2023

Environmental Emergency Response Management Plan



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1. PURPOSE

This plan addresses the objectives, risks, performance criteria, emergency preparedness, mitigation and reporting requirements specifically relating to environmental incidents for the Northern Territories Resources Pty Ltd (NTR), Browns Oxide Project (the project).

2. **DEFINITIONS**

An environmental emergency is an event or situation that results in an abnormal state and requires an immediate response in order to contain it and prevent serious environmental harm as defined in the *Waste Management and Pollution Control Act (WMPC Act)* and includes either severe permanent effects, extended compliance breach and contamination of water resources or sensitive environment.

Word or acronym	Definition or full name
Employee	A worker employed by Northern Territories Resources Pty Ltd
Environmental harm	 a) any harm to or adverse effect on the environment; or b) any potential harm (including the risk of harm and future harm) to or potential adverse effect on the environment; c) of any degree or duration and includes environmental nuisance.
Environment	Defined in the Waste Management and Pollution Control Act as Land, air, water, organisms and ecosystems and includes: a) the well-being of humans; b) structures made or modified by humans; c) the amenity values of an area; and d) economic, cultural and social conditions.
EBPC Act	Environmental Biodiversity Protection and Conservation Act
Fire break	Firebreaks are cleared trails around the perimeter of a property and buildings/infrastructure that enable vehicle access to undertake preventative works and/or fight fires. A firebreak can stop a fire itself in mild conditions. Firebreaks are essential as control lines from which to back burn to stop bushfires in extreme conditions. They can also provide a life-saving escape route in emergency situations.
ICAM	Incident Cause Analysis Method. A systematic method for investigating incidents
MNES	Matters of National Environmental Significance
NTR	Northern Territories Resources Pty Ltd
NT	Northern Territory
Natural Disasters	Natural disasters may include cyclones, flooding, lightning, earthquake and bushfire
WMPC Act	Waste Management and Pollution Control Act

3. **LEGISLATION**

Legislation and performance criteria relevant to environmental emergency management in the NT include the following:

3.1 Commonwealth

Legislation	Description
Environment Protection and Biodiversity Conservation Act 1999	Under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), any development requires assessment if it has the potential to affect one or more of eight Matters of National Environmental Significance (MNES). The MNES include: • World Heritage properties; • National Heritage places; • Wetlands of international importance (listed under the Ramsar Convention); • Listed threatened species and ecological communities; • Migratory species protected under international agreements; • Commonwealth marine areas; • The Great Barrier Reef Marine Park; and • Nuclear actions (including uranium mines). The environment under the EPBC Act includes: • Ecosystems and their constituents; • Natural and physical resources; • Qualities and characteristics of locations, places and areas; • Heritage values of places; and • Social, economic and cultural aspects.
National Environment Protection Measures (Implementation) Act 1998	An Act to provide for the implementation of national environment protection measures in respect of certain activities carried on by or on behalf of the Commonwealth.
Work Health and Safety Act 2011	Provides for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces by protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work

3.2 Northern Territory Legislation

Legislation	Description
Waste Management and Pollution Control Act 1998	Provides for the protection of the environment through encouragement of effective waste management and pollution prevention and controls and for related purposes. Section 12 of the WMPC Act states that a person who: • Conducts an activity that causes or is likely to cause pollution resulting in environmental harm or that generates or is likely to generate waste; or • Performs an action that is likely to cause pollution resulting in environmental harm or that generates or is likely to generate waste. • Must take all measures that are reasonable and practicableto: – prevent or minimise the pollution or environmental harm; – and reduce the amount of waste.

Legislation	Description
Water Act 2013	Under the <i>Water Act 2013</i> it is an offence to cause waste to come into contact with water; or water to be polluted.
Fire and Emergency Regulations 2011	 The Fire and Emergency Regulations 2011 states the requirements for firebreaks. In accordance with this Act: a firebreak must be a minimum of four metres wide and; graded or slashed to a max height of 50 mm or, lawn or cultivated garden. Landowners or occupiers are responsible for installing and maintaining clear firebreaks on their property.
Bushfires Act 2014	The <i>Bushfires Act 2014</i> provides the framework for managing bushfire in areas outside major NT towns, specifically relating to the prevention and suppression of bushfires.
Radiation Protection Act 1994	An Act to provide for the protection of the health and safety of people, and for the protection of property and the environment, from the harmful effects of radiation, and for related purposes.
Nuclear Waste, Transport, Storage and Disposal (Prohibition) Act 2004	An Act to prohibit the transport into the territory, and the storage and disposal in the territory, of certain nuclear waste, and for related purposes.
Work Health and Safety (National Uniform Legislation) Act and Regulations 2011	The Act and the Regulations provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces. The Regulations also requires those responsible for chemical and hydrocarbon management to make provision for the containment of spills and the response to, and clean-up of, any spills that may occur.
Dangerous Goods Act 2012	The Act stipulates legislative obligations and requirements to correctly use and manage chemicals and hydrocarbons in the workplace.

3.3 Performance Criteria

The performance criteria for this plan are as follows:

- The Administering Authority's notification requirements are implemented on the day of becoming aware of any release of contaminants or any event where environmental harm has been caused or may be threatened not in accordance with the WMPC Act.
- All environmental incidents are reported and recorded and investigated as appropriate.
- Mitigation measures are implemented following investigation to prevent recurrence of similar incidents.
- Environmental impact as a result of the incident is addressed immediately.

4. MANAGEMENT COMMITMENTS

This management plan addresses the following commitment detailed in Appendix 1 of the Browns Oxide Project Assessment Report 52 (EPA, 2006):

Table 4-1 – Fnvironmental Commitment

Commitment Number	Commitment Details
AR64	Revised issue-based management plans covering construction and operation of the Browns Operation are to be submitted to DPIFM and the EPA Program for approval prior to commencement of construction and operation. The management plans will be included as an appendix within the Mining Management Plan and include an Emergency Management Plan.

An Environmental Emergency Response Management Plan is also a condition of the Radiation Licence.

5. BACKGROUND

The project has been in care and maintenance since 2009 and as such the environmental emergency risks have been somewhat reduced. However, despite the absence of mining activities the site has had to remain vigilant in its emergency response preparedness. The site has dedicated site emergency response equipment including a fire truck, spill response trailer and ambulance. There are also fire extinguishers, hydrants and fire suppression systems throughout the plant, bulk storage facilities and offices. There is fire water stored in one of the ponds adjacent to the processing plant, on standby should it be required for an emergency. All buildings contain fire alarm systems, all of which are maintained and tested regularly.

6. RESPONSIBILITY

Role/Title	Responsibilities	
	 Authorise this management plan and oversees project compliance. 	
	 Ensure there are appropriate management systems in place throughout the project to minimise the risks to the environment. 	
Dinastan	Determine the position responsible for emergency management within the business.	
Director	Ensures that employees comply with the requirements of this procedure.	
	 Liaise with the Environmental Compliance Manager regarding appropriate emergency management controls. 	
	 Ensure adequate resources are made available for responding to environmental emergencies. 	
	Liaise with relevant NT Government agency as required.	
Continuo non contal	Liaise with the Director about emergency management obligations.	
Environmental Compliance Manager	 Provide advice on appropriate environmental emergency management practices to site manager, site personnel and contractors. 	
	Review this Environmental Emergency Management Plan annually when a change in activities requires a review of the risks.	

Role/Title	Responsibilities	
General Manager	 Ensure all employees comply with the instructions contained within this management plan. 	
00.10.41.114.1450.	■ Ensure all emergency response equipment is maintained to a high standard.	
	Brings issues to the attention of the Environmental Compliance Manager or Director.	
NTR employees,	■ Comply with the requirements of this management plan.	
apprentices, contractors	Participate in emergency training or preparedness training activities where required.	
	Report all hazards and incidents.	

7. RISK ASSESSMENT

A summary of key activities and potential environmental impacts that may result from an environmental emergency are listed in the table below. The detailed Risk Assessment is located in Appendix A.

Table 7-1 – Risk Assessment Summary

Activity	Potential Impact	Residual Risk
Fire / Explosion - Storage and handling of flammable substances	Air pollution.	Low
Loss of Containment – Uncontrolled discharge of process water	Contaminated water or land resources.	Med
Loss of Containment – Uncontrolled discharge of fuel	Contaminated water or land resources.	Low
Loss of Containment - Uncontrolled discharge of chemical	Contaminated water or land resources.	Low
Loss of Containment – Uncontrolled discharge of PAF material.	Contaminated water or land resources.	Low
Loss of Containment – Uncontrolled release of elevated radiation.	Contaminated air, water or land resources.	Low
Natural disaster may include cyclones, flooding, lightning, earthquakes and bushfires.	Contaminated air, water or land resources.	High

8. OBJECTIVES AND TARGETS

The objective of this document is to ensure that environmental emergency management practices are implemented on site to minimise the risk to the people, property and environment. The table below details the objectives and targets for responding to environmental emergencies.

Table 8-1 – Environmental Emergency Objectives and Targets

Objectives	Targets	Indicators
Protect people, property and the environment.	No incidents of harm to people, property or the environment from activities associated with an environmental emergency from the project area.	Number of incidents recorded.
Identify potential environmental emergency risks. Identify and implement controls to reduce the residual risk.	All risks identified and controls in place.	Audits and inspection findings.
Ensure emergency response equipment requirements are able to be identified and available.		
Ensure a high level of preparedness is maintained.	All risks identified and controls in place. Conduct emergency response drills.	Audits and inspection findings. Results of emergency drills.
Facilitate quick and efficient response to emergencies to limit the impacts to the environment.		
Ensure emergency response equipment and training is relevant for the types of emergency the site may expose to.	Training for all emergency response personnel.	Training records.

9. RISK MITIGATION

9.1 Types of Emergency

Emergencies are defined according to the type of materials, activities and receiving environment involved. The type of emergency will determine the potential impact of the event on the environment. A risk assessment has identified seven potential environmental emergencies on the Brown Oxide Project. This will be reviewed on an annual basis or when a change in the project activities results in a change in the risk profile.

Table 9-1 – Types of Environmental Emergencies

#	Types of Environmental Emergency
1	Fire / Explosion
2	Loss of Containment – Untreated Water
3	Loss of Containment – Fuel
4	Loss of Containment - Chemical
5	Loss of Containment – PAF Material

#	Types of Environmental Emergency
6	Loss of Containment – Radioactive Material
7	Natural Disasters *

^{*} Natural disasters may include cyclones, flooding, lightning, earthquake and bushfire

9.2 General Site Preparedness

NTR will continue to observe the following controls as part of their onsite emergency preparedness protocols.

- Demonstrate clear commitment and leadership by management through policy, participation, communication and allocation of resources (personnel, time, facilities and finances).
- Continue to have an up to date Safety Management Plan and Emergency Response Plan that addresses, among other matters, communication to employees, contractors and the public and, where appropriate, the recovery needs of the community after an emergency.
- Develop a cyclone response plan.
- Ensure that allocated to emergency response equipment are maintained in working order.
- Ensure that all personnel wear personal protective equipment (PPE) at all times while on site, as required. The level of PPE for each person is dependent on the location and nature of the activity being undertaken.
- Induct all personnel in emergency response procedures during site induction.
- Develop, conduct and maintain a training program designed to improve the proficiency of emergency response of all employees and contractors.
- Identify emergency authorities and, where relevant, provide tours of the project area for them to promote emergency preparedness, by having current knowledge of facility operation and relevant emergency response planning information.
- Conduct emergency exercise sessions with emergency authorities and others where appropriate, to test the workability of the emergency response plan.
- Share information and experience with other nearby facilities in the community relating to emergency response planning, exercises and incident handling.

Below is a detailed risk assessment of potential environmental emergencies are located in Appendix A. The risk matrix is located in Appendix B.

9.3 Internal Procedures

Incident reporting will be conducted in accordance with the Environmental Incident Reporting and Investigation. Procedure. An incident investigation should follow any event where emergency response has been required. This investigation should ascertain, in consultation with appropriate regulatory agencies, if any environmental monitoring is required to determine level of environmental harm

9.4 Emergency Contacts

Below are some key contacts that may be required in the event of an emergency.

Table 9-2 – Emergency Contacts

Department	Number
Emergency Services	000
Batchelor Fire and Emergency Response Group	Katrina Roebuck 0423 342 462
Batchelor Police Department	(08) 8976 0015
Bushfires NT	(08) 8976 0098
EPA – Pollution Hotline (24 hour)	1800 064 567
Department of Industry, Tourism and Trade.	(08) 8999 6528
Site Radio	Repeater
Bushfires NT - Radio	This is monitored by the Control Room

9.5 Training and Awareness

NTR employees will become familiar with the operational environmental risks relevant to their area of operations. Where relevant to their core duties, employees will be trained in emergency response techniques.

Emergency response management will be covered in the site induction and awareness sessions will be organised by the Environmental Compliance Manager on an as needed basis.

10. MONITORING AND INSPECTIONS

Monthly site inspections will be conducted by the Environmental Compliance Manager or delegate. Findings from these inspections will be used to inform the review of this management plan and future emergency response management activities, with a focus on continual improvement.

As the workforce increases the frequency of these inspections will increase and will form part of regular workplace inspections. Inspection and testing of emergency fire systems are conducted by an accredited third party on a monthly basis. External audits will be conducted as per legislative requirements.

11. TRIGGER ACTION RESPONSE PLANS

Event Level	Trigger	Action	Responsibility
Low - Med	Environmental emergency causing contamination to land, air or water resources to a confined area that can be cleaned up quickly and without residue.	 Follow the requirements of the Spill Response Procedure if applicable. Report the incident. Report incident to relevant agencies. Initiate remediation activities if required. Investigate the cause of the fire and implement preventative measures. Assess effectiveness of fire response procedures. 	Environmental Compliance Manager
Moderate - High	Environmental emergency causing contamination to land, air or water resources to a large area that can be cleaned without permanent damage to the environment.	 Follow the requirements of the Spill Response Procedure and / or Emergency Response Plan if applicable. Initiate remediation activities. 	
Very High - Extreme	Environmental emergency causing contamination to land, air or water resources to a large area that cannot be fully remediated and has resulted a long term impact on the environment.	 Report incident to relevant agencies. Conduct ICAM investigation and implement preventative measures. Implement contaminated sites monitoring and remediation program 	Director and Environmental Compliance Manager

12. NON-COMPLIANCE / NON-CONFORMANCE

12.1 Non-conformance

Non-conformances with this management plan or associated procedures will be reported (and investigated if required) in accordance with the Environmental Event Reporting and Investigation Procedure.

12.2 Non-compliance

Non-compliance with legislation must be reported immediately to the responsible government department including the Department of Industry, Tourism and Trade as per Environmental Reporting and Investigation Procedure.

13. REVIEW

This document will be reviewed annually and any time there may be a change to the project activities that will instigate a change in the risk profile.

14. RELATED DOCUMENTS

Document Reference	Document Name
NTR-ENV-EMP-008	Fire Management Plan
NTR -ENV-EMP-014	Invasive Species Management Plan
NTR -ENV-PRO-006	Incident Reporting and Investigation Procedure
NTR -ENV-PRO-001	Incident Reporting Form
NTR -ENV-PRO-004	Spill Response Procedure
NTR -ENV-EMP-009	Hazardous Materials and Waste Management Plan
NTR -ENV-PRO-009	Audit and Inspection Procedure
NTR-ENV-EMP-012	Communication and Consultation Management Plan

A	р	pendix <i>i</i>	A – Deta	iled Ri	sk Asse	essment
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Table A-1 – Environmental Emergency Risk Assessment

#	Type of Emergency	Risk	Potential Event	Controls	Emergency Response	Residual Risk *	Potential Impact off Site
1	Fire / Explosion	Storage and handling of flammable substances	Explosion causing fire on site spreading into surrounding vegetation, releasing significant quantities of air emissions and contaminated runoff from firewater. Other impacts include damage to property and injury.	 Mobile water tank permanently onsite, Storage and handling as per DG Act Minimal flammable products kept on site. Appropriate induction and training of personnel. Fire equipment adequate for the level of risk Regular maintenance and testing of fire equipment Hot work procedures Liaison (e.g., Northern Territory Bushfire Council) Monitoring fire ratings Hazard reduction burning and weed management Fire Management Plan 	 Contact Emergency Services where required Initiate emergency response procedures 	Low	Potential for fire to spread to neighbouring properties.
2	Loss of Containment – Untreated Water	Uncontrolled discharge of process water	System or mechanical failure causing poor quality water being discharged outside of containment area, causing contamination to water resources.	 Water managed in accordance with WDL 177-10 Appropriate induction and training of personnel. Water quality monitoring Daily visual inspections Regular maintenance of process equipment Safe Operating Procedures Job risk assessment procedures Good housekeeping Water Management Plan 	 Contact the NT EPA via the pollution hotline Initiate Spill Response Procedures 	Med	Potential loss of containment to surface water resources, with potential downstream impacts to the Wondering Creek.
3	Loss of Containment – Fuel	Uncontrolled discharge of fuel	System or mechanical failure causing fuel to discharge outside of containment area,	Storage and handling as per DG ActMinimal fuels kept on site.	Contact Emergency Services where requiredInitiate Spill Response	Low	Potential loss of containment to

#	Type of Emergency	Risk	Potential Event	Controls	Emergency Response	Residual Risk *	Potential Impact off Site
			causing contamination to land and/or water resources.	 Appropriate induction and training of personnel. Spill kits Safe Operating Procedures Job risk assessment procedures Good housekeeping Hazardous Materials and Waste Management Plan 	procedures		neighbouring properties.
4	Loss of Containment - Chemical	Uncontrolled discharge of chemical	System or mechanical failure causing discharge outside of containment area, causing contamination to the land, water and/or air resources. Additional risk of negative chemical reaction.	 Storage and handling as per UG ACT Minimal chemicals kept on site. Appropriate induction and training of personnel. Spill kits Safe Operating Procedures Job risk assessment procedures Good housekeeping Hazardous Materials and Waste Management Plan 	 Contact Emergency Services where required Initiate Spill Response procedures 	Low	Potential loss of containment to neighbouring properties.
5	Loss of Containment – PAF Material	Uncontrolled discharge of PAF material.	System or mechanical failure causing discharge outside of containment area, causing contamination to the land and/or water resources.	 Designated storage areas Engineer designed storage structures Appropriate induction and training of personnel Metallurgical sampling and testing Bunding used where needed. Hazardous Materials and Waste Management Plan 	 Contact the NT EPA via the pollution hotline Initiate Spill Response Procedures 	Low	Potential loss of containment to neighbouring properties. Potential contamination to groundwater resources.
6	Loss of Containment	Uncontrolled release of elevated radiation.	System or mechanical failure causing radiation to be emitted and compromise air, land and/or water resources.	Secure, designated storage vesselBiannual Audit and monitoring program	Evacuate the areaContact EmergencyServices where requiredInitiate emergency	Low	Potential for air quality contamination.

#	Type of Emergency	Risk	Potential Event	Controls	Emergency Response	Residual Risk *	Potential Impact off Site
	– Radioactive Material			 Storage and handling as per Radiation Protection Plan Safe Operating Procedures Job risk assessment procedures 	response procedures		
7	Natural Disasters *	Natural disaster may include cyclones, flooding, lightning, earthquakes and bushfires.	Natural disasters may contribute to one or more of the above mentioned event types.	- As above	 Contact Emergency Services where required Initiate emergency response procedures 	High	Dependent on event type. Refer to above.

^{*} Residual Risk calculated using the Environmental Risk Matrix in Appendix A

Appendix B - Risk Matrix	

		R	RISK MATRI	X			Likelihood				
	Injury / Disease to Personnel		Damage to Assets and Resources	Production Loss	Damage to Reputation		Not known to occur in the global industry	Known to occur in the global industry but is unlikely Unlikely	Has occurred in industry and may to occur at some time Possible	Expected to occur at some time in this operation Likely	Expected to occur frequently in this operation Frequent
	Fatality or multiple disabling injuries or illness (permanent	Massive effect; long term (1 year or more) environmental damage requiring \$2 m to correct or in penalties	Extensive damage, large financial loss - \$10m	Long term interruption —3 months total production loss	Negative press in international media	Critical	M11	M16	H20	E23	E25
Consequence	Permanent injury or	Major effect; medium term (1 month) environmental damage requiring \$0.5m to correct or in penalties		Significant interruption — 1 week day total production loss	Considerable negative impact; state wide media coverage for 1 week	Major	M7	M12	H17	H21	E24
Conse		Localized effect; short term environmental damage requiring \$50k to correct or in penalties	Localized damage, moderate financial loss - \$100k	Minor interruption – half a day total production loss	Limited impact; negative local media coverage for a few days	Moderate	L4	M8	M13	Н18	H22
	Medical treatment	Slight effect; minor environmental damage requiring \$5k to correct or in penalties	Slight damage, minor financial loss - \$10k	Short interruption- 1 hour total production loss	Slight impact; negative site wide publicity	Minor	L2	L5	M9	M14	H19
	Minor injury or illness; first aid	Minimal on site effect	Minimal financial loss - \$1k	Minimal impact	Minimal informal impact contained within the site	Low	L1	L3	L6	M10	M15
gend											
	Low Risk		Moderate Risk		High Risk		Extreme Risk				