Decommissioning Phase

8. Waste bins/skips must be regularly emptied and must not be allowed to overflow. 9. Decommissioning personnel must be instructed not to litter and to place all waste in the appropriate waste bins provided on site. 10. All waste (hazardous and general waste) generated on site from the proposed activities must be disposed of appropriately at a licensed Waste Disposal Facility (WDF). 11. Vehicles and machinery must be in good working order and must be regularly inspected for leaks. 12. If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. 13. Complete spill kits must be kept and maintained on site. Decommissioning personnel must be trained on how to use the spill kit. 14. Repairs to vehicles/ machinery may take place on site, within a designated maintenance area at the site camp. Drip trays, tarpaulin or other impermeable layers must be laid down prior to undertaking repairs. 15. Refuelling of vehicles/ machinery may only take place at the site camp or vehicle maintenance yard. Where refuelling must occur, drip trays must be utilised to catch potential spills/ drips. 16. Drip trays must be utilised during decanting of hazardous substances and when refilling chemical/ fuel storage tanks. 17. Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is a risk of leakage/spillage. 18. Soil contaminated by hazardous substances must be excavated and disposed of as hazardous waste. 19. No fuels, oils, chemicals, wastewater or contaminated runoff may be allowed to enter stormwater infrastructure, drainage channels or surrounding natural areas. 20. Any accidental spill that threatens the receiving environment must be contained immediately and reported to the ECO. 21. Disturbed areas not required for ongoing operations must be reinstated following completion of the decommissioning activities. 22. Decommissioning activities shall be confined to the approved work area within the existing industrial footprint. 23. Any contamination resulting from the decommissioning activities shall be contained and remediated to the satisfaction of the ECO. 24. Where contamination is encountered, appropriate remediation and monitoring measures shall be implemented 25. A suitably qualified contaminated land specialist shall be appointed where specialist input is required 26. Any conditions or recommendations issued by the competent authority shall be implemented as part of the EMPr		
Performance Indicator:	Any potential identified impact on the receiving environment can be adequately mitigated.	

7.2.7. Objective 7: Enhance Business & Employment Opportunities

Skilled and unskilled employment opportunities are expected to be created during the Decommissioning Phase.

Impact Management Outcome:	The proposed decommissioning activity provides a benefit to the local community in terms of job provision and skills development opportunities.		
IMPACT MANAGEMENT ACTIONS:			
Mitigation Measure	Responsible	Time Period	
1. Where reasonably practicable and where suitably qualified personnel are available, preference should be given to employing suitably skilled individuals from the local and surrounding communities during the decommissioning phase. Employment practices must comply with applicable labour legislation and be implemented in a fair and non-discriminatory manner. 2. Where feasible, local suppliers and service providers should be utilised for the procurement of goods and services associated with the decommissioning activities, provided they meet the required technical, safety and quality standards.	Developer / Applicant	Decommissioning Phase	
Performance Indicator:	Employment opportunities are created of which preference is given to the local community.		

7.3. POST-DECOMMISSIONING REHABILITATION PHASE

After all decommissioning activities have ceased, the site must be cleared of all decommissioning-related equipment, materials, facilities and waste. In addition, all disturbed surfaces – including disturbed areas around the new facilities and all areas utilised for site facilities – must be stabilized and rehabilitated.

The environmental management objective (goal) for this phase is to:

1. Rehabilitate & ensure environmentally sensitive closure of the decommissioned site.

7.3.1. Objective 1: Rehabilitate disturbed areas & ensure environmentally sensitive site closure

Impact Management Outcomes:	➤ The site is neat and tidy, and all exposed surfaces are suitably covered/ stabilized. ➤ There is no decommissioning-related waste or pollution remaining on site.	
IMPACT MANAGEMENT ACTIONS:		
Enhancement Measure	Responsible	Time Period
1. On completion of the decommissioning activities, the site camp area must be cleared of all site camp facilities, ablution facilities, fencing, signage, waste and surplus material. 2. Surfaces are to be checked for waste (including hydrocarbons, concrete residues or asphalt) and cleared in a manner approved in writing by the ECO. 3. Any contaminated soil must be handled and disposed of as hazardous waste or remediated in accordance with the recommendations of a suitably qualified contaminated land specialist. Alternative treatment or remediation methods must be considered where feasible prior to final disposal at a licensed hazardous waste facility. 4. All waste, litter and rubble generated during decommissioning must be removed from the site and re-used elsewhere or recycled/disposed of at an appropriate facility. Burying or burning of waste or rubble on site is prohibited. 5. Any excavated material that cannot be utilized during site rehabilitation should be removed from the site and reused elsewhere in the Municipality or disposed of at an appropriate disposal site. 6. Redundant concrete tank plinths and associated foundations shall be removed where they are no longer required for operational purposes. Where plinths are to remain in place, they shall be left in a safe and stable condition that does not pose a risk to personnel, the environment or ongoing site operations. 7. Final rehabilitation and landscaping of the site must restore the area to a stable and environmentally acceptable condition to the satisfaction of the ECO and,. Final sign-off must be provided by the ECO. 8. All rehabilitation activities must ensure that adjacent operational fuel infrastructure remains protected and fully functional 9. Rehabilitation works must not compromise the integrity, access, safety or operation of remaining storage tanks, pipelines or associated infrastructure	Astron Energy Pty Ltd & Decommissioning Contractor	Post- Decommissioning rehabilitation <i>(some rehabilitation measures can be applied during the Decommissioning Phase, as decommissioning activities are completed in each area)</i>

10. Rehabilitation is limited to the footprint of the decommissioned tanks and associated infrastructure only. No disturbance of operational areas is permitted unless authorised		
Performance Indicator:	➤ All decommissioning-related materials, equipment, facilities and waste have been removed from the site. ➤ All residual decommissioning-related waste, pollution and contaminated soils have been removed from the site.	

7.4. OPERATIONAL PHASE

No operational impacts are associated with this application as the proposal relates solely to the decommissioning of redundant aboveground storage tanks and associated infrastructure. The remaining operational infrastructure at the facility will continue to operate under existing operational procedures.

8. IMPLEMENTATION OF THE EMP

8.1. Roles and Responsibilities, including Monitoring and Auditing

Environmental Control Officer ("ECO")

- (a) The ECO must be appointed prior to the commencement of any decommissioning activities.
- (b) The responsibilities of the ECO and the contractor will include monitoring compliance with the EMPr by the applicant and any sub-contractors during the Decommissioning Phase. The frequency of the site inspections will be **weekly** until the completion of the Decommissioning Phase. Pictorial reports will be submitted weekly, and a full audit report will be submitted when the Decommissioning Phase has been completed.
- (c) The ECO has the authority to recommend the cessation of works on any portion of decommissioning -related activity to the applicant. This will be triggered if in his/her opinion the activity has caused or will imminently cause significant damage and/or harm to the environment or is in contravention of the relevant environmental legislation/permits/authorisations applicable to the site and/or activity/ies.
- (d) If the applicant fails to show adequate consideration to the EMPr or the recommendations of the ECO, then the ECO may recommend to the authorities that the aspect of operations to which non-compliance relates, ceases until the non-compliance is adequately rectified.

During the operational phase, it is not foreseen that any ECO Reports are required.

Duties of the ECO

- 1. Ensuring that the EMPr conditions are always adhered to and taking action where the specifications are not being followed.
- 2. Ensuring that environmental impacts are kept to a minimum.
- 3. Reviewing and approving method statements in consultation with the Principal Agent.
- 4. Advising the contractor on environmental issues and assisting in developing environmentally responsible solutions to problems.
- 5. Reporting to the applicant on a regular basis and advising of any environmental impacts.
- 6. Attending site meetings (when necessary) and giving a report back on the environmental issues at these meetings and other meetings that may be called regarding environmental matters.
- 7. Inspecting and auditing the site and surrounding areas regularly.
- 8. Establishing and monitoring an ongoing environmental awareness program in conjunction with the contractor.
- 9. Requesting the removal of person(s) and/or equipment not complying with the specifications.
- 10. Keeping both a written and photographic record of progress on site from an environmental perspective and an *ad hoc* record of all incidents or events on-site with environmental ramifications. These records should be dated and accurately catalogued in the onsite logbook, and separate audit reports.

The Client- Astron Energy Pty Ltd

This EMPr, once approved by the authority should be seen as binding to the Applicant, and any person acting on the Applicant's behalf, including but not limited to agents, employees, associates, contractors and service providers.

The Applicant and all other persons who may utilize, maintain or service the facilities are also bound by their general Duty of Care, as stated in Section 28 of the National Environmental Management Act, 1998:

Duty of Care:

“Every person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm cannot reasonably be avoided or stopped, to minimize and rectify such pollution or degradation of the environment”

The Client – the client is responsible for employing the ECO, Contractor and any Sub-contractors for the lifecycle of the facility. It is the client's responsibility to ensure that all appointed parties fulfil their obligations in terms of this EMPr, i.e., the implementation of this EMPr is the Client's responsibility, and the Client must ensure that all activities taking place on the site are conducted in an environmentally responsible manner and in accordance with the requirements of this EMPr.

The Engineer

The engineer representing the developer on site is responsible for the technical and contractual implementation of the works to be undertaken. The engineer will oversee site work and liaise with both the contractor and the ECO.

The Contractor

The contractor is responsible for implementation and compliance with the requirements of the EMPr, conditions of the contract and relevant environmental legislation. The Contractor must ensure that all sub-contractors have a copy of and are fully aware of the content and requirements of this EMPr. The contractor is required, where specified, to provide Method Statements setting out in detail how the management actions contained in the EMPr will be implemented.

Environmental Site Officer

The ESO is employed by the Contractor as his/her environmental representative to monitor, review and verify compliance with the EMPr by the contractor. This is not an independent appointment; rather the ESO must be a respected member of the contractor's management team.

8.2. Documentation and Record Keeping**(a) List of onsite documentation**

An environmental register must be kept at the site, which must include the following:

- An accident and incident register.
- Complaints register.
- Site evacuation plan/maps.
- Method statements.
- Signed Environmental Training register.
- Waste Disposal Certificates.
- Material safety data sheets of chemicals utilized on site.
- Routine maintenance activities on aboveground storage tanks, pipes and leak detection systems. This will ensure early detection of faults, remedial action and continuous quality assurance

In addition, this EMPr must be kept at the site. The right of the public to information shall be respected in accordance with relevant legislation.

(b) Environmental Register

The environmental register should be used to record any relevant daily information related to the operations and current status of the site, including the following information:

- Details of audits and inspections carried out by the ECO and/or as detailed in this EMPr and follow-ups.
- Instances of non-conformances found in terms of the EMPr, the date of their occurrence, date of corrective action, and date of completion of preventive action.
- Details of the chain of custody documentation.
- Any other relevant/pertinent daily events.
- The environmental register should also contain the accident and incident register and/or the complaints register.

(c) Accident and Incident Register

An accident and incident register must be kept and should include the following information:

- Time, date and place of the accident and/or incident.
- Who and what was involved.
- A detailed description of the accident or incident.

(d) Complaints register

A complaints register must be kept for the recording of all complaints lodged regarding the proposed activity. It is important that the complainant feels that their concerns have been listened to and that appropriate action (within reason) has been taken to address these.

The complaints register must include:

- Detail of the complaint in clear, well-structured language.
- Time and date of complaint and details of the complainant for follow-up purposes.
- Name of the person who received the complaint.
- Description of action that was taken to address the complaint, including date and time of action.

(e) Method statements

Method Statements (a template for these purposes is appended to this EMPr) will be required for activities that may result in significant impacts according to the ECO.

These must address the following aspects:

- *What* – a brief description of the work to be undertaken
- *How* – a detailed description of the process of work, methods and materials
- *Where* – a description of the location of the work (if applicable)
- *When* – the sequencing of actions with commencement and completion date estimates

All Method Statements (MS) must be in place at least **5 working days prior to the relevant decommissioning activities** taking place and must be approved by the ECO prior to being implemented.

8.3. Environmental Awareness and Training

The Contractor should make allowance for all decommissioning site staff, including all subcontractors that will be working at the site, to attend environmental awareness training sessions (undertaken by the ECO) before commencing any work on site. During this training, the ECO will explain the EMPr and the conditions contained therein. Attention will be given to the decommissioning process and how the EMPr fits into this process. Other items relating to sound environmental management which should be discussed and explained during the environmental awareness training sessions include:

- The requirements of the approved EMPr
- General do's and don'ts of the site
- The approved work area and any restricted access areas.
- Waste management and housekeeping requirements.

- Spill prevention and spill response procedures.
- The handling and storage of hazardous substances.
- Fire prevention and emergency response procedures.
- Reporting of environmental incidents and non-compliances.
- General environmental responsibilities and good housekeeping practices.
-

Environmental awareness training and education should be ongoing throughout the Decommissioning Phase and should be undertaken regularly if deemed necessary (especially if it becomes apparent that there are repeat contraventions of the conditions of the EMP), or as new workers come to the site. Translators should be utilized where needed.

8.4. Matters Pertaining to Non-Conformance onsite

“Non-conformances” would occur when there are deviations from any of the requirements of this EMP. This may also include non-compliance with the relevant environmental regulations.

Non-conformances and corrective action must be recorded in the environmental register and included in the audit reports compiled by the ECO.

The developer its contractors, sub-contractors and employees are legally bound by *Section 24(h) National Environmental Management Second Amendment Act, Act No. 107 of 1998*, which states that it is “an offence for any person to contravene conditions applicable to any environmental authorization granted for a listed activity. A person convicted of an offence is liable to a fine not exceeding R5 million or to imprisonment for a period not exceeding ten years, or to both such fine and such imprisonment”

This EMP, when approved, constitutes a Condition applicable to an EA and any transgression would thus trigger Section 24(h) of the above-mentioned Act.

The table below specifies the transgressions for which the Decommissioning Contractor may incur financial penalties (to be issued by the ECO and specified in the weekly ECO), and the amount of the fines that may be levied. The ECO will however provide a warning and a notification of intent to submit a fine to allow the contractors to rectify a transgression before being fined.

For repeat offences of the same/ similar transgression by the same party, the value of the fine shall be doubled for each subsequent repeat offence to a maximum value of **R50 000.00** per offence.

Note: “Provisions”, as stated in the table below, relate to the requirements specified in this EMP, as well as any other requirements governing the environmental management aspects of the development, which the Contractor is responsible for implementing.

Finable Transgression	Min Fine	Max Fine
Failure to comply with the provisions relating to the demarcation of the working area, site camp and associated facilities, and the maintenance of the demarcated boundaries.	R1 000	R5 000
Failure to comply with the provisions relating to the demarcation of all "no-go" areas, and the maintenance of the demarcated boundaries.	R2 000	R5 000
Failure to adhere to designated access routes;	R1 000	R5 000
Parking or storage of vehicles, machinery, tools and other materials or equipment related to the Contractors operations, within designated "no-go" areas.	R1 000	R10 000
Parking or storage of vehicles, machinery, tools and other materials or equipment related to the Contractors operations, outside of the areas demarcated for such parking/storage.	R500	R5 000
Failure to comply with the provisions relating to the management of excavated material.	R1 000	R5 000
Failure to comply with the provisions relating to waste management on site.	R500	R5 000
Failure to comply with the provisions relating to the storage, use and management of hazardous substances and fuels on site and/or the spillage of hydrocarbons or hazardous substances on site leading to environmental damage	R1 000	R10 000
Failure to implement appropriate measures to prevent contamination from concrete works, spillages or construction-related activities	R1 000	R5 000
Failure to implement adequate stormwater management measures to prevent polluted runoff from entering drainage systems or surrounding areas.	R500	R5 000
Failure to provide adequate fire-fighting equipment (in working order) on site at all times and/or failure to comply with the provisions relating to fire prevention and/or the occurrence of unattended or out of control fires.	R500	R5 000
Refueling of vehicles, machinery, or equipment outside of the designated refueling area.	R500	R2 000
Maintenance of vehicles, machinery, or equipment outside of the designated maintenance yard, except in emergencies	R500	R2 000
Failure to undertake refueling or repairs over a drip tray or other impermeable bunded surface to collect spilled hydrocarbons (fuels, lubricants, oils etc.) and other hazardous substances; failure to provide drip trays under fuel burning equipment (including pumps and generators) where there is a risk of hydrocarbon leakage.	R500	R2 000
Prolonged obstruction (>20 minutes) of the movement of other road users with failure to provide an established route by which the road user can safely bypass the area of obstruction and/or endangering the safety of other road users.	R1 000	R10 000
Failure to adhere to the provisions relating to traffic management and road safety.	R1 000	R10 000
Failure to produce a required method statement/s to the engineer's and ECO's satisfaction prior to undertaking the activity concerned and/or failure to adhere to an approved method statement	R1 000	R5 000
Excessive dust or noise emanating from the site	R1 000	R5 000
Failure to adhere to the provisions relating to environmental awareness training of construction workers, including sub-contractors and service providers rendering a service to the construction site	R1 000	R5 000

This report was compiled by Luke Saunders & Jonathan Lassen and was Reviewed by Chantel Müller.

Lead Author: Luke Saunders Environmental Consultant BSc (Hons) Environmental Management	Senior Author: Jonathan Lassen Environmental Consultant Advanced Diploma Marine Sciences	Report Reviewer: Chantel Müller Senior Environmental Consultant MPhil Environmental Management
---	--	--

SILLITO ENVIRONMENTAL CONSULTING (PTY) LTD

ANNEXURE A

SITE LAYOUT PLAN

ANNEXURE B
POSSIBLE METHOD STATEMENT TEMPLATE
FOR DECOMMISSIONING PHASE

METHOD STATEMENT FOR THE:

.....

This method statement is to be completed by the Contractor (in consultation with the ECO) at least 5 working days prior to the proposed commencement date of the said work and represents a binding agreement to the Method Statement by all site Contractors and Subcontractors involved in the work for which the Method Statement is submitted.

DATE OF SUBMISSION:.....

CONTRACTOR:.....

SUBCONTRACTORS (IF RELEVANT):.....

A) Describe in detail ***what*** work is to be undertaken?

B) Describe in detail ***where*** on the site the works are to be undertaken and the ***extent***? Provide sketch plan and grid block reference.

C) ***When*** will the works start and what is the anticipated finishing date of these works?

D) **How** are the works to be undertaken?

1) Lead supervisor/ foreman name and contact details:

2) Number of personnel:

3) Decommissioning activities:

4) Plant and machinery to be used:

5) Materials to be stored (specify hazardous materials):

6) Other:

E) What ***environmental impacts are anticipated and what precautions*** are proposed to prevent these impacts? (refer to the relevant sections of the EMPr for guidance and provide a general camp layout)

Camp site demarcation:
Toilet facilities:
Litter:
Security:
Plant/machinery (operation, servicing, management, storage, refuelling etc.):
Emergencies and fire:
Hazardous materials (handling, management, storage etc.):
Have all personnel involved been through an environmental induction course?
Hazardous substances spill remediation and containment measures:
Other:

DECLARATIONS BY PARTIES

1) CONTRACTOR

I UNDERSTAND THE CONTENTS OF THE METHOD STATEMENT AND THE SCOPE OF THE WORKS REQUIRED OF ME.
I FURTHER UNDERSTAND THAT THE METHOD STATEMENT MAY BE AMENDED ON APPLICATION TO THE ABOVE
SIGNATORIES, AND THAT THE ENVIRONMENTAL CONTROL OFFICER WILL AUDIT MY COMPLIANCE WITH THE
CONTENTS OF THIS METHOD STATEMENT.

_____ (PRINT NAME)

_____ (SIGNED) DATED: _____

2) ENVIRONMENTAL CONTROL OFFICER (ECO)

THE WORK DESCRIBED IN THIS METHOD STATEMENT, IF CARRIED OUT ACCORDING TO THE METHODOLOGY
DESCRIBED, IS SATISFACTORILY MITIGATED TO PREVENT AVOIDABLE ENVIRONMENTAL HARM.

_____ (PRINT NAME)

_____ (SIGNED) DATED: _____

3) PRINCIPAL AGENT

THE WORK DESCRIBED IN THIS METHOD STATEMENT, IF CARRIED OUT ACCORDING TO THE METHODOLOGY
DESCRIBED, IS SATISFACTORILY MITIGATED TO PREVENT AVOIDABLE ENVIRONMENTAL HARM.

_____ (PRINT NAME)

_____ (SIGNED) DATED: _____

ANNEXURE C
INCIDENT REGISTER AND BASIC ACCIDENT
REGISTER TEMPLATES

INCIDENT REGISTER (EXAMPLE)

“Incident” means - an unexpected sudden occurrence, including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed

Date (yyyy/mm/dd)	Incident	Comments <i>(Include any possible explanations for current condition and possible responsible parties. Include photographs, records etc. if available)</i>	Corrective Action Taken <i>(Give details and attach documentation as far as possible)</i>	Reference no. for On-Site Logbook (e.g. Rv 6/12 Inc 1)	Signature

BASIC ACCIDENT REGISTER (EXAMPLE)

Date (yyyy/mm/dd)	Accident	Names of Persons Involved	Comments, Including Injuries Sustained <i>(Include any possible explanations for current accident. Include photographs, records etc. if available)</i>	Corrective Action Taken <i>(Give details and attach documentation as far as possible)</i>	Reference no. for OHS Documentation and Attachments <i>(e.g. Rv 6/12 Acc 1)</i>	Signature