Hydro Aluminium Kurri Kurri Pty Ltd
Work Health & Safety Management Plan

Smelter Demolition and Site Remediation

REGROWTH
KURRI KURRI

Revisions

Date	Rev	Details	Reviewed by	Approved
09/01/2015	A	Initial Draft	Andrew Solomou	
09/02/2015	B	Updated following review	Andrew Solomou	Andrew Walker
25/03/2015	0	Updated following review	Leanne Pringle	Andrew Walker
02/04/2015	1	Review and additional content added	Andrew Solomou	Andrew Walker
08/05/2015	2	Addition of site rule noted as O and detailed within Section 9.3	Andrew Solomou	Andrew Walker
25/05/2015	3	Addition of Confined Space information noted as O and detailed within Section 5.5	Andrew Solomou	Andrew Walker
24/08/2015	4	Inclusion of WHS Manager, hyperlinks to Legislation and general formatting	James Brown	Andrew Walker
01/03/2016	5	Updated Policy. SafeWork NSW references updated. Inclusion of Project Organisation Chart, Section 9.8.7 & Section 10.	James Brown	Andrew Walker
09/06/2017	6	Updated to incorporate additional Principal Contractor.	James Brown	Andrew Walker
7/12/2017	7	Updated to reference current WHS Regulation 2017 and incorporate the Subcontractor WHSE Requirements.	James Brown	Andrew Walker
8/02/2018	8	Updated WHS Policy and Insurance details.	James Brown	Andrew Walker
10/12/2018	9	Updated to include additional reference to the Containment Cell Construction and Site Remediation Works and new Hydro branding	James Brown	Andrew Walker
01/03/2020	10	Updated to include Remediation Contractor, updated Policy and removal of hyperlinks and added COVID-19 reference	James Brown	Andrew Walker
24/06/20	11	Updated to address SSD 6666 development consent requirements	Shaun Taylor/ James Brown	Andrew Walker
06/11/2020	12	Incorporation of relevant requirements for Fire Safety Study under SSD 6666	Shaun Taylor/ James Brown	Andrew Walker

Contents

1 Project Information

1.1 Management and review

This Work Health and Safety (**WHS**) Management Plan has been developed to outline the approach to managing WHS at the Hydro Aluminium Smelter Demolition and Site Remediation project situated at Hart Rd, Loxford NSW.

The Hydro Aluminium Kurri Kurri Team will:

- make this plan available to all workers and contractors on this project and ensure they have the opportunity to read, understand, clarify and ask questions
- keep a copy of the WHS Management Plan readily available for the duration of the project or longer as required under the WHS Regulation 2017 (NSW) (the WHS Regulation)
- review the plan regularly throughout this project and make any revisions known to those working on the project
- promote and enhance the focus on safety and lead by example with evaluating, anticipating, minimising and controlling high risk activities

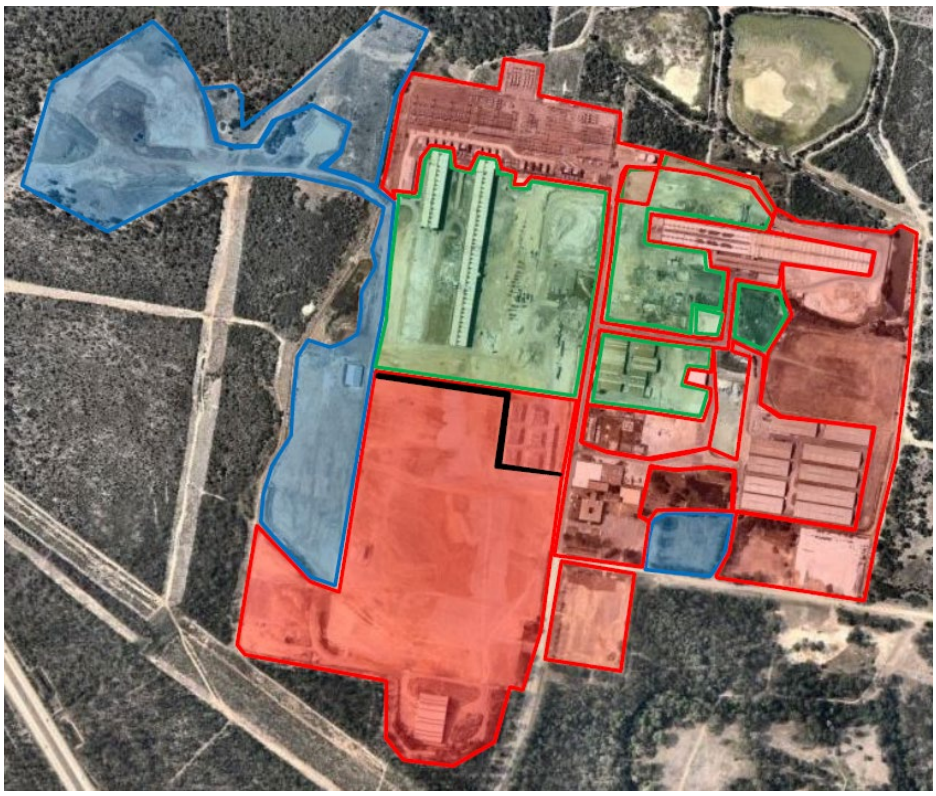
1.2 Principal Contractor Details

Hydro Aluminium Kurri Kurri (HAKK) are the Principal Contractor for their site.

CMA Contracting have been appointed Principal Contractor for the Stage 1 and Stage 2 Demolition Works.

Daracon has been appointed for the Containment Cell Construction and Site Remediation Works.

An example of the site breakdown of Principal Contractor locations is detailed below. The Principal Contractor Boundaries is updated and communicated throughout the site as changes occur via the Site Safety Notifications.



Details

Business name:	**HYDRO ALUMINIUM KURRI KURRI PTY LTD**
Address:	Hart Rd Loxford NSW
Contact person:	Richard Brown
Work phone:	02 49 370 406
Mobile phone:	0439 139 059
Email:	richard.brown@hydro.com
ABN:	ABN 55 093 266 221
Contract licence number:	Plant owner
Principal contractor signature:	

Stage 1 & 2 Demolition

Business name: **Stage 1 & 2 Demolition Works**	**CMA Contracting Pty Limited**
Address:	83 Bourke Road, Alexandria NSW 2015
Contact person:	Karl Virkus
Work phone:	+61 (0)2 9313 2111
Mobile phone:	+61 (0)403 591 195
Email:	karl.virkus@cmacontracting.com.au
ABN:	**71 050 192 517**
Contract licence number:	CMA Demolition Licence Number: AD210444 CMA Asbestos Licence Number: AD211244
Principal contractor signature:	

Containment Cell Construction and Site Remediation

Business name: Containment Cell Construction and Site Remediation	Daracon Contractors Pty Ltd
Address:	20 Kullara Road Beresfield NSW 2322
Contact person:	Cheslyn Africa
Work phone:	49749200
Mobile phone:	0417 430 160
Email:	cheslyna@daracon.com.au
ABN:	82 002 344 667
Contract licence number:	AD211618 (Non Friable & Friable Asbestos Removal works) AD206966 (Demolition and Restricted Demolition)
Principal Contractor signature:	

1.3 Details of persons at workplace with WHS responsibilities - HAKK

Name	Position	WHS responsibilities
Richard Brown	Managing Director	Actively promote the safe systems of work for all site activities and by his representatives, monitoring and enforcing compliance with site and legislative requirements.
Andrew Walker	Project Manager	Managerial leadership and commitment to safe systems of work for all site activities. Monitoring and enforcing compliance with site and legislative requirements. Promote a positive safety culture.
Andrew Solomou	Construction Manager	Management of site personnel and contractors working on the project; involvement in the development and maintenance of safe systems of work to manage risks so that site and legislative requirements are being applied.
James Brown	WHS Manager	Review and promote all safe systems of work in accordance with the safe work method statements (**SWMS**) & Job Safety & Environmental Risk Assessments (**JSERA**) developed by contractors; ensuring that all practices to be undertaken are carried out to the applicable legislation and site rules. Undertaking frequent site inspections and audits on the Stage One & Two Demolition Contractor, Remediation Contractor and associated works.
Site personnel and contractors	Varying roles	Actively apply the rules and requirements of this WHS plan, site requirements and all legislative requirements described in the WHS act and regulations.

1.4 Details of persons at workplace with WHS responsibilities – CMA Contracting

Name	Position	WHS responsibilities
Michael Lawrence	Project Manager	Responsible for safety management at the workplace. Refer to CMA SMP.
Karl Virkus	General Manager	Responsible for safety management at the workplace. Refer to CMA SMP.
Luke Britt	Supervisor	Responsible for safety management at the workplace. Refer to CMA SMP.

1.5 Details of persons at workplace with WHS responsibilities – Daracon

Name	Position	WHS responsibilities
Cheslyn Africa	Project Manager	Responsible for safety management at the workplace. Refer to Daracon SMP.
James Towns	Project Engineer	Responsible for safety management at the workplace. Refer to Daracon SMP.
Peter Hibbert	Project Supervisor	Responsible for safety management at the workplace. Refer to Daracon SMP.
Graeme Crosdale	WHS Co-ordinator	Responsible for safety management at the workplace. Refer to Daracon SMP.

1.6 Scope and Purpose

The former Hydro Kurri Kurri Aluminium smelter operated at the Hart Rd Loxford site from 1969 to 2012. Formal closure in May 2014 resulted in plans to demolish and remediate the site for future use. Expectation is that the plant will be demolished and remediated for suitable future reuse.

The scope and purpose is to carry out the demolition and remediation of the former Hydro Aluminium Smelter Site.

Hydro has identified key activities for the site and has in place a management team to coordinate and set in context the various procedures that will be applied to safely carry out deconstruction and remedial works.

Hydro has a focus on ensuring that all persons conducting business on the smelter site are doing so under the requirements of this Hydro WHS plan, the WHS Act 2011, WHS Regulations 2017, and Codes of Practice including Industry Standards and Guidance Material.

Our commitment is to display leadership in identifying, eliminating, or controlling hazards, preventing incidents that could lead to workplace injury and illness and encouraging all participants on the project to adopt a culture of health and safety leadership, promotion and awareness of hazard identification and risk management.

1.7 Regulatory Requirements

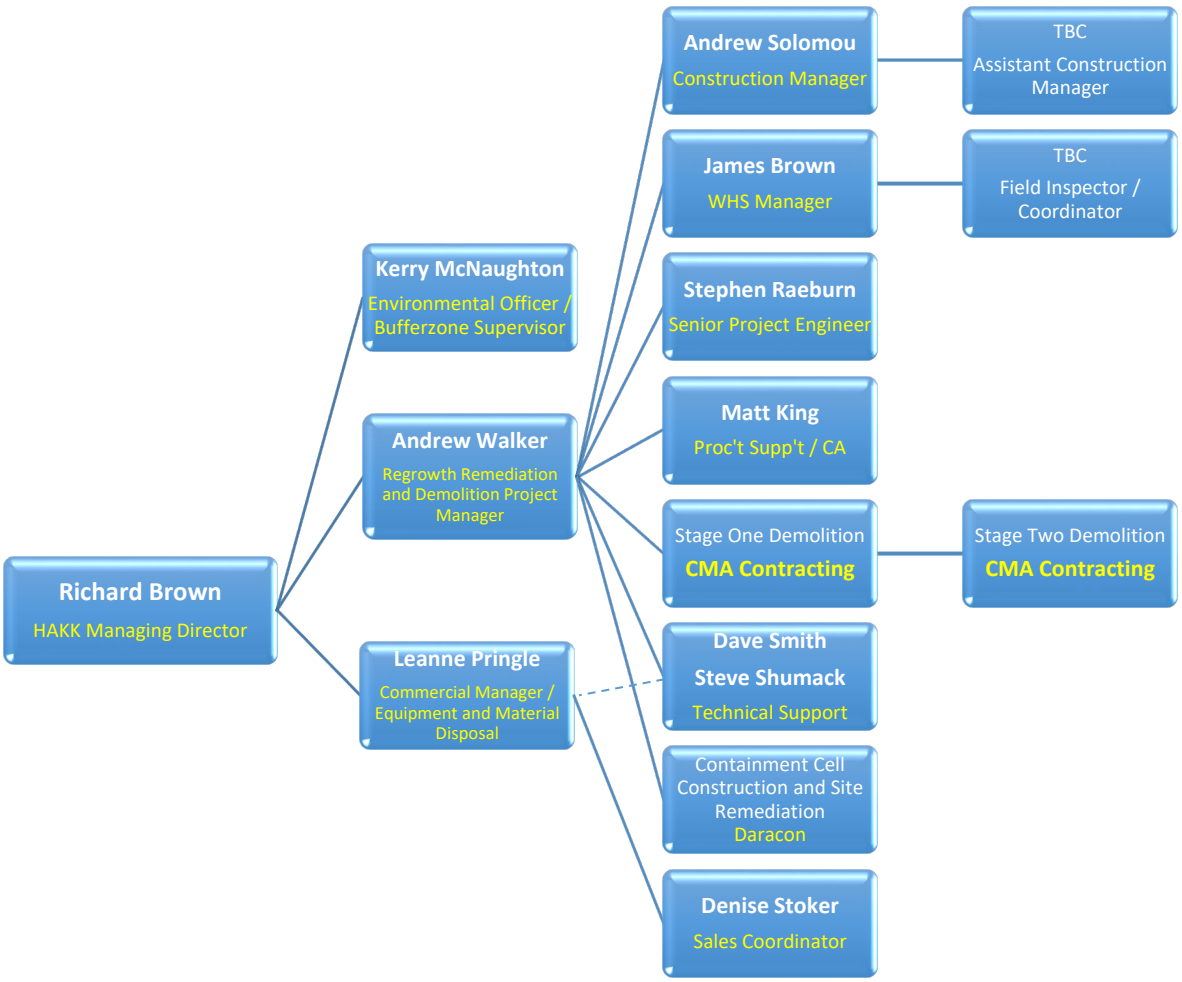
A list of the conditions under the development consent for State Significant Development (SSD) 6666 related to health and safety and where they are addressed in this document are outlined in the table below.

Condition	Location in this WHSMP
Workplace Health and Safety	
B12. The Applicant must ensure that all remediation works are carried out in accordance with NSW *Work Health and Safety Regulation 2017* (WHS Regulation) and relevant guidelines.	This WHSMP
B13. Prior to the commencement of remediation works, the Applicant must prepare a Health and Safety Plan (HSP) for the remediation works to the satisfaction of the Planning Secretary. The HSP must:	This WHSMP

Condition	Location in this WHSMP
B13(a) describe the controls to ensure compliance with the WHS Regulation including controls to be implemented to manage the risks associated with workers coming into contact with asbestos, contaminated groundwater and/or leachate;	Section 5, Section 9 and Appendix 1
B13(b) identify personal protective equipment (PPE) required for use onsite;	Section 9.7 and Appendix 1
B13(c) describe the procedures for training, education and awareness programs and inductions for site personnel to ensure adequate protection from human health risks, including asbestos;	Section 7 and Appendix 1
B13(d) describe the location of the real time ambient air monitors for ammonia and hydrogen cyanide gases including the trigger for the implementation of additional controls;	Section 9.9.10 and Appendix 1
B13(e) identify requirements for health monitoring for site personnel and documentation procedures; and	Section 9.9.10 and Appendix 1
B13(f) details of exclusion zones and decontamination procedures.	Section 9.9.10 and Appendix 1
Hazards and Risk	
B47 One month prior to the commencement of remediation works (except for preliminary works that are outside the scope of the hazard studies), or within another timeframe agreed to by the Planning Secretary, the Applicant must prepare the studies set out under subsections (a) and (b) below. Remediation works, other than preliminary works, must not commence until study recommendations have been considered and, where appropriate, acted upon. (a) A **Fire Safety Study** for the development which covers the relevant aspects of the Department's Hazardous Industry Planning Advisory Paper No. 2, '*Fire Safety Study Guidelines*' and the New South Wales Government's '*Best Practice Guidelines for Contaminated Water Retention and Treatment Systems*'. The study must meet the requirements of Fire and Rescue NSW.	Section 9.11

1.8 Regrowth Project Organisational Chart

The following Organisation Chart demonstrates the positions and personnel involved within the Regrowth Kurri Kurri Project.


Richard Brown
HAKK Managing Director
Kerry McNaughton
Environmental Officer / Bufferzone Supervisor
Andrew Walker
Regrowth Remediation and Demolition Project Manager
Leanne Pringle
Commercial Manager / Equipment and Material Disposal
Andrew Solomou
Construction Manager
TBC
Assistant Construction Manager
James Brown
WHS Manager
TBC
Field Inspector / Coordinator
Stephen Raeburn
Senior Project Engineer
Matt King
Proc't Supp't / CA
Stage One Demolition
CMA Contracting
Stage Two Demolition
CMA Contracting
Dave Smith
Steve Shumack
Technical Support
Containment Cell Construction and Site Remediation
Daracon
Denise Stoker
Sales Coordinator

2 Roles and Responsibilities

2.1 HAKK - Principal Contractor

The Principal Contractor of this project is responsible for matters including:

- preparing, updating and implementing this WHS Management Plan, including all associated procedures
- identifying and observing all relevant legal WHS requirements
- managing risks associated with the carrying out of construction or demolition work in accordance with the WHS Act and Regulation
- reviewing SWMSs and JSERAs prepared by contractors on the project
- planning to do all work safely
- participating in the planning and design stages of trade activities
- identifying WHS training required for an activity
- verifying that workers have undertaken identified WHS training
- communicating and consulting with workers
- investigating hazard reports and ensuring that corrective actions are undertaken
- dispute resolution
- continual review and monitoring of construction activities, sequence, process and procedures
- Ensuring that the right plant, equipment and personnel to operate are applied to the task
- Investigating incidents

2.2 Stage 1 & 2 Demolition - CMA Contracting Pty Limited - Principal Contractor

The Principal Contractor of the Stage 1 & 2 Demolition project is responsible for matters including:

- preparing, updating and implementing a WHS Management Plan, Demolition Management Plan and all associated procedures
- identifying and observing all relevant legal WHS requirements
- managing risks associated with the carrying out of demolition work in accordance with the WHS Act and Regulation
- reviewing SWMSs and JSERAs prepared by contractors on the project
- planning to do all work safely
- participating in the planning and design stages of trade activities
- identifying WHS training required for an activity
- verifying that workers have undertaken identified WHS training
- communicating and consulting with workers
- investigating hazard reports and ensuring that corrective actions are undertaken
- dispute resolution
- continual review and monitoring of construction activities, sequence, process and procedures
- Ensuring that the right plant, equipment and personnel to operate are applied to the task
- Investigating incidents and reporting to HAKK in a timely manner

2.3 Containment Cell Construction and Site Remediation - Daracon - Principal Contractor

The Principal Contractor of the Containment Cell Construction and Site Remediation project is responsible for matters including:

- preparing, updating and implementing a WHS Management Plan, Construction Environment Management Plan and all associated procedures
- identifying and observing all relevant legal WHS requirements
- managing risks associated with working with contaminated materials such as friable asbestos in accordance with the WHS Act, Regulations and applicable Codes of Practice.
- reviewing SWMSs and JSERAs prepared by contractors on the project
- planning to do all work safely
- participating in the planning and design stages of trade activities
- identifying WHS training required for an activity
- verifying that workers have undertaken identified WHS training
- gas and asbestos air monitoring and address any exceedance of trigger levels
- health monitoring of personnel involved with handling of asbestos containing materials
- establishing and implementing exclusion zones around the capped waste stockpile and other asbestos work areas
- establishing and maintaining decontamination units and procedures at asbestos work areas
- communicating and consulting with workers
- investigating hazard reports and ensuring that corrective actions are undertaken
- dispute resolution
- continual review and monitoring of construction activities, sequence, process and procedures
- Ensuring that the right plant, equipment and personnel to operate are applied to the task
- Investigating incidents and reporting to HAKK in a timely manner

2.4 Contractors

Contractors engaged for this project by HAKK, CMA Contracting and Daracon are responsible for matters including:

- fulfilling the duties of PCBU for their own operations
- managing risks associated with the carrying out of construction or demolition work in accordance with the WHS Act and Regulation
- planning to do all work safely
- identifying all high-risk construction or demolition work associated with their activities and ensuring SWMS and JSERA are developed and implemented
- complying with the duties as listed under “Workers” (see 2.5)
- following all safety policies and procedures and site rules
- complying with this WHS Management Plan
- complying with any direction given to them by the principal contactor
- undertaking site-specific induction before starting work and signing off that they have completed this induction
- ensuring the workers they engage undertake site specific inductions

- ensuring they have the correct tools and equipment and these are in a serviceable condition for the task
- follow the safe work method and identify and control the risks associated with the task in their JSERA
- Contractors are responsible for ensuring that safety and health hazards associated with the work they are performing, are satisfactorily controlled and do not pose a risk

2.5 Workers

All workers on this project (including those employed by contractors) are responsible for:

- taking reasonable care of their own health and safety
- taking reasonable care that their conduct does not adversely affect others
- complying with instruction, so far as they are reasonably able
- cooperating and complying with reasonable notified policies and / or procedures
- being actively involved in the formulation of SWMS's & JSERA's and understanding the controls to be applied to minimise risk
- raising concerns where uncontrolled risk is evident and the task cannot be completed safely
- Reporting any incident or unsafe condition as soon as reasonably practicable
- Assisting in incident investigations (where required)
- Only operating plant and equipment that they hold current certification and Verification of Competency for
- Presenting to work in a fit condition free from fatigue, alcohol or other drugs

3 General WHS information

3.1 Legislation

Relevant legislation	Tick if applicable
Work Health and Safety Act 2011	☑
Work Health and Safety Regulations 2017	☑

3.2 Codes of Practice and other Guidance Material

Relevant Codes of Practice	Tick if applicable
Abrasive Blasting Code of Practice 2019	☐
Confined Spaces Code of Practice 2019	☑
Construction Work Code of Practice 2019	☑
Demolition Work Code of Practice 2019	☑
Excavation Work Code of Practice 2019	☑
First Aid in the Workplace Code of Practice 2019	☑
Hazardous Manual Tasks Code of Practice 2019	☑
How to Manage and Control Asbestos in the Workplace Code of Practice 2019	☑
How to Manage Work Health and Safety Risks Code of Practice 2019	☑
How to Safely Remove Asbestos Code of Practice 2019	☑
Labelling of Workplace Hazardous Chemicals Code of Practice 2019	☑
Managing Electrical Risks Code of Practice 2019	☑
Managing Noise and Preventing Hearing Loss at Work Code of Practice 2019	☑
Managing the Risk of Falls at Workplaces	☑
Managing Risks of Hazardous Chemicals in the Workplace Code of Practice 2019	☑
Managing the Risks of Plant in the Workplace Code of practice 2019	☑
Managing the Risks of Stevedoring Code of Practice 2017	☐
Managing the Work Environment and Facilities Code of Practice 2019	☑
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice 2019	☐
Managing the Risk of Falls in Housing Construction Code of Practice 2019	☐
Safe Design of Structures Code of Practice 2019	☑
Spray Painting and Powder Coating Code of Practice 2019	☐
Welding Processes Code of Practice 2019	☑
Work Health and Safety Consultation, Cooperation and Coordination Code of Practice 2019	☑

3.3 WHS Policy

ALUMINIUM METAL
PRIMARY PRODUCTION
KURRI KURRI

HEALTH, SAFETY & ENVIRONMENT POLICY

HSE-POL-01-02

Hydro Aluminium Kurri Kurri Regrowth Goal: Zero Harm

At Hydro Aluminium we are committed to managing the impact of our business on the Health, Safety and Environment of our workers, contractors, visitors and the local community. In fulfilling this responsibility, we have a duty of care to provide so far as practicable, a working environment that is safe and without risks to health, through processes that:

- *Identify, analyse, evaluate or manage risks that could cause an incident, injury or illness to people, property damage or unacceptable impacts on the environment or the community;*
- *Assist workers, contractors and visitors to meet their HSE obligations;*
- *Provide compliance with relevant HSE legislation and conditions of licences under which we operate;*
- *Consider both long term and short-term health, safety, environmental and community impacts when making decisions.*

MANAGEMENT IS COMMITTED TO:	WORKERS & CONTRACTORS ARE REQUIRED TO:
• Providing leadership and engage people in an active way to take responsibility and be accountable for their own safety and that of others. • Undertaking Risk Management activities to manage risks to people in the work environment, including review of work methods and practices. • Compliance with all relevant legislation standards, and other requirements to which Hydro subscribes. • Providing appropriate HS&E training to all workers. • Providing information, resources and supervision enabling workers to undertake their work in a healthy and safe manner. • Consultation with all workers and contractors to enhance the effectiveness of the HSE system. • Ensuring that plant, equipment, and substances are safe and without risk to health when used in accordance with standard operating procedures. • Providing, monitoring, and maintaining systems for safe use, handling, storage and transportation of plant, equipment and substances.	• Carry out work safely and without harm to themselves, others, property, or the environment and in accordance with their training, operating procedures and work instructions. • Stop or not start activities that they believe carry an unacceptable level of risk to themselves and others. • Comply with the Hydro Regrowth Safety Management Plan, HSE Policies, HSE Procedures and programs as appropriate. • Undertake risk assessments of tasks prior to commencing the work. • Actively participate in the reporting of incidents including Personal Injury, Property Damage, and Near Misses. • Report any hazards observed in the workplace or deficiencies with work practice or procedures in a timely manner. • Report any unsafe conditions or environmental issues/concerns that come to their attention. • Ensure appropriate fitness for work and able to perform the task at hand. • Ensure all personnel performing works are adequately trained and competent to perform such works.

Richard Brown
Managing Director
February 2020

Revision 6: February 2020
HSE-POL-01-02 – HEALTH SAFETY & ENVIRONMENT POLICY
UNCONTROLLED COPY – Refer to Hydro Shared Drive for latest revision
Printed On: 28/05/2020

3.4 Insurances Hydro

Insurance type	Company	Policy number	Expiry date
Workers Compensation	icare	110260701	30.06.2021

4 Risk Management

4.1 Introduction

The system used to identify, and control hazards is based on a Risk Assessment process. The Risk Assessment process requires several stages of identifying, assessing and controlling hazards.

The identification of hazards is assisted using checklists and team-based Risk Assessments, where a range of experience can be drawn from to identify hazards. Many hazards and situations are readily identified, and standard controls are used to manage them.

This document nominates the procedures and standards that shall be used on the Hydro site when work involves these and other recognised hazards.

4.2 Risk Assessment Process Overview

The Principal Contractor shall document and submit for acceptance by Hydro Aluminium Kurri Kurri, Safe Work Method Statements for review.

As a minimum, these documents shall be submitted 5 working days prior to commencing work and shall state the following:

- the contractor's representative and Supervisor for the purpose of the Act
- the tasks and activities to be performed
- identify the specific High-Risk Work as defined by the Regulations
- methodology on how the tasks and activities are to be conducted
- the hazards associated the with tasks/activity
- the proposed method of controlling the hazards identified
- the training (including required licenses, accreditations, permits, certification and the like), experience and any particular attributes required of workers performing the tasks/activities
- The Codes and Regulations the tasks/activities are covered by
- How the works will be supervised, monitored and reviewed

The contractor shall ensure all direct and indirect workers are suitably supervised, trained and instructed in the work under the contract performed by the contractor and how the tasks and activities are to be conducted safely, including through:

- Convening and facilitating, or participation in Job Safety Environment Risk Analysis (JSERA) or their equivalent risk assessments formats, to assess and document the hazards and risks of tasks and activities and develop methods to eliminate or control the hazards and risks.
- Co-operative participation in regular safety onsite inspections at times nominated by Hydro Aluminium Kurri Kurri.
- Immediate discontinuance of any practice (including removal of equipment) considered by Hydro Aluminium Kurri Kurri to be dangerous, notwithstanding that the relevant practice, or equipment may have previously been accepted.
- Being subjected to and cooperating with SWMS / JSERA or equivalent reviews and/or audit by Hydro Aluminium Kurri Kurri to determine the suitability of these risk assessments.

The contractor will review each JSERA or its equivalent risk assessment before works commence on a daily basis and each worker shall sign onto the document to demonstrate understanding and commitment to implement the agreed control measures. The contractor shall be able to provide a copy of those reviews to Hydro Aluminium Kurri Kurri and/or the principal as required.

A failure by the contractor to comply with the provisions of these requirements shall constitute a fundamental breach of the contract.

The contractor may identify other work specific hazards not covered by Hydro management procedures. Where this happens, the Subcontractor's work methods shall conform to,

- Legislative Requirements
- Codes of Practice
- Risk Assessment provisions

4.3 Identifying Hazards and Managing Risks

The Principal Contractor will ensure systems for identifying hazards and assessing risk are in place prior to any activities commencing on site and shall utilize the Hierarchy of Controls (see 4.4) in conjunction with:

- SWMS and JSERA developed by contractors on the project to control risks associated with high risk construction work
- using a risk management form to control general construction risks where necessary
- carrying out regular site audits with a focus on a changing work environment

The Principal Contractor will also identify risks (or require a contractor to do so as appropriate):

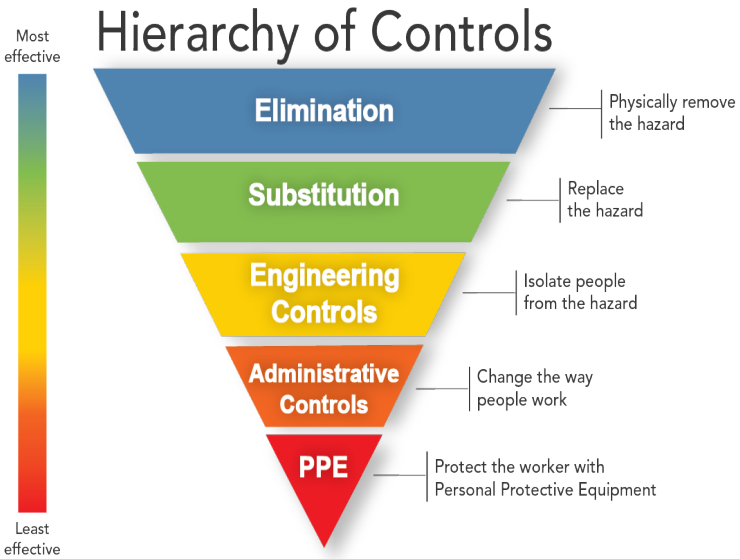
- before introducing any new chemicals
- when introducing a new task
- when new information is received about tasks, procedures, equipment or chemicals.

All hazards that are identified throughout the project must be reported immediately to the Principal Contractor.

4.4 Hierarchy of Control

Where reasonably practical, the Principal Contractor and the subcontractors will manage all risks identified by applying the Hierarchy of Controls as follows:

- **Eliminate**
- **Substitute**
- **Isolate - Engineering controls**
- **Administrative controls**
- **Personal Protective Equipment**.



Where practical, the Principal Contractor and the contractors (as appropriate) will implement risk controls that are high in the order of hierarchy and will implement multiple controls where necessary.

5 High Risk Construction Work

5.1 High Risk Work

The HAKK owner's Team has identified activities for this project and requires all contractors to develop SWMS's & JSERA's for each of the High-Risk Construction Work activities. Additional SWMS's and JSERA's must also be formulated by contractors for any additional high-risk work that is introduced or identified during the project.

High Risk Construction Work	Project Specific Examples
Work that involves a risk of a person falling more than 2 metres.	- Stage 1 Demolition Work - Stage 2 Demolition Work - Containment Cell Construction and Site Remediation
Work that is carried out on a telecommunication tower.	- Not Applicable
Work that involves the demolition of an element of a structure that is loadbearing or otherwise related to the physical integrity of the structure.	- Stage 1 Demolition Work - Stage 2 Demolition Work
Work that involves, or is likely to involve, the disturbance of asbestos.	- Stage 1 Demolition Work - Stage 2 Demolition Work - Hazardous Material Removal - Containment Cell Construction and Site Remediation
Work that involves structural alterations or repairs that require temporary support to prevent collapse.	- Stage 1 Demolition Work - Stage 2 Demolition Work
Work that is carried out in or near a confined space.	- Stage 1 Demolition Work - Stage 2 Demolition Work
Work that is carried out in an area that may have a contaminated or flammable atmosphere.	- Stage 1 Demolition Work - Stage 2 Demolition Work - Containment Cell Construction and Site Remediation
Work that is carried out in or near a shaft or trench with an excavated depth greater than 1.5 metres or is carried out in or near a tunnel.	- Containment Cell Construction and Site Remediation - Stage 1 Demolition Work - Stage 2 Demolition Work
Work that involves the use of explosives.	- Stage 2 Demolition Work
Work that is carried out on or near: - Pressurised gas distribution mains or piping - Chemical, fuel or refrigerant lines - Energised electrical installations or services.	- Stage 1 Demolition Work - Stage 2 Demolition Work - Isolation of Switch Yard High Voltage System - Rectiformer removal project
Work that involves tilt-up or precast concrete.	- Not Applicable
Work that is carried out, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians.	- Stage 1 Demolition Work - Stage 2 Demolition Work - Containment Cell Construction and Site Remediation
Work that is carried out in an area at a workplace in which there is any movement of powered mobile plant.	- Stage 1 Demolition Work - Stage 2 Demolition Work - Containment Cell Construction and Site Remediation - Transportation of materials in and around the site
Work that is carried out in an area in which there are artificial extremes of temperature.	- Not Applicable

High Risk Construction Work	Project Specific Examples
Work that is carried out in or near water or other liquid that involves a risk of drowning.	- Containment Cell Construction and Site Remediation
Work that involves diving work.	- Not Applicable

Prior to starting work on the project, contractors must provide the Principal Contractor with completed SWMS's / JSERA's. The Principal Contractor will collect, and file completed SWMS's / JSERA's in the project folder, which forms part of and supports this WHS Management Plan.

Copies of these statements will be retained by the Principal Contractor for the duration of the project and archived as required under the WHS Regulation.

The Principal Contractor will review the SWMS's / JSERA's where:

- there is a need to change the method of carrying out of the high-risk construction work
- a risk has been identified that is not included and managed within a SWMS or JSERA.

5.2 Access Permits

Certain requirements are in place for access to high-risk areas of the Site and high-risk tasks.

The requirement for these will be nominated in risk management documents and nominated on Work Permits as required before the Work Permit can be issued.

All the requirements specified in these Permits shall be met before they can be issued.

Some of the nominated access and task permits are:

- Confined Space
- High Voltage
- Excavation
- Hot Work

The specific control requirements to enable the issue of these Permits depend on the circumstances, the hazards present and the level of risk involved.

Some of the main provisions of these requirements are listed below. The full requirements will be issued if required.

Confined Space

Work in a confined space will be identified during the Risk Assessment process.

- Any confined space work shall comply fully with:
    - AS 2865 - Work in a Confined Space
    - Confined spaces Code of Practice and
    - Principal Contractor Confined Spaces Procedure
- The principal requirements of entry into a confined space are:
    - Personnel trained and accredited for confined space entry.
    - A Risk Assessment specifically targeted for the confined space work.
    - Specialised equipment as required to control hazards identified in the Confined Space Risk Assessment. These will generally include as minimum: ventilation and/or breathing apparatus and access and egress equipment.

Hot Work

- No hot work (cutting, welding, grinding or other heat, spark of flame generating process) shall be permitted on the Hydro site without a Hot Work Permit and the satisfactory use of control measures as may be required for the issue of that Permit.
- Welding screens shall be used for all arc welding tasks to protect other persons or traffic from welding flashes.

High Voltage

- No access to high voltage switchyards or control areas is allowed at any time unless specifically authorised and escorted at all times.
- No high voltage work is to be carried out unless personnel are appropriately trained and authorised.

Excavation

- No excavation shall be carried out on the site without an Excavation Permit and the control requirements of that permit fully complied with.
- The Hydro Site Supervisor will advise if an Excavation Permit is required.
- Excavation includes any form of ground penetration including digging, trenching, driving in pegs and stakes etc.

5.3 Licences for High Risk Work

The Principal Contractor require workers or contractors to be licenced / accredited to undertake high-risk work.

Personnel, including contractors engaged on the Hydro site must hold the relevant licence, competencies or accreditation to conduct the works and provide evidence of these matters to the Principal Contractor prior to starting work and at any time when requested by the Principal Contractor.

Types of High Risk Work Licenses	
(CB)	Bridge and Gantry Cranes
(CD)	Derrick Crane
(CN)	Non Slewing Mobile Crane Greater than Three Tonnes Capacity
(CP)	Portal Boom Crane
(CS)	Self Erecting Tower Crane
(C2)	Slewing Mobile Crane up to 20 Tonnes
(C6)	Slewing Mobile Crane up to 60 Tonnes
(C1)	Slewing Mobile Crane up to 100 Tonne
(CO)	Slewing Mobile Crane over 100 Tonnes Capacity
(CT)	Tower Crane
(CV)	Vehicle Loading Crane
(PB)	Concrete Placing Boom
(DG)	Dogging
(RB)	Basic Rigging
(RI)	Intermediate Rigging
(RA)	Advanced Rigging
(SB)	Basic Scaffolding
(SI)	Intermediate Scaffolding
(SA)	Advanced Scaffolding
(LF)	Forklift Truck
(LO)	Order Picking Forklift Truck

Types of High Risk Work Licenses	
(WP)	Boom Type Elevating Work Platform
(HM)	Materials Platform Hoist
(HP)	Personnel and Material Hoists

5.4 Asbestos

The Principal Contractor requires that:

- all workers understand the procedures for asbestos management, and follow the correct removal processes (Hydro Health and Safety Asbestos Management Plan)
- The Containment Cell Construction and Site Remediation Principal Contractor shall develop their own detailed Asbestos Management Plan for the removal of the capped waste stockpile material and placement in the Containment Cell.
    - A copy of the *Asbestos Removal Procedure* (Enviropacific Services, 2020) prepared for the Containment Cell Construction and Site Remediation Principal Contractor is presented in Appendix 1. The content of the procedure is discussed further in Section 9.9.10
- SafeWork NSW is notified five working days before licensed asbestos removal work is commenced
- all workers are trained and use the appropriate personal protective equipment
- only licensed asbestos removalists are used to remove asbestos where the quantity to be remove exceeds the 10-square metre limit or is friable asbestos
- the correct signage and controls are in place before any removal of asbestos commences
- the asbestos is contained and disposed of correctly as per the relevant Codes of Practice and the WHS Act and Regulation.

5.5 Capped Waste Stockpile

The Capped Waste Stockpile comprises approximately 365,000 tonnes of mixed historical wastes arising from the smelter operations and impacted soils lying below the stockpile. The contents of the CWS have been approximated from historical site documents and includes spent pot lining, steel, waste anodes, asbestos containing materials and other smelter related wastes. Specific PPE requirements, along with gas and airborne asbestos monitoring, for remediation work within the Capped Waste Stockpile are outlined in the *Asbestos Removal Procedure* in Appendix 1.

5.6 Hazardous Materials on Site

The smelter site has hazardous materials that were part of the manufacturing process or a by-product of the smelting operation. Hydro has undertaken a Hazardous Material Assessment (HMA) using a third-party consultant to assess all areas of the plant and identify the material with recommended best practice to remove or contain.

Safety Data Sheets (SDS's) will be available to all personnel on site and will also form part of their SWMS's and JSERA's for carrying out any removal work or any works to be undertaken in the vicinity of such material.

All spent pot lining is dealt with and stored as per the regulating Chemical Control Order.

5.7 Confined Space Work

There are locations on the smelter site that will be deemed a confined space.

This is defined in the Work Health and Safety Regulation with confined space meaning an enclosed or partially enclosed space that—

a) is not designed or intended primarily to be occupied by a person; and

b) is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; and

c) is or is likely to be a risk to health and safety from—

(i) an atmosphere that does not have a safe oxygen level
(ii) contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion
(iii) harmful concentrations of any airborne contaminant
(iv) engulfment

The Principal Contractor requires that a risk assessment is performed and that confined space control measures are in place prior to any confined space permit being issued. This includes but is not limited to air quality monitoring, access, first aid and rescue requirements, proper sign posting, personnel entry recording and monitoring.

The confined space procedure shall be reviewed and accepted prior to any such work being undertaken.

The Principal Contractors representative shall be notified at the time any confined space is about to be entered as well as the completion of the work.

The standby person will at NO time enter the confined space whilst performing his assigned duties.

All requirements of the WHS Act 2011 and WHS Regulation 2017 and the Code of Practice for Confined Space shall be complied with.

6 Emergency and Incident Response

The following is specifically related to health and safety emergencies and incidents. It is to be implemented with reference to the Pollution Incident and Emergency Response Management Plan (as applicable).

6.1 Emergency preparedness

The Principal Contractor will:

- train and test all workers and subcontractors regarding the Principal Contractor's emergency plan (including emergency muster points) as part of their induction (this is included in the Principal Contractor's induction presentation)
- display emergency procedures in the site office or other visible location
- check and mark fire extinguishers as serviceable at the beginning of each project and maintain six-monthly inspections thereafter.

  Note: - since closure, abandoned buildings have had their extinguishers removed. Workers or contractors will be required to supply serviced extinguishers appropriate for the task to be undertaken
- train and test personnel on site in relation to the correct use of firefighting equipment
- ensure that first aid trained personnel are identified and that first aid facilities are available (section 6.4 below)
- ensure that hazardous materials are removed where possible or identified and controls in place prior to works taking place.

6.1.1 Emergency Procedure

In the event of a fire or similar emergency evacuation, the Principal Contractor's Emergency Plan requires that on-site personnel:

- stop work immediately and the workplace be vacated if in imminent danger
- assist anyone in the workplace who may not be familiar with the evacuation procedures
- call emergency services on **000 or on 112 from a mobile** phone. Other emergency numbers are on display in the site office (if applicable)
- notify the Principal Contractor as soon as reasonably practical
- assemble in the nominated assembly points until you receive further instructions from the principal contractor or emergency services personnel
- notify site security on **UHF 17** as soon as practicable and give details of the event and location that an emergency has taken place.

6.1.2 Emergency Muster Point

The main site emergency muster point is on the grassed area south of the main administration office (Building 21A) (refer to Figure 6-1). Dependent on the project activity location and due to the vast size of the site, additional muster points may be allocated or established on differing locations. A site plan illustrating the work area, traffic routes and the emergency muster point will be administered as part of the induction to that specific area.

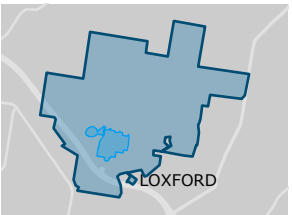
Sign posting shall also be displayed.

Aerial photography by Nearmap, flown 15.06.2020

Legend

- Project site
- Main emergency muster point

A4
1:8,000



RAMBOLL AUSTRALIA - GIS MAP file : 318000533_GIS_P001_RemediationEMP | F024_MusterPoint_V01 | 16/11/2020

Figure 6-1 | Main Emergency Muster Point

6.1.3 Emergency Contact List For The Site

The Principal Contractor will maintain emergency contact details for all workers on site.

If an incident occurs at the workplace the procedure is:

- immediately notify the Principal Contractor
- do not interfere with the scene of the incident
- depending on the nature and severity of the injury, the Principal Contractor will notify SafeWork NSW (see 6.3 below)

The Principal Contactor will record details of the incident and will ensure any remedial action is taken.

EMERGENCY CONTACT NUMBERS	
AMBULANCE POLICE FIRE SERVICE	
000 or 112 (mobile)	
(BOTH NUMBERS ARE ACCESSIBLE WHILE MOBILE KEY PADS ARE LOCKED)	
EMERGENCY CENTRE	
Name:	**Hydro Security - Main Gate**
Address:	**Hart Rd Loxford NSW**
Phone:	**49 371 555**
Operating hours:	**24 hrs**
LOCAL INFORMATION	
Police Station:	**131 444**
Poisons Information Centre:	**131126**
Telstra:	**132 999**
Electrical Emergency:	**131 388**
Dial before you dig:	**1100**
Gas Emergency:	**131 909**
Water Emergency: Hunter Water	**1300 657 000**
SafeWork NSW:	**131 050**
EPA	**02 4908 6821**

6.2 Incident Reporting

- All incidents and accidents incurred while working on the Hydro site, shall be reported to Hydro Management immediately.
- The reporting of incidents and injuries is necessary to investigate and correct deficiencies in control mechanisms. To encourage reporting in the absence of blame or penalty, incident and accident occurrence information (i.e.: the number of injuries sustained) is not used as a performance criteria measure.
- All dangerous occurrences as nominated under the NSW WHS Act 2011 shall be reported immediately to Hydro Management.
- Any incident that has the possibility of being a SafeWork NSW Reportable Incident must be reported to the WHS Manager immediately.

6.3 Notifiable Incidents

The Principal Contractor Management will report the following incidents to SafeWork NSW:

- a death of a person, or
- a serious injury or illness of a person, or
- a dangerous incident.

Section 36 of the WHS Act 2011 describes a serious injury or illness as:

Serious injury or illness of a person means an injury or illness requiring the person to have:

(a) immediate treatment as an in-patient in a hospital, or

(b) immediate treatment for:

(i) the amputation of any part of his or her body, or

(ii) a serious head injury, or

(iii) a serious eye injury, or

(iv) a serious burn, or

(v) the separation of his or her skin from an underlying tissue (such as degloving or scalping), or

(vi) a spinal injury, or

(vii) the loss of a bodily function, or

(viii) serious lacerations, or

(c) medical treatment within 48 hours of exposure to a substance, and includes any other injury or illness prescribed by the regulations but does not include an illness or injury of a prescribed kind.

Section 37 of the WHS Act 2011 describes a dangerous incident as:

A dangerous incident means an incident in relation to a workplace that exposes a worker or any other person to a serious risk to a person's health or safety emanating from an immediate or imminent exposure to:

(a) an uncontrolled escape, spillage, or leakage of a substance, or

(b) an uncontrolled implosion, explosion, or fire, or

(c) an uncontrolled escape of gas or steam, or

(d) an uncontrolled escape of a pressurized substance, or

(e) electric shock, or

(f) the fall or release from a height of any plant, substance, or thing, or

(g) the collapse, overturning, failure, or malfunction of, or damage to, any plant that is required to be authorised for use in accordance with the regulations, or

(h) the collapse or partial collapse of a structure, or

(i) the collapse or failure of an excavation or of any shoring supporting an excavation, or

(j) the inrush of water, mud or gas in workings, in an underground excavation or tunnel, or

(k) the interruption of the main system of ventilation in an underground excavation or tunnel, or

(l) any other event prescribed by the regulations, but does not include an incident of a prescribed kind.

In the event of such an occurrence:

- notify the Principal Contractor who must notify SafeWork NSW by the quickest means possible. The number for SafeWork NSW is **13 10 50** – this number is on the emergency contact list
- fax / email an Incident Notification Form to SafeWork NSW as soon as possible following the incident (must be within 48 hours)
- do not disturb the site until given clearance by the Principal Contractor who will take advice from SafeWork NSW
- the Principal Contractor will confirm the reporting requirements required by SafeWork NSW and the Police
- the Principal Contractor shall only give permission to disturb the site when notified by SafeWork NSW that a formal investigation is not required
- if a formal investigation is required, the Principal Contractor will secure the site
- the Principal Contractor will ensure that corrective actions are completed adequately

6.4 First aid

- HAKK will supply first aid equipment and first aid personnel for their work area, which will be available in the main administration office and in site vehicles.
- CMA Contracting Pty Limited shall supply first aid equipment and first aid personnel for their work area.
- Daracon shall supply first aid equipment and first aid personnel for their work area.
- If anyone becomes aware that an item of first aid is out of stock or out of date, they are to notify the associated Principal Contractor immediately.
- First aid should be administered by trained first aid personnel.

Contractors shall ensure that their workforce consists of qualified First Aid personnel and supply adequate First Aid equipment.

In the event of a person being injured, trained first aid personnel should:

- stabilise the person and administer first aid
- phone an ambulance (depending on the extent of the injuries)
- notify the Principal Contractor and / or HAKK immediately if emergency services are called. In all other circumstances notify the Principal Contractor as soon as practicable.

7 Induction and training

7.1 Worker Induction

All personnel entering the main security gate to perform works within the HAKK site will be required to undergo a Site Induction.

This induction includes the following:

- the expectations outlined in this WHS Management Plan, including all policies and procedures
- the emergency muster point
- the site rules
- the facilities
- any site-specific hazards
- high risk construction work activities
- Personal protective equipment required to enter the site

CMA Contracting Pty Limited personnel will undertake the Demolition Site Induction run by a CMA Contracting Representative.

CMA Contracting will conduct a Project Specific Induction to ensure all personnel conducting works within the Demolition Project are familiar with the WHS&E Requirements for both Hydro and CMA Contracting. Hydro Representatives will attend and review the Principal Contractor induction throughout the contracted works.

Daracon shall develop and run a Site-Specific Induction for all personnel entering their controlled work area to ensure all personnel conducting works within their Project are familiar with the WHS&E Requirements for both Hydro and Daracon. Hydro Representatives will attend and review the Principal Contractor induction throughout the contracted works.

7.2 Worker Training

The Principal Contractor will not permit workers to carry out work unless they:

- are trained and competent for the work to be undertaken
- are trained to deal with any risks associated with the work and understand the control measures in place
- have had relevant construction induction (white card) training
- on-site training and supervision is provided
- undertake external training for specific tasks where required
- have high risk licences for all high risk work available and a register is maintained

Contractors must consult with the Principal Contractor to ensure their workers are appropriately trained and competent prior to commencing work

Section 5.6 and Section 5.7 of the *Asbestos Removal Procedure* in Appendix 1 describes the licensing and training requirements for asbestos removal work. It also describes the Asbestos Awareness Training to be provided to all non-removal workers within the removal zones.

8 Consultation and Communication

8.1 Consultation

The Principal Contractor will consult with all workers and contractors on WHS issues for this project:

- at toolbox meetings where anyone can raise issues for discussion
- informally during the planning of activities or the development of SWMS by contractors
- when changes to workplace arrangements could affect the health and safety of workers
- during investigations into any incident to establish details of the incident or to formulate corrective action to prevent the incident from re-occurring
- formal progress and construction meetings
- Regrowth Project Safety Committee Meetings

The Principal Contractor will also consult with contractors and suppliers on WHS issues associated with any products or services provided for the contract:

- during the negotiation phase before agreeing on the work requirements
- before starting any contractor operations
- when any changes to workplace arrangements occur that could affect the health and safety of the contractors or affect their work procedures
- during review of SWMS's and JSERA's

8.2 Communication

The Principal Contractor will provide workers and contractors with this WHS Management Plan before starting work on the project. Contractors are expected to make their workers aware of all WHS requirements.

Records of all communication shall be kept.

The Principal Contractor will communicate relevant WHS information to everyone involved in this project by:

- inductions
- pre-start meetings
- toolbox meetings
- incident reports and outcomes
- distributing safety alerts or guidance material about industry specific hazards/incidents
- review of SWMS's and JSERA's, highlighting known plant hazards and ensuring proposed controls are adequate
- Site Safety Notifications

8.2.1 Pre-start Meetings

The purpose of pre-start meetings is to ensure all information on hazards and the controls to be implemented are in place and understood by personnel undertaking the works.

They also provide the opportunity for workers to ask questions, bring up areas of concern or uncertainty, and provide last minute input into specific work or site hazards that may be lacking from the risk assessment process or were not evident at the time.

Pre-start meetings are to be conducted daily and are the responsibility of each contractor. Failure to satisfactorily undertake them when required is considered a breach of the contract requirement and could result in suspension of work or removal from the site.

The requirements for pre-start meetings are, unless otherwise indicated, as follows:

- contractors, unless otherwise nominated and agreed to, are responsible for conducting pre-start meetings and to ensure:
    - Pre-start meetings are held at the beginning of each shift,
    - all workers are in attendance,
    - a record of attendance is taken,
- information contained in relevant Risk Assessments and Work Permits, are discussed and understood by the Subcontractor workers under their control.
- Evidence of the pre-start meeting (in the form of meeting minutes) may be requested by Hydro.

8.2.2 Toolbox Meetings

Weekly toolbox meetings shall be undertaken by each contractor on-site. These meetings will be facilitated by the contractor Supervisor and may include the following items:

- issues of concern raised by workers
- work methods
- accidents or near misses
- incident investigation findings
- other activities in close proximity that may introduce hazards or other factors to the area e.g.: vehicle movements, noise or fumes generated
- changes to work environment
- items raised by Hydro for communication to all site personnel
- general WHS&E items for discussion
- Evidence of the toolbox meeting (in the form of meeting minutes) may be requested by Hydro

8.3 Disciplinary Procedures

Disciplinary action will be taken against persons that deliberately infringe the requirements of this plan, the site safety rules or are in breach of other legislative requirements.

Actions may include a verbal warning, written notification or complete removal/suspension from the project.

For a serious breach of safety, a person or persons may be immediately dismissed and removed from site.

9 Site Safety Procedures

9.1 Site rules

Site personnel and contractors shall carry out works on site as per the site rules and **applicable Site Induction.** All persons entering the Kurri Kurri site shall take all reasonable precautions to ensure the Health and Safety of persons including:

- The Principal Contractor workers and visitors
- Other Contractors
- The Contractor's workers
- Sub-Contractors
- Third parties

Site personnel and contractors shall take all reasonable precautions to ensure environmental contamination does not occur.

9.2 Site amenities

- Toilets and drinking water will be provided on site at nominated locations
- All workers are to have good hygiene standards and clean up after themselves
- Demountable amenities may be required if working in remote locations on site
- Stage 1 & 2 Demolition Offices and cribbing facilities (CMA Contracting) will be located in Building 50A. CMA Contracting will be responsible for the provision of services for their facilities during the Stage 1 and 2 Demolition works.
- The Remediation works site office and facilities are located on Roller Park, East of the Hydro Site Office. Satellite facilities will be provided during the term of the project.

9.3 Mobile Phone use on site

The use of personal mobile phones in a work area (non Company supplied) is restricted unless agreed arrangements have been made between management and the worker or the Principal Contractor and the Contractor.

Use of mobile phones is prohibited whilst travelling in a motor vehicle unless the vehicle is fitted with a hands-free device.

Personnel who are carrying mobile phones and are on foot shall cease walking, ensure they are in a safe position before answering, making a call, checking emails or texting.

9.4 Site security

The Principal Contractor, as well as appointed contractors will, so far as reasonably practicable, secure the site by:

- keeping the work area secure during the project
- erecting a fence to prevent unauthorised access where required to do so under the WHS Regulation
- locking gates to the site outside normal hours of operation

Workers and contractors are required to keep the site secure, for example by closing or locking gates and regular inspection and maintenance of security fencing.

9.5 Environment

- All workers shall ensure operations are conducted in a manner that shall prevent pollution and comply with the applicable laws, regulations and Hydro requirements regarding environmental protection
- No rubbish, waste, oil or other pollutants shall be discharged or allowed to escape from the worker's equipment
- Contractors are responsible for the removal and lawful disposal of materials used or generated by them, relating to the work and as specified in the contract scope of work
- Pollution or contamination caused by the contractor shall be cleaned up by the contractor at the contractor's expense

9.6 Site signage

The Principal Contractor will display signs on the entrance of each site including:

- the principal contractor's name, contact details and after-hours telephone number
- Supervisor's name and contact number
- the location of the site office

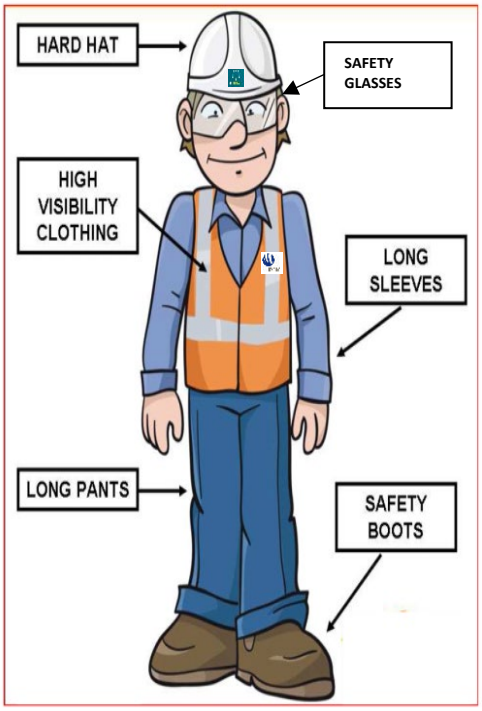
The Principal Contractor as well as its contractors will also display:

- PPE requirements for entering the site as well as speed limits and any other mandatory requirement as set out by Hydro
- Any signs required by the Cessnock City Council and the Department of Planning, Industry and Environment under their conditions of consent

All signage will be clearly visible from outside the work area where the activities are being undertaken.

9.7 Personal Protective Equipment

The Principal Contractor and its contractors will manage the risks associated with construction, demolition and remediation work by requiring personnel to utilise the personal protective equipment (**PPE**) provided to workers on site.



Contractors must ensure that the PPE is:

- suitable for the nature of the work and any hazard associated with the work
- a suitable size and fit ensuring it is reasonably comfortable for the worker who is to use or wear it
- maintained, repaired or replaced so that it continues to minimise risk to the worker by
    - ensuring it is clean and hygienic
    - ensuring it is in good working order
    - ensuring it is used or worn by the worker, so far as is reasonably practicable

Contractors must also:

- provide workers with information, training and instruction in the proper use, wearing, storage and maintenance of PPE
- ensure that any other person at the workplace (such as site visitors) is appropriately provided with PPE to wear when entering the site

Workers must:

- follow all instructions to wear and use PPE as per the manufacturer's specification
- take reasonable care of PPE
- assess the task and ensure that the correct PPE is being applied

The *Asbestos Removal Procedure* (Enviropacific Services, 2020) in Appendix 1 describes the specific PPE that the Containment Cell Construction and Site Remediation Principal Contractor personnel are required to wear when working within the Capped Waste Stockpile.

9.8 Managing Construction Hazards Specified in the Regulations

9.8.1 Falls from Heights

The Principal Contractor will manage the risks associated with falls from heights. This will include the Principal Contractor requiring a contractor to:

- ensure that where practicable, any work involving the risk of a fall is undertaken on the ground or on a solid construction (such as an elevated work platform)
- where this is not practicable, provide a fall prevention device such as secure fencing, edge protection, working platforms and/or covers
- where this is not practicable, provide a work positioning system such as plant or a structure (other than a temporary work platform) that enables a person to be positioned and safely supported
- where this is not practicable, provide a fall arrest system such as a safety harness system. Workers will be trained in emergency procedures for fall arrest systems
- apply a fall restraint where a harness and lanyard restrict personnel from a fall zone
- consider the fall zone and possible "pendulum effect"
- Ensure any voids created during the demolition process are either backfilled immediately or solid barricading is installed to ensure the fall risk is eliminated

When undertaking work involving the risk of a fall from height, workers must:

- follow all instructions
- work with a buddy when using a ladder
- only use approved work platforms
- assess climate – (wind, rain, dust, sufficient light etc.)
- assess the surface that requires access, (corrosion, stability, gradient, slip possibility / grip etc.)
- assess that the equipment being used is suitable for the task and fit for use. Inspection tags on harnesses and any fall prevention equipment to be current
- check that a suitable anchor point is available and can withstand the force of a fall
- static lines are to be rated, inspected and in good condition.
- have a rescue plan attached to their SWMS's / JSERA's

9.8.2 Falling Objects

Where practical, the Principal Contractor will manage the risks associated with falling objects. This will include requiring contractors to use control measures such as barriers, toe-boards and by storing and stacking materials safely.

Where this is not possible, a risk assessment must be undertaken and appropriate control measures implemented to manage the risk of injuries from falling objects.

Some areas of the plant such as the pot rooms and the pot room basement area will require barricading or demarcating of work zones due to falling object hazards being a definite risk for "Personnel Working Below".

Other areas of the plant contain dilapidated structures where there is a risk of falling debris. In the first instance, pedestrians on foot should avoid these areas. These risks will need to be controlled within the JSERA's / SWMS's for the works.

Additional risks of falling objects will be present during the internal strip out works during Stage 1 & 2 Demolition. Control measures will be identified, communicated, and implemented as the works progress.

9.8.3 Demolition Work

HAKK have engaged CMA Contracting to undertake the Stage 1 & 2 Demolition work on this project. CMA Contracting has been engaged to fulfil the obligations of Principal Contractor for the Works. The Principal Contractor is required to submit a demolition work notification form to SafeWork NSW prior to execution. Notification must be issued by the contractor to SafeWork NSW at least 5 working days before work commences. Refer to the Hydro Demolition Management Plan for more information.

9.8.4 Excavation Work & Trenching

Anyone undertaking excavation work will not be permitted by the Principal Contractor to start work unless they have:

- obtained an excavation permit
- investigated any underground services that may be affected by their works, before starting work
- implemented control measures to avoid direct or inadvertent contact with underground services
- pot-hole dug (by hand) to expose existing services before any mechanical excavation near the services
- consider ground stability

Any issues must be reported to the Principal Contractor.

A contractor's SWMS and JSERA are to accompany this WHS plan for trenches of at least 1.5 metres deep. Contractors must ensure their workers are familiar with and implement the control measures in the SWMS/ JSERA.

9.8.5 Work Near Overhead or Underground Essential Services

The Principal Contractor will manage the risks associated with working in the vicinity of an overhead or underground power line. If maintaining a safe distance is not reasonably practical, the Principal Contractor and/or a contractor will be required to:

- assess the risk associated with the proposed work
- implement control measures consistent with the risk assessment
- contact and consult with the local essential services provider

For excavation work near underground essential services:

The Principal Contractor will:

- take all reasonable steps to obtain current underground essential services information before directing or allowing the excavation work to start

- provide this information to any person engaged to carry out the excavation work
- consider this information when carrying out, directing, or allowing the carrying out of the excavation work
- ensure this information is available for inspection

Contractors must comply with the following rules:

For work near overhead power lines up to and including 132kV:

- work is not permitted within 3 metres of overhead power lines
- the Principal Contractor (or contractor in charge of the work) must have written authority from the electrical supply authority to work within the “no go” (exclusion) zone
- a safety watcher shall be used if using plant or equipment in the vicinity of overhead power lines

For work near overhead power lines of greater than 133kV:

- work is not permitted within 8 metres of overhead power lines
- the principal contractor (or contractor in charge of the work) must have written authority from the electrical supply authority to work within the “no go” (exclusion) zone
- safety watcher shall be used if using plant or equipment in the vicinity of HV overhead power lines

9.8.6 Isolation

Several requirements are to be observed with isolations:

- No worker can perform any isolation unless specifically authorised and instructed by Hydro
- Only Hydro authorised worker is allowed to authorise and perform isolations. Where workers are not authorised to perform isolations, Hydro will isolate and supervise the attachment of personal protection locks and tags by the contractor as required under Hydro isolation procedures
- All personnel working on energised equipment shall be required to have a personal protection lock and tag on the specified isolator and follow the Hydro Isolation procedure (LOTO) requirements
- The issue and sign off, of the work permit is the contractor’s notification that the isolation has been effected

9.8.7 Electrical

- All electrical power tools, leads and portable electrical equipment shall be tagged and inspected in accordance with the NSW Code of Practice for Managing Electrical Risks at the Workplace.
- Power supplied to the site must only come from:
    - an electricity distributers main
    - an existing switchboard permanently installed at the premises
    - a compliant low voltage generator
    - a compliant inverter. (to be approved by The Principal Contractor management)
- Switchboards and distribution boards used on site must:

- be of robust construction and materials capable of withstanding damage from the weather and other environmental and site influences (IP23 minimum rating)
- be securely attached to a post, pole, wall or other structure unless it is of a stable freestanding design able to withstand external forces likely to be present
- incorporate suitable support and protection for flexible cords and cables and prevent mechanical strain to the cable connections inside the board
- protect all live parts at all times
- be individually distinguished by numbers, letters or a combination of both (where multiple boards are present)

- Flexible cords used on construction sites must be rated heavy duty.
- To avoid confusion with individual earthing conductors, green sheathed flexible power cords must not be used on site.
- Flexible cords must be either protected by a suitable enclosure or barrier (flexible or rigid conduit) or located where they are not subjected to mechanical damage, damage by liquids or high temperature (e.g. Leads must be elevated on stands or hung from nonconductive support brackets).
- The Principal Contractor will monitor contractors to verify their leads do not exceed the maximum length as stated in Table 1 of AS3012 below:

Rated current	Conductor size	Maximum length in metres
10amp	1.5mm 2.5mm 4.0mm	35 60 100
15/16 amp	1.5m 2.5m 4.0mm	25 40 65
20 amp	2.5mm 4.0m 6.0mm	30 50 75

- The Principal Contractor and its contractors will maintain an in-service inspection and test regime for all portable electrical leads, tools and earth leakage devices (or RCD's).
- The Principal Contractor will verify that after the equipment has been inspected and tested, it will be fitted with a durable, non-reusable, non-metallic tag. The tag will include the name of the person or company who performed the test and the test and re-test date.
- Records of all inspections, tests, repairs and faults related to all electrical equipment will be recorded in a "testing and tagging" register.
- RCDs and portable equipment must be inspected, tested and tagged every 3 months. Electrical equipment used in hostile environments should be inspected more frequently
- Workers must conduct an RCD push button test after connection to a socket and before connection to equipment at least once a day.
- Workers must report any damaged electrical equipment to the principal contractor. It will be removed from service and either repaired or replaced and subsequently inspected and tested as required.
- New electrical equipment must be recorded in the register and subjected to the in-service testing regime within the first 3 months of service.

9.8.8 Plant and Equipment

The Principal Contractor and its engaged contractors will manage the risks associated with working on the project including in relation to all plant and equipment used on site. Such plant and equipment must comply with the requirements of the WHS Regulations and codes of practices.

The Principal Contractor requires that:

- plant and equipment is used only for the purpose for which it was designed
- all health and safety features and warning devices on plant are used
- all information, training and instruction provided must be followed
- guarding must be permanently fixed and is not permitted to be removed
- no person other than the operator may ride on the plant unless the person is provided with a level of protection that is equivalent to that provided to the operator
- maintenance/ servicing and testing is carried out and logged
- check equipment is “fit for use” each shift
- all plant is regularly maintained, inspected and tested by a relevant competent person
- all plant that lifts or suspends loads is specifically designed to lift or suspend that load.
- all safe guards are in place and operational. (e.g. fire extinguishers, E stops, flashing lights etc)
- the plant operator is ticketed or holds competencies in the use of the equipment
- Site vehicles and trucks are well maintained, road worthy and that personnel are licensed to operate.
- persons operating unregulated Plant and equipment shall be instructed in their safe use
- hire equipment shall be supplied with safe use instructions.
- mobile plant must have a specific Plant Hazard Risk Assessment for the work to be done

9.8.9 Welders and Generators

- All welders and generators shall be inspected and used in accordance with the SafeWork Code of Practice for Managing Electrical Risks at the Workplace.
- All welding 240V power outlets are to be protected by Voltage Reducing Devices (VRD’s) which are inspected according to the above Code of Practice.
- All welding works are to be carried out in accordance with the SafeWork Code of Practice for Welding Processes.

9.8.10 LPG, Oxygen, Acetylene and other Compressed Gas

- All portable gas should be stored and used in accordance with the NSW Dangerous Goods Regulations.
- All oxygen and acetylene / propane sets are to be secured and have flashback arrestors fitted to both ends of the hoses

9.8.11 Scaffolds

The Principal Contractor and its engaged contractors will manage the risks associated with working on the project including scaffolding. The Principal Contractor requires that:

- Only holders of a SafeWork Certificate of Competency as a Scaffolder are to erect or alter scaffolding.
- Scaffolding shall be erected in accordance with the NSW WHS Regulations, Clause 225 and AS 1576, Metal Scaffolding, AS 1577. Solid Timber Scaffold Planks and AS 1578, Laminated Timber Scaffold Planks. (SafeWork Australia – Scaffolds and Scaffolding Work Guidance Material provides additional information on the safe erection, use and dismantling of scaffolds).
- New design scaffolding shall be assessed prior to use
- the scaffold is erected by a competent person (having regard for high risk competency ticket for structure above 4 metres)
- before the use of a scaffold, the competent person has advised (in writing) that the structure is safe. A “scaff tag” will be required to be filled out and attached to the structure.
- scaffolding is inspected by a competent person:
    - before use of the scaffold is resumed after an incident occurs that may reasonably be expected to affect the stability of the scaffold
    - before use of the scaffold is resumed after repairs
    - at least every 30 days
    - and inspection records maintained.
- if an inspection indicates that any scaffold or its supporting structure creates a risk to health or safety:
    - any necessary repairs, alterations and additions will be made or carried out
    - the scaffold and its supporting structure will be inspected again by a competent person before use of the scaffold is resumed.
- there is no unauthorised access to the scaffolding including by removing ladders where there is no site fencing and barricade and danger flag the access point to the scaffold.

Workers must:

- not use incomplete scaffolding
- report any scaffolding issues to the principal contractor
- comply with the directions of any tags attached to the scaffold
- report any damage or incorrect fixed components on the structure

9.9 Managing Other Construction Hazards

9.9.1 Ladder safety

The Principal Contractor and its engaged contractors will manage hazards associated with ladders. The Principal Contractor requires that:

- All ladders are to conform to Section 7 of the SafeWork Code of Practice – Managing the risk of falls at workplaces and AS 1892 Part 4, Selection, Safe Use and Care of Portable Ladders.
- Ladders shall be in good condition. Ladders found not in good condition shall be tagged out of service and removed from the site.
- Ladders are used according to the manufacturer’s instructions.

- Only one person at a time using a ladder.
- Work is performed from a platform ladder opposed to a step ladder.
- Ladders on scaffolds or elevated work platforms are not used to gain extra height.
- Ladders are fit for purpose e.g. Fibreglass ladders shall be used where there is a risk of live rails adjacent or overhead wires, where isolation is not possible.
- Risk assessment of the task with the view of maintaining three points of contact.
- An alternative access appliance is used where repetitive work is required at height.

9.9.2 Manual handling

The Principal Contractor and its engaged contractors will manage hazards associated with manual handling. The Principal Contractor requires that:

- all users follow good manual handling practices
- risk assessment of loads or tasks occurs
- mechanical lifting aids are used where applicable
- appropriate PPE is provided to workers

9.9.3 Chemicals and Substances

- No hazardous substance shall be brought onto the site unless accepted by Hydro.
- The use and storage of chemicals and substances shall comply with the SafeWork Code of Practice - Managing Risks of Hazardous Chemicals in the Workplace.
- On award of contract, Safety Data Sheets shall be submitted for all hazardous substances to the Hydro Site Supervisor not later than 5 working days prior to them being required, to allow for the Hydro acceptance process.
- Chemical labelling and safety data sheets shall be compliant with Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third edition
- All hazardous substances approved to be brought on to the site shall be transported, stored and handled in accordance with the requirements of the NSW Hazardous Substances Regulations and AS 1940 and AS 1596.

9.9.4 Slips, trips and falls

The Principal Contractor and its engaged contractors will manage hazards associated with slips, trips and falls. The Principal Contractor requires that:

- slips, trips and falls checklist are used as required
- visual checks are conducted for hazards that could cause someone to slip, trip or fall
- workers keep the site tidy as part of the written site rules
- regular audits on work areas are conducted
- pre-start meetings cover the importance of housekeeping and engagement of personnel to be proactive in the rectification of any hazards identified in work areas
- Protecting openings or voids created or discovered during works, eliminating the chance of fall injury

9.9.5 Hand Operated and Power Tool Use

The Principal Contractor and its engaged contractors will manage hazards of hand operated and power tools. The Principal Contractor requires that:

- tools are regularly checked to ensure they are in a safe working order
- all electrical tools are recorded in a test and tag register
- electrical tools are tested and tagged every 3 months (as per AS 3760-2010)
- any issues identified with power tools are communicated to workers through a toolbox meeting

Before using power tools, workers must ensure:

- electrical connections are secure
- electricity supply is through an RCD
- safety guards are in position
- the machine is switched off before activating the electricity supply
- appropriate PPE is used as required by manufacturer's guidelines or as guided by the principal contractor
- The tool is being used for the purpose for which it is designed
- The operator is competent in its use
- The tool is not restricted on site (e.g. 9" grinders or explosive power tools)

Workers must report any issues with power tools to the Principal Contractor. Unsafe tools will be tagged out of service and removed from the work area

9.9.6 Sun Safety

All persons on site should:

- try and work in shaded areas or erect sun shades
- wear adequate clothing (e.g. hat broad brims) and other protection methods (e.g. sunscreen) to protect themselves from the effects of working while exposed to UV rays
- manage working in the sun to avoid dehydration and heat stress related illnesses
- promote awareness of UV ratings and the harmful effects of too much sun
- encourage self-screening and the seeking of advice if any skin abnormalities are discovered

9.9.7 Site Traffic Movements and Mobile Plant

The Principal Contractor or their engaged contractors will manage risks associated with traffic management in relation to the project. The Principal Contractor requires that;

- all vehicles on site are to be road worthy
- drivers and operators to be licenced for the vehicle or machine being operated
- speed limits sign posted across the site and adhered to
- alternate traffic routes to perform project activities will be set out on a Traffic Management Plan, informing all relevant personnel on site inclusive of security.
- sign posting of traffic directions, stop and give way etc.
- delineation, safety kerbs, berms and barriers as required
- maintain crossing and walkways for foot traffic

9.9.8 Housekeeping

- All materials are to be safely stored in areas designated for this purpose.
- Work areas shall remain ordered and free of unnecessary or surplus materials.
- Rubbish shall be cleared and removed on a regular basis.
- Upon completion of the project the Subcontractor shall remove all facilities, equipment, temporary works and scrap materials unless otherwise specified in the contract scope of work.

9.9.9 Kangaroos, Snakes, Spiders and Other Wildlife

As the majority of the site has been closed for the past number of years, wildlife, such as kangaroos, rabbits, foxes and birds have made this site their home. All personnel are to stick to designated pedestrian access ways when walking through the site.

Kangaroos

Kangaroos are often portrayed in the media as friendly and cuddly Australian cultural icons. However, they can hurt people.

The risk of being attacked by a kangaroo is very low. Several thousand people seek medical attention each year for injuries from domestic pets, while fewer than five people in NSW are treated for kangaroo-related injuries. The greatest risk is in areas where people have altered kangaroos' natural habitat and feeding patterns.

Kangaroo attacks may occur where:

- their numbers, movements and group structure have changed because kangaroos' natural predators are no longer present, or new habitat has been provided with the creation of dams, shelter and pastures
- kangaroos have lost their instinctive fear of humans because people have fed or handled them
- a kangaroo sees a person as a sparring partner or threat to themselves, their offspring or their dominance of the group
- a kangaroo is cornered or startled
- female kangaroos are weaning their young
- a habituated kangaroo (a kangaroo who is used to people) has aggressive traits.

A kangaroo will attack a person as if they were another kangaroo. It may push or grapple with its forepaws or sit back and kick out with its hind legs. As resulting injuries can be serious, avoiding conflict with kangaroos is vital.

Avoiding Kangaroo related risks

- Do not walk directly towards a kangaroo.
- Do not stand up tall, stare or hold your arms out towards a kangaroo.
- Do not go near kangaroos engaged in courtship or mating behaviour – for example, males sniffing, touching or moving round with females.
- Do not go near male kangaroos that are sparring, fighting or showing off their size and strength to each other.
- Do not go near a kangaroo that is growling or clucking.
- Do not move between a female and her joey.

Risks associated with wildlife such as Kangaroos should be discussed at Toolbox Meetings to ensure the workforce are kept informed.

Snakes

Australia has some 140 species of land snake, and around 32 species of sea snakes in Australian waters. Some 100 Australian snakes are venomous, although only 12 are likely to inflict a wound that could kill you.

The most dangerous snakes belong to the front-fanged group, which in NSW include the tiger snake, brown snake, death adder, mulga or king brown snake and a few species of sea snake.

Australia's other snakes are the solid-toothed non-venomous snakes (such as pythons, blind snakes and file snakes) and venomous rear-fanged snakes (such as the brown tree snake and mangrove snakes). All native snakes in NSW are protected under the National Parks and Wildlife Act 1974.

Snakes are not naturally aggressive and always prefer to retreat. They will only attack humans if hurt or provoked - most bites occur when people try to kill or capture snakes. If you come across a snake on the site, just calmly walk the other way and report the location to a Hydro Representative as soon as possible.

Spiders

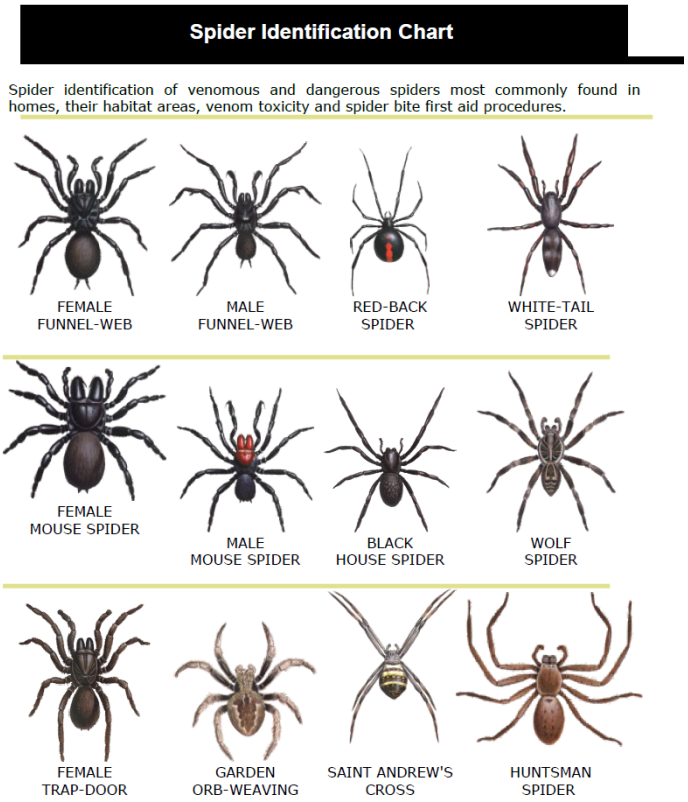
Spiders can be found all over the site in places such as workshops, offices, garden areas and pedestrian walkways.

Inspect your work area prior to commencing works to determine if spiders / spider webs are in your way.

Ensure gloves are worn when handling materials on site to minimise the potential for a spider bite.

If bitten by a spider, report the bite as soon as possible to your immediate Supervisor and seek medical assistance.

Where possible, attempt to take a clear photo of the spider front on, and another of its body from above. Not all spiders live everywhere, so an expert is needed to identify which spider you have encountered.



9.9.10 Airborne Asbestos and Gas

The Capped Waste Stockpile consists or the following materials;

- Clean capping of approximately 30,000T which is deemed to be asbestos free and does not require placement in the containment cell
- Asbestos-impacted capping of approximately 4,500T and impacted stockpile material of approximately 225,000T which requires the addition of 10% gypsum per truck load and transport to the containment cell for placement

Due to the presence of friable asbestos within the stockpile the excavation, transport and placement of impacted capped waste material will be undertaken under friable asbestos removal conditions.

The *Asbestos Removal Procedure* in Appendix 1 describes the requirements for the handling and management of asbestos containing material, in particular the Capped Waste Stockpile.

The procedure describes:

- The licensing and training requirements for personnel working within the Capped Waste Stockpile and asbestos work areas (Section 5.6 and Section 5.7 of the procedure)
- The preparation and planning for activities, including the health monitoring for asbestos removal works personnel (Section 5)
- The procedures for the removal, handling and transportation of asbestos containing and other contaminated material, and the management of groundwater and leachate (Section 6)
- How the asbestos work area exclusion zones would be established and enforced (Section 6.2)
- The gas and airborne asbestos monitoring to be undertaken at the Capped Waste Stockpile, and asbestos air monitoring at other asbestos work areas (Section 5.4)
- The PPE specifically required for work within the asbestos work areas, including the Capped Waste Stockpile (Section 6)
- The decontamination process for personnel entering the asbestos work areas. (Section 7)

9.10 COVID-19

Coronavirus (COVID-19) is a respiratory illness caused by a new virus. Symptoms range from a mild cough to pneumonia. Some people recover easily, others may get very sick very quickly. There is evidence that it spreads rapidly from person to person.

The Australian Government, both at federal and state levels have introduced, and continue to introduce restrictions in efforts to contain the spread of COVID-19.

To assist the project to minimise potential infection during the Pandemic, a Project Specific Pandemic Management Plan has been developed and implemented.

9.11 Fire Safety Management

The Works area includes the following potential fire sources/ risks:

- Small quantities of fuels, oils and chemicals stored on site for use in vehicles and machinery
- Small quantities of chemicals stored on site for use in the temporary water treatment plant

To mitigate these risks the following would be implemented:

- The chemical storage and handling procedures described in Section 9.9
- Fire fighting equipment suitable for the fuels, oils and chemicals would be located at locations throughout the Works area
- Restrictions on activities that present a potential ignition source in the vicinity of the storage areas and locations where refuelling or maintenance activities using these fuels, oils and chemicals are undertaken

It is acknowledged that the aluminium smelter waste is pre-classified as a Dangerous Good under the Dangerous Goods Code as a substance “which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities”. However further investigations have determined that the aluminium smelting waste in the Capped Waste Stockpile does not generate sufficient gas when exposed to water to cause the level of risk as defined in the Dangerous Goods Code.

In any event the following measures will be implemented:

- The material in the Capped Waste Stockpile will not be placed in a contained space where flammable gases would accumulate prior to its placement in the Containment Cell (with its gas ventilation system): once the cap of the Capped Waste Stockpile has been removed any gas that may be present or generated will disperse into the atmosphere
- The gas monitoring described in **Section 9.9.10**

The Works area is adjacent to areas of native vegetation that have been identified as presenting a bushfire risk. The potential risks from a bushfire in this vegetation will be mitigated through the following:

- Maintaining the established fire breaks around the Smelter and within the adjoining bushland
- The vegetation clearance required for the Containment Cell construction perimeter road will also provide a bushfire buffer
- The Rural Fire Service website, weather warnings and local weather conditions would be continually observed to assess the potential for local bushfires
- Restrictions on activities that present a potential ignition source in the Containment Cell area

In the event of a fire event:

- The relevant emergency and incident response procedures in **Section 6** will be implemented.
- The following fire fighting equipment is available:
    - Operational fire hydrants are in close proximity to Building 21A and 55C as well as in the road corridors of Dickson Rd and Hart Rd.
    - Portable fire extinguishers are available and will be located where identified hot works are being undertaken.
    - Building 12A – Switchyard Fire System Pump House and 1 million litre water tank remain operational for fire suppression of 38A switchroom and the cable tunnel between 29A/C control room and 38C switchroom.

10 Audits and Inspections

The goal of undertaking Audits and Inspections on the Regrowth Project is to recognize positive behaviours and work practices, identifying areas in need of improvement and assessing how tasks are being undertaken as well as the environment in which they are being performed.

The interactive presence with site personnel and the information captured helps assist with creating a safe working culture

10.1 Walk, Observe, Communicate (WOC)

A WOC is a structured program of workplace observations to initiate discussions based on specific or general issues.

The purpose of WOC is to:

- Coach, motivate and facilitate positive behaviours and approaches to work.
- Identify and correct issues and hazards in the work area including unsafe acts and conditions.
- Prevent injury, damage and lost production by developing a culture of commitment to resolving their underlying causes in the workplace.
- Reinforce and raise standards – 'The standard we achieve is the standard we walk past'.
- Eliminate injuries, damage and waste.

WOC sessions are NOT policing exercises. Their success is based on open and honest discussion of the issues. The focus must be on identifying causes not attributing blame.

Where continued non-compliance is observed disciplinary action must be implemented in accordance with Site policy, but separate from the WOC process.

Management shall undertake WOC's on their work areas to ensure the abovementioned purposes are conducted.

Completed WOC's shall be forwarded to the WHS Manager for review and record management.

10.2 Weekly Safety Inspection

In order to ensure the safety and welfare of personnel on site, Weekly Safety Inspections shall be undertaken and documented by area Supervisors. The inspections shall be carried out to identify:

- Potential hazards in the work area
- Unexpected risks due to working in proximity with other trades / Contractors
- Deficiencies with plant or equipment
- Areas of improvement in the working environment or process implementation

All actions raised during the inspection shall be documented and tracked until completion.

10.3 Targeted Inspections

In addition to the Weekly Safety Inspections, specific Targeted Inspections shall be undertaken on the Regrowth Project. Targeted Inspections may include the following:

- Office and Amenities
- First Aid and Facilities
- Housekeeping, Access and Egress
- Fall Prevention
- Lifting Equipment
- Cranes
- Scaffolding
- Electrical Equipment
- Mobile Plant
- Worker Conduct
- JSERA's
- Permit to Work
- Hazardous Substances
- Welding / Hot Work
- Excavations
- Confined Space Entry
- Environment
- Electrical Isolations
- Driving Safety
- Earthmoving Activities

All actions raised during the inspection shall be documented and tracked until completion.

10.4 Monthly Contractor Audits

Contractors performing works on the Regrowth Project will participate in Monthly Contractor Audits carried out with a Hydro Representative. The audit process will include a site inspection where samples of plant, personnel and equipment will be detailed. The audit template has been developed based on this WHS Management Plan, and any additional requirements for each individual Contractor.

All actions raised during the audit shall be documented and tracked until completion.

Audit results are communicated each month via the Regrowth Health and Safety Committee.

11 Contractor / Subcontractor Requirements

11.1 Acceptance of Compliance

The Subcontractor warrants that they are aware of and will observe the requirements specified below in respect of health and safety and the implications thereof for the execution of the work under the contract. These requirements constitute:

- The Work Health and Safety Act 2011 and Work Health and Safety Regulations 2017
- SafeWork Codes of Practice
- Australian Standards
- Hydro WHS Management Plan
- Hydro Induction requirements and information contained therein
- Reasonable directions from Hydro authorised personnel for the purpose of WHS&E compliance

11.2 Failure to Comply with Safety Requirements

Hydro has an obligation to stop work that is unsafe or environmentally damaging, and review work methods and hazard controls before work can resume.

Hydro, on failure by the Subcontractor to comply with statutory safety requirements or those requirements specified in this document, shall be entitled to:

- direct the Subcontractor to remedy such failure and ensure the health and safety of their workers and/or
- stop the work until such failure has been remedied to the satisfaction of Hydro and/or
- direct the Subcontractor to remove individual workers from the site

Such action shall be through authorised Hydro Site personnel unless there is an immediate threat to life and limb, property or the environment.

11.3 Performance Assessment

Hydro includes Subcontractor safety performance criteria in the selection of bidders and the award of site contracts.

Unless previously accepted onto the approved Subcontractor List Subcontractors are required to complete the:

- Contractor HES Evaluation (Company Questionnaire) or
- HSE Management Submission (Sole Traders & Small Companies)

Information provided to Hydro as part of the evaluation and submission process may be verified.

Site performance, inspection and audit results shall be reviewed for pre-qualification and selection of future Subcontractors.

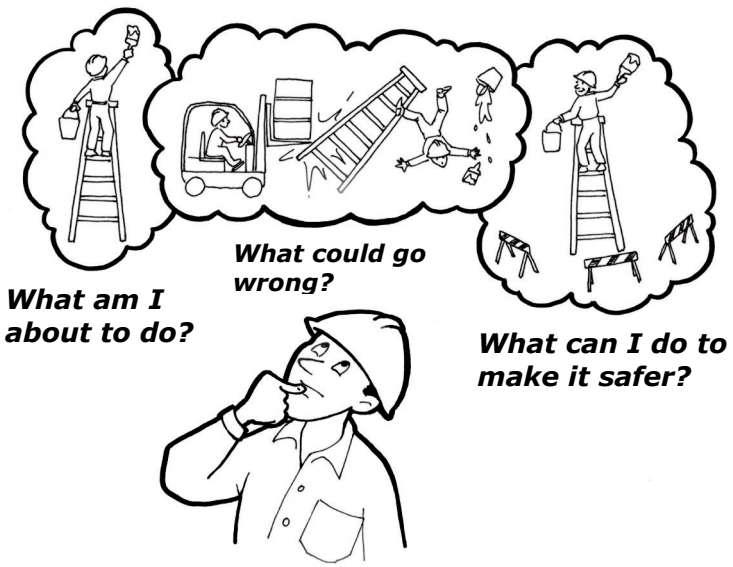
12 Safe Work Method Statements & Job Safety Environmental Risk Assessment

As stated in sections 2 & 4 above, all high-risk activities to be carried out on site will require a SWMS and a JSERA to be prepared by a contractor and a copy provided to the Principal Contractor for review and acceptance prior to any work commencing.

The Principal Contractor management team will review the method statement and the risk assessment to ensure that the contractor has thought about and planned the process of carrying out the task in the safest possible manner.

Once the SWMS and JSERA have been accepted, the contractor shall be issued with a Hydro Work Permit (for works undertaken within the Hydro controlled work area) that allows the specific work activity detailed within the Work Permit to commence. All personnel undertaking the activity must sign onto the Work Permit at the commencement of each shift and sign out at the end of the shift.

The contractor carrying out works must continually review the works and through consultation with work crew/s update any new tasks, hazards or risks that develop on their SWMS and JSERA.



Appendix 1
Asbestos Removal Procedure (Enviropacific Services, 2020)

ENVIROPACIFIC SERVICES

ASBESTOS REMOVAL PROCEDURE

TABLE OF CONTENTS

PROJECT REVISION STATUS

DATE	COMMENTS	PREPARED BY	APPROVED BY
	Rev 0 – Draft for Tender	Mitch Anthony	Lindsay Killin
Feb 20	Rev 1 - Revised following client comments	Mitch Anthony	Lindsay Killin
May 20	Rev 2 – Revised following client comments	Mitch Anthony	Lindsay Killin

DISTRIBUTION

Issue /Rev	Name	Copies	Issue Date
Rev 0	Daracon	1	
Rev 1	Daracon	1	Feb 20
Rev 2	Daracon	1	May 20

1. PURPOSE AND SCOPE

1.1. THE SITE

The Kurri Kurri Aluminium Smelter has operated at Hart Rd, Loxford, since commissioning by Alcan in 1969. The Smelter includes a plant area of approximately 60 hectares, contained within a 2,000 hectare buffer zone. Hydro Aluminium Kurri Kurri Pty Ltd (HAKK) commenced ownership of the facility in 2002.

Smelting activities ceased at the site in September 2012, and in May 2014 HAKK formally announced the closure of the smelter. HAKK's strategic vision is for the land to play a key role in allowing the Hunter Region to achieve the economic, employment and environmental objectives identified in the NSW Government NSW State Plan 2021 and the Hunter Regional Plan 2036. HAKK aims to achieve this strategic vision by facilitating the remediation of the site.

1.2. PROJECT SCOPE

The general scope of remediation works to be undertaken by Daracon on this project is;

- Preliminaries including preparation of project plans/documentation
- Establishment of temporary site facilities
- Site preparation activities including construction of haul roads, temporary stockpiling areas, fencing and environmental protection measures
- Construction of a permanent creek crossing between the containment cell area and the rest of the site
- Construction of sediment and leachate dams
- Construction of a ~600,000T capacity containment cell in accordance with the GHD design
- The excavation, loading, transport and placement within the cell of waste materials derived from numerous locations on site. Validation of the areas following waste removal will be undertaken by HAKK's Environmental Consultant, Ramboll
- Capping of the containment cell

1.3. SCOPE OF DOCUMENT

The purpose of this document is to outline the specific control measures required to ensure workers and other persons are not at risk when asbestos removal works are being undertaken at the site. This Asbestos Management Procedure will help to ensure the asbestos removal works are well planned and carried out in a safe manner in accordance with the relevant legislation

2. DEFINITIONS

Asbestos Containing Material (ACM)	Any material or thing that, as part of its design, contains asbestos.
Asbestos Contaminated Dust (ACD)	Dust or debris that has settled within a workplace and is (or is assumed to be) contaminated with asbestos.
Asbestos Regulator	The government department responsible for the implementation of asbestos related legislation in the jurisdiction in which the asbestos work will be carried out.
Asbestos removal site	The area comprising the asbestos work area, the buffer zone around the asbestos work area, decontamination facilities, site amenities and storage facilities.
Asbestos Supervisor	A person accredited by the asbestos regulator to supervise the removal of asbestos material who is listed on the asbestos permit and on the Enviropacific asbestos licence and must always be present or readily available during the removal of asbestos material.
Asbestos work area	The delineated area where asbestos removal work will or is being carried out
Licence - Class A – Friable and Non-Friable	Is a licence for the removal of all forms of asbestos -containing material - friable and non-friable.
Licence – Class A specific - Friable	Is a specific friable asbestos licence for the removal of specific types of friable asbestos-containing material (type of “asbestos-containing material” means a description of asbestos-containing material or product e.g. asbestos-containing cement sheeting, cement pipes, vinyl tiles, sprayed insulation, telecommunications pits and pipes, pipe lagging, millboard and gaskets.
Licence - Class B – Non-Friable	Is a licence for the removal of all non-friable asbestos-containing material.
Licence – Class B specific – Non-Friable	Is a specific licence for the removal of non-friable asbestos-containing material e.g. telecommunication pits and pipes, asbestos cement pipes, gaskets.
Competent Person – Harmonised States/Territories	In relation to carrying out clearance inspections under Regulation 473 means a person who has acquired through training or experience the knowledge and skills of relevant asbestos removal industry practice and holds a certification in relation to the specified VET course for asbestos assessor work or a tertiary qualification in occupational health and safety, occupational hygiene, science, building, construction or environmental health. For all other purposes, competent person means a person who has acquired through training, qualification or experience, the knowledge and skills to carry out the task.

Exposure standard	For asbestos is a respirable fibre level of 0.1 fibres/ml of air measured in a person's breathing zone and expressed as a time weighted average fibre concentration calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with the Membrane Filter Method.
Friable Asbestos	Any material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos.
Health Monitoring	Health monitoring is provided to a worker who is carrying out licensed removal work, other ongoing asbestos removal work or asbestos-related work and there is risk of exposure when carrying out that work. Health monitoring is carried out under the supervision of a registered medical practitioner. The PCBU must pay all expenses for health monitoring, obtain report and keep records for all health monitoring for a minimum of 40 years.
HEPA Filter	High-efficiency particulate air (HEPA) filter utilised in vacuums and negative air units specific to asbestos removal work. Filters should conform to the requirements of **AS 4260-1997** *High efficiency particulate air (HEPA) filters – Classification, construction and performance.*
Licensed Asbestos Removalist	A person conducting a business or undertaking who is licensed under the WHS regulations to carry out class A or class B asbestos removal work (Enviropacific).
Non-Friable Asbestos	Material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound.
Plant	(a) any machinery, equipment, appliance, container, implement and tool, and (b) any component of any of those things, and (c) anything fitted or connected to any of those things
Respiratory Protective Equipment (RPE)	In general, the selection of suitable RPE depends on the nature of the asbestos work, the probable maximum concentrations of asbestos fibres that would be encountered in this work and any personal characteristics of the wearer that may affect the facial fit of the respirator (for example, facial hair or glasses).

3. RESPONSIBILITIES

3.1. ENVIROPACIFIC SERVICES

Enviropacific will provide the following personnel to assist Daracon with the management of asbestos impacted materials throughout the project;

Table 1 – Enviropacific Asbestos Personnel

Description	Project Allocation
Project Director	As required throughout the project. Estimated average of 6 hrs per week including site visits/meetings and offsite support as required
Asbestos Supervisor	1 x full-time Asbestos Supervisor on-site for the duration of asbestos works
Asbestos Labour	1-2 asbestos labourers per asbestos work area throughout the project

The Enviropacific Project Director will be responsible for;

- Review of all project documentation including this Asbestos Removal Procedure and ARCP's;
- Attending project meetings with Daracon and HAKK;
- Undertaking project inspections and audits;
- Reviewing safety reports and inspections and initiating any actions to rectify;
- Participate in accident/incident investigations; and
- Ensure adequate equipment and staff are available to carry out the work.

The Enviropacific Asbestos Supervisor/s will be responsible for;

- Notifying and obtaining approval from SafeWork NSW at least 5 business days prior to commencement of asbestos removal works;
- Providing full-time asbestos supervision throughout the works;
- Ensuring that the procedures outlined in this document are adhered to;
- Preparation of Specific Asbestos Removal Control Plans (ARCP) for each removal area;
- Ensuring the ARCP is readily available, communicated to all parties and regularly reviewed;
- Preparation of Asbestos Awareness Training for Daracon (and Daracon's subcontractor's) personnel;
- Delivering Asbestos Awareness Training to site personnel;
- Training Site Personnel in this Asbestos Management Procedure and the relevant ARCP's;
- The safe removal of ACM, with authority over all labour and equipment on site, to ensure the efficient successful removal without causing contamination of the environment or a risk to personnel or the public;
- Facilitating the preparation of a site-specific SWMS as they relate to ACM removal project;
- Management of decontamination of personnel including overseeing personnel decontamination to ensure the correct procedures are followed
- Visual monitoring of dust levels during removal works;
- Management of decontamination of plant and equipment;
- The overseeing of all documentation as it relates to asbestos removal;
- The security and safety of the asbestos removal site and asbestos work area should be specified in the ARCP;

- Complete the **Asbestos Removal Checklist** once the project is set up and prior to the commencement of asbestos removal work; and
- Ensuring the security and safety of the asbestos removal site and asbestos work area at all times, particularly if the removal process is to take place over several days or an extended period of time.

The Enviropacific Asbestos Labourer's will be responsible for;

- Full-time supervision of the exclusion zone to ensure it is secure at all times;
- Managing asbestos PPE stock;

Maintaining the PPE register;

- Undertaking decontamination of plant and equipment as required;
- Regular cleaning of the decontamination unit;
- Visual monitoring of dust levels during removal works;
- Securing disposed PPE in asbestos bags and ensuring suitable disposal in the containment cell; and
- Cleaning of non-disposable RPE

3.2. DARACON

Daracon's workers and Daracon's Sub-Contractor's workers will be responsible for;

- Ensuring all procedures outlined in this document are adhered to throughout the works;
- Ensuring all site personnel are made aware of the need to understand and adhere to the procedures outlined in this document;
- Provision of all plant, personnel and equipment required to undertake the work in a safe manner;
- Undertaking the required Asbestos Awareness Training presented by the Enviropacific Asbestos Supervisor/s;
- Reviewing the ARCP and sign the acknowledgement sheet stating that they understand the contents of the ARCP and specific risks in relation of the asbestos works;
- Ensuring all works are conducted in a safe manner and without risk to themselves and other workers health;
- Correctly wearing all asbestos related PPE at all times specified within the SWMS for the project;
- Decontaminating correctly every time when leaving the asbestos work area; and
- Not removing plant from the asbestos work area unless it is correctly decontaminated, packed and identified, or correctly contained and identified as asbestos waste.
- Monitoring and controlling dust emissions via watercart dust supression

4. PROJECT WORK AREAS

The following areas require remediation;

4.1. ANODE WASTE PILE

This area involved the loading of approximately 9,360T of anode waste and excavation of approximately 8,000T from under the footprint of the anode waste stockpile for transport and placement in the containment cell. There is no information to indicate asbestos is present within this

material. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.2. AREA EAST OF PLAYING FIELDS – CONSTRUCTION WASTE

The material comprises approximately 19,200T of construction waste including concrete, refractory brick, metal sheeting, steel reinforcement, plastic sheeting, timber, fence posts, broken glass, electrical wire, steel posts and old cables. This material will either be transported to the cell or disposed offsite to a licensed facility. There is no information to indicate asbestos is present within this material. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.3. DICKSON RD NORTH STOCKPILE

The Dickson Rd North Stockpile is estimated to be 45,000T and is comprised of a combination of asbestos impacted soils excavated during an early works remediation package. Information provided in the Remedial Action Plans for the sites where the soils originated indicate that friable asbestos is present. For example, the RAP for the Municipal Landfill Site states “ACM fragments were present across the filled area and were encountered through the filled profile, (eight of the 15 test pits contained ACM). The presence of asbestos content within these fragments was confirmed by laboratory analysis as both bonded fragments and degraded, friable fragments” and the RAP for the Rural properties states “The majority of the asbestos that was identified at the land parcels was bonded fibro fragments. Degraded fibro fragments less than 7mm in size (asbestos fines) were detected on Parcel 4 at Lot 442, Dickson Road and on Parcel 10 at Lot 453, 2 Dawes Avenue.”

The Dickson Rd North Stockpile is to be loaded and transported for placement into the containment cell. Due to the presence of friable asbestos within the stockpile this process will be undertaken under friable asbestos removal conditions

4.4. CAPPED WASTE STOCKPILE

The capped waste stockpile consists or the following materials;

- Clean capping of approximately 30,000T which is deemed to be asbestos free and not require placement in the containment cell
- Impacted capping of approximately 4,500T and impacted stockpile material of approximately 225,000T which requires the addition of 10% gypsum per truck load and transport to the containment cell for placement

The Capped Waste Stockpile Report states that “Soil sampling found asbestos fibres in three of the six boreholes. It is recommended that health and safety considerations for asbestos is made prior to any disturbance of the fill material within the stockpile, as well as transporting, and/or crushing the material”. Due to the presence of friable asbestos within the stockpile the excavation, transport and placement of impacted capped waste material will be undertaken under friable asbestos removal conditions

4.5. DICKSON RD SOUTH

The Dickson Rd South Site involves the excavation of approximately 13,200T of smelter waste which has been buried at the site and the transport to the containment cell for placement. The Remedial Action Plan indicates “Although no asbestos containing materials were identified during investigations at the Dickson Road Site, there is potential for asbestos contamination materials,

including friable asbestos, to be present at the site". If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.6. AREA EAST OF CLAY BORROW PIT

The area east of the clay borrow pit is currently covered by a stockpile of ENM derived from the construction of the Hunter Expressway. Once the ENM stockpile is relocated additional test pitting is required in this area to assess the potential for buried wastes. It is anticipated that approximately 4,680T of buried waste will require excavation and transport to the containment cell for placement. There is no information to indicate asbestos is present within this material. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.7. STORED ASBESTOS CONTAMINATED MATERIAL

-There are several storage locations that consist of bulk asbestos material which has been removed during the demolition phase of the project including bulked ACM, concrete blocks and wrapped asbestos materials. The asbestos materials have generally been adequately sealed/encapsulated in plastic or within containers and the majority is sitting on pallets. Some concrete foundations and plinths that house asbestos conduits are stored unwrapped however the conduits have been painted or sealed at the time of removal

This material is to be loaded and transported to the containment cell for placement

4.8. PROCESS WASTE 7A FURNACE NORTH AND SOUTH TUBS

Approximately 28,800T of process waste has been stored within the North and South Tubs of the 7A Furnace. This material is to be loaded and transported to the containment cell for placement. There is no information to indicate asbestos is present within this material. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.9. GENERAL WASTE – DEMOLITION WORKS

It is estimated that approximately 21,000T of general waste will be generated during the demolition works that will require transport to the containment cell for placement. There is no information to indicate asbestos is present within this material. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.10. SURGE PONDS

Approximately 4,500T of sediment from the East Surge Pond and 4,860T of sediment from the West Surge Pond requires dredging, drying and subsequent transport to the containment cell for placement. There is no information to indicate asbestos is present within this material. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.11. MISCELLANEOUS CONTAMINATED MATERIALS

It is estimated that approximately 36,000T of material from several areas around the site require excavation and transport to the containment cell for placement following the removal of surface structures by the Demolition Contractor. It is unknown whether asbestos is present within these areas. If encountered any asbestos would be managed under the unexpected asbestos finds procedure outlined in Section 9

4.12. CONTAINMENT CELL

The containment cell is to be constructed in the area of the former Clay Borrow Pit and is designed to contain approximately 600,000T of the waste materials described in sections 4.1 – 4.11 above. As asbestos impacted material from a number of areas is being placed within the containment cell the placement of material within the cell will be undertaken under asbestos removal conditions until it can be demonstrated that all asbestos waste within the cell has been capped with clean material

5. PLANNING

5.1. NOTIFICATION TO REGULATOR

Enviropacific will submit the required asbestos removal notification to SafeWork NSW at least 5 business days prior to the commencement of any asbestos removal works at the site. Approval of the notification from SafeWork NSW must be received prior to commencement

5.2. ASBESTOS LICENSE

All asbestos removal works on this project will be undertaken under Enviropacific's SafeWork NSW Asbestos Removal License No AD211328.

5.3. ASBESTOS SUPERVISION

The Asbestos Supervisor/s will be accredited by SafeWork NSW to supervise the removal of asbestos by way of being listed as an accredited supervisor on Enviropacific's Asbestos Removal License. The Asbestos Supervisor/s shall always be present on site during the asbestos removal works

5.4. ASBESTOS REMOVAL CONTROL PLAN

Prior to the commencement of asbestos removal, the Asbestos Supervisor must develop a site specific ARCP. A copy of the ARCP will be provided to Daracon and HAKK and will be readily available on-site during the asbestos removal. Prior to the commencement of removal work the Asbestos Supervisor/s will induct all workers into the ARCP to ensure that work is carried out in accordance with the ARCP.

For this project a specific ARCP will be developed for each asbestos removal area including the containment cell where the placement of asbestos impacted materials will occur.

5.5. HEALTH MONITORING

The "How to Safely Remove Asbestos" Code of Practice states that a person conducting a business or undertaking has a duty to ensure health monitoring is provided to a worker if they are carrying out licensed asbestos removal work, other ongoing asbestos removal work or asbestos-related work and is at the risk of exposure to asbestos when carrying out the work.

Pre-employment asbestos medicals are provided to Enviropacific workers prior to commencing licensed asbestos removal work. Health monitoring is provided to workers at regular intervals after commencing asbestos-related work but at least once every two years. Asbestos health surveillance reports will be maintained for at least 40 years after the records are made. Confidential records are maintained in head office.

A risk assessment shall be undertaken prior to the commencement of the works to determine the requirement for Daracon staff and sub-contractor's to undertake asbestos medicals for this project based on their role on the project and the requirements set out in the Code of Practice.

5.6. CERTIFICATION AND TRAINING

Enviropacific will not direct or allow a worker to carry out asbestos removal work unless they are satisfied that the worker holds a certification that is relevant to the class of licensed asbestos removal work they will be carrying out.

Workers (including the asbestos removal supervisor) directly carrying out licensed asbestos removal work shall have acquired competency certification by completing units of competencies to prove they have the relevant skills to be able to competently and safely remove asbestos or ACM. The units of competency completed will determine what type of asbestos work they can carry out, such as:

- CPCCDE3014A – Remove non-friable asbestos;
- CPCCDE3015A – Remove friable asbestos; and
- CPCCBC4051A – Supervise asbestos removal.

All workers not directly undertaking asbestos removal work but required to work within the asbestos exclusion zone (ie plant operators, surveyors, other ground personnel not in direct physical contact with ACM) will be required to undertake Asbestos Awareness Training as outlined in Section 5.7 below.

Due to the nature of the project it is anticipated that the number of workers directly carrying out asbestos removal work will be minimal and likely limited to the "Asbestos Contaminated Material" area as described in Section 4.7.

5.7. ASBESTOS AWARENESS TRAINING

Enviropacific will provide Asbestos Awareness training to all non-removal workers within the removal zones on the identification and safe handling of asbestos and the appropriate controls in accordance with the asbestos legislation and COP requirements. This presentation includes:

- purpose of the training;
- health risks of asbestos;
- types, uses and likely presence of asbestos in the workplace;
- worker's roles and responsibilities under the asbestos removal control plan;
- where the asbestos register is located, how it can be accessed and how to understand the information contained in it;
- processes and safe work procedures to be followed to prevent exposure, including exposure from any accidental release of airborne asbestos;
- the correct use of PPE including respiratory protective equipment (RPE);
- decontamination procedures for workers, plant and equipment;
- the implementation of control measures and safe work methods to eliminate or minimise the risks associated with asbestos to limit the exposure to workers and other persons;
- exposure standard and control levels for asbestos; and
- purpose of any exposure monitoring or health monitoring that may occur.

5.8. TRAINING RECORDS

Records of all training will be kept while the worker is carrying out the work and for five years after the day the worker stops carrying out the work. These records will also be available for inspection by the asbestos regulator.

5.9. ASBESTOS REMOVAL CHECKLIST

Once the project is set up and prior to the commencement of asbestos removal work, the **Asbestos Removal Checklist** must be completed by the Asbestos Supervisor.

6. EXECUTION OF THE WORKS

6.1. REMOVAL METHODS USED ON THIS SITE

The known asbestos impacted material from the Dickson Rd North Stockpile (Section 4.3) and Capped Waste Stockpile (Section 4.4) will be undertaken using conventional earthmoving equipment. The impacted material will be loaded into off-road dump trucks using excavators and transported to the containment cell. The material will be placed and compacted in layers at the containment cell using conventional earthmoving equipment such as dozers and compactors. Water carts will be utilised at both the removal sites and the containment cell to minimise dust generation.

Asbestos impacted material from the Asbestos Contaminated Material Area (Section 4.7) will be loaded into flatbed trucks and or small tippers using a forklift or Manitou then transported to the containment cell for unloading and placement. Care will need to be taken during loading, transport and unloading to ensure that the existing encapsulation around the asbestos materials remains in tact

6.2. SITE ACCESS, BOUNDARIES, SIGNS AND BARRICADES

The boundaries of the asbestos work area and the asbestos removal site must be determined and defined by a competent person. All stakeholders must agree on the asbestos removal boundaries before any asbestos removal work commences.

In determining the asbestos removal boundaries, consideration shall be given to:

- The use and suitability of various types of enclosures and asbestos removal methods; and
- The impacts of the asbestos removal work, including potential exposures in the surrounding region.

In determining the distance between barriers and the asbestos work area the following should be considered:

- Whether the ACM are friable or non-friable;
- Activity around the asbestos work area (other workers, visitors, neighbours, the public, etc.);
- The methods of ACM removal;
- Any existing barriers (walls, doors, etc.);
- The quantity of ACM to be removed; and
- The type of barrier used (e.g. boarding or tape).

The asbestos removal site boundary must be clearly and securely delineated to ensure persons do not enter inadvertently or without authority. Signage must warn persons that asbestos removal work

is being carried out, of the dangers of exposure to asbestos and of PPE and other site entry requirements. All boundary delineation and warning/danger signs must remain in place until a clearance to re-occupy has been granted. If the security of the boundary is achieved by locked access gates, prompt egress in emergency situations must be maintained.

All warning/danger signage must comply with ***AS 1319*** *Safety signs for the occupational environment*. These signs will be weatherproof, constructed of light-weight material and adequately secured.

In circumstances where the erection of fencing or barricades is not feasible, such as on concrete hard stand or within a building, tape may be used as a barrier to define an asbestos work area (for some types of asbestos removal work of short duration). If a sign is not feasible, tape with the words 'asbestos hazard' repeated along its length may be used instead to delineate and communicate the hazard.

Where security and emergency arrangements are not developed specifically for the asbestos removal project, the overall site-specific security and emergency plans must be obtained and communicated to all workers prior to commencement of the works.

Signage used to identify removed ACM and other asbestos waste must comply with ***AS 1216-2006*** *Class labels for dangerous goods* and the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

Where asbestos removal is in the open air, barrier mesh/tape must be placed around the entire asbestos work area, where buildings or other structures form part of the boundary; these shall be incorporated into the boundary with all openings sealed to access.

All personnel entering the asbestos work area during the asbestos removal process must comply with the PPE and RPE requirements.

On this project the primary asbestos removal areas will be the areas where asbestos impacted material is being excavated/removed and loaded (ie capped waste stockpile, stored asbestos area, Dickon Rd north storage area) and the containment cell where it is being placed. These areas will be fully fenced with asbestos removal signage erected.

Designated haulage routes will be defined between the removal areas and the cell. These haulage routes will be barricaded, and light vehicle crossover points will be placed at specific locations (limited to the minimum number necessary). Trucks carting material between the removal areas and the cell will adhere to the designated haulage routes at all times. A wheel wash will be constructed at the exit of the capped waste stockpile and the cell with all trucks to exit these areas via the wheel wash prior to entering the haulage route. The Asbestos Supervisor will monitor the haulage route daily and any spills of material on the haulage route will be removed and taken to the cell. Once validation of the asbestos removal areas is achieved the haulage route will also require validation from Ramboll.

Indicative haulage routes are shown in the attached Figure

6.3. AIR MONITORING / EXPOSURE STANDARDS

Air monitoring requirements will vary depending on the type of asbestos being removed, the location and position of the asbestos, if an enclosure is used and whether the asbestos removal work is within a building or outside. The following rules should be applied when determined if air monitoring is required (extract from Safe Work Australia – Code of Practice on How to Safely Remove Asbestos):

- Friable asbestos removal – Air monitoring is mandatory for all friable asbestos removal. This includes prior to dismantling an enclosure and for the purposes of the clearance inspection.
- More than 10 m² of non-friable asbestos removal – Air monitoring is not required but may be considered to be carried out by an independent licensed asbestos assessor or competent person to ensure compliance with the duty to eliminate or minimise exposure to airborne asbestos and to ensure the exposure standard is not exceeded.
- Public Location – Air monitoring should be considered where the asbestos removal work is being undertaken in or next to a public location.
- Exposure air monitoring – Air monitoring should be carried out at other times to determine a worker's exposure to airborne asbestos if, based on reasonable grounds, there is uncertainty as to whether the exposure standard may be exceeded and a risk assessment by a competent person indicates it is necessary. Since most uses of asbestos are prohibited, exposure monitoring should not be required frequently.

Air monitoring of the asbestos work area will be carried out by the hygienist/asbestos assessor and in conjunction with the client. Monitors will be placed at strategic locations by the hygienist/asbestos assessor prior to the commencement of asbestos work.

The results of air monitoring will be made available as soon as possible to all workers on site. The asbestos supervisor will be notified immediately if the fibre count exceeds the recommended level, as set out in Table 2 below.

Table 2 - The exposure standards for asbestos as set out in the national Code of Practice How to Safely Remove Asbestos

Action level (fibres/mL)	Control / Action
<0.01	Continue with control measures
≥0.01	Review control measures, investigate the cause and implement controls to eliminate or minimise exposure and prevent further release
≥0.02 (≥0.05 in Victoria)	Stop removal work, notify the regulator, investigate the cause, implement controls to eliminate or minimise exposure and prevent further release and do not recommence until fibre levels are at or below 0.01 fibres/ml

Once the asbestos removal work has been completed, a clearance inspection will be carried out by the hygienist/asbestos assessor, who will issue a clearance certificate before the workplace is re-occupied.

On this project a third-party NATA Accredited occupational hygienist will be engaged to undertake asbestos air monitoring. Asbestos air monitoring will be undertaken daily at each site where asbestos impacted material is being removed / disturbed including at the containment cell. A minimum of 4 monitors will be used at each area with the exact location of each monitor to be determined by the hygienist.

In addition to asbestos air monitoring, the occupational hygienist will also be engaged to undertake an initial baseline monitoring event and periodical monitoring for the following:

- Ammonia, LEL, Hydrogen, Carbon Monoxide, Oxygen;
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Volatile Organic Compounds (VOCs); and
- Respirable and Crystalline Silica.

In addition to the discrete rounds of monitoring described above, the following monitoring will be undertaken daily throughout the works using a combination of personal and machine-mounted monitoring equipment:

- Ammonia;
- LEL;
- VOCs;
- Carbon Monoxide;
- Oxygen;
- Hydrogen; and
- Asbestos.

This routine monitoring will be utilised on an ongoing basis to ensure a safe work environment is maintained, and to verify the effectiveness of controls. An Occupational Health and Hygiene Management Plan (OHHMP) will be developed to detail the monitoring procedures, controls, and trigger limits.

6.4. MOBILE PLANT AND PLANT FITTED WITH INTERNAL COMBUSTION ENGINES

All mobile plant operating in the asbestos work area must be provided with an air conditioned or fresh air pressurised operator's cabin.

As a minimum, all operators of mobile plant (including truck drivers) must keep the cabin windows closed and air conditioning or cabin pressurising fans set to "recirculate".

Whenever practicable, and when indicated by the project risk assessment, mobile plant provided with an air conditioned or fresh air pressurised operator's cabin will have the air conditioning or pressurising system fitted with HEPA type air inlet filters before the plant is operated in the asbestos work area to minimise the risk of respirable asbestos fibres entering the operator's cabin. Plant fitted with HEPA type air inlet filters on their air conditioning or pressurising systems must be operated with the air conditioning or pressurising systems set to "fresh air" to allow outside air to flow through the HEPA filter into the cabin. Plant incorporating an internal combustion engine that is to be operated in the asbestos work area may be identified during the project risk assessment as being at risk of accumulating ACM in its inlet air filter element. When HEPA filters are fitted to mobile plant provided with an air conditioned or fresh air pressurised operator's cabin or plant internal combustion engine, air inlet filters are considered at risk of asbestos or ACM contamination. A "**Warning Asbestos**" decal/sticker (refer to Figure 1 below) must be attached near to the plant ignition key or start controls before its first use on the site and not removed until the plant is decontaminated under asbestos conditions.

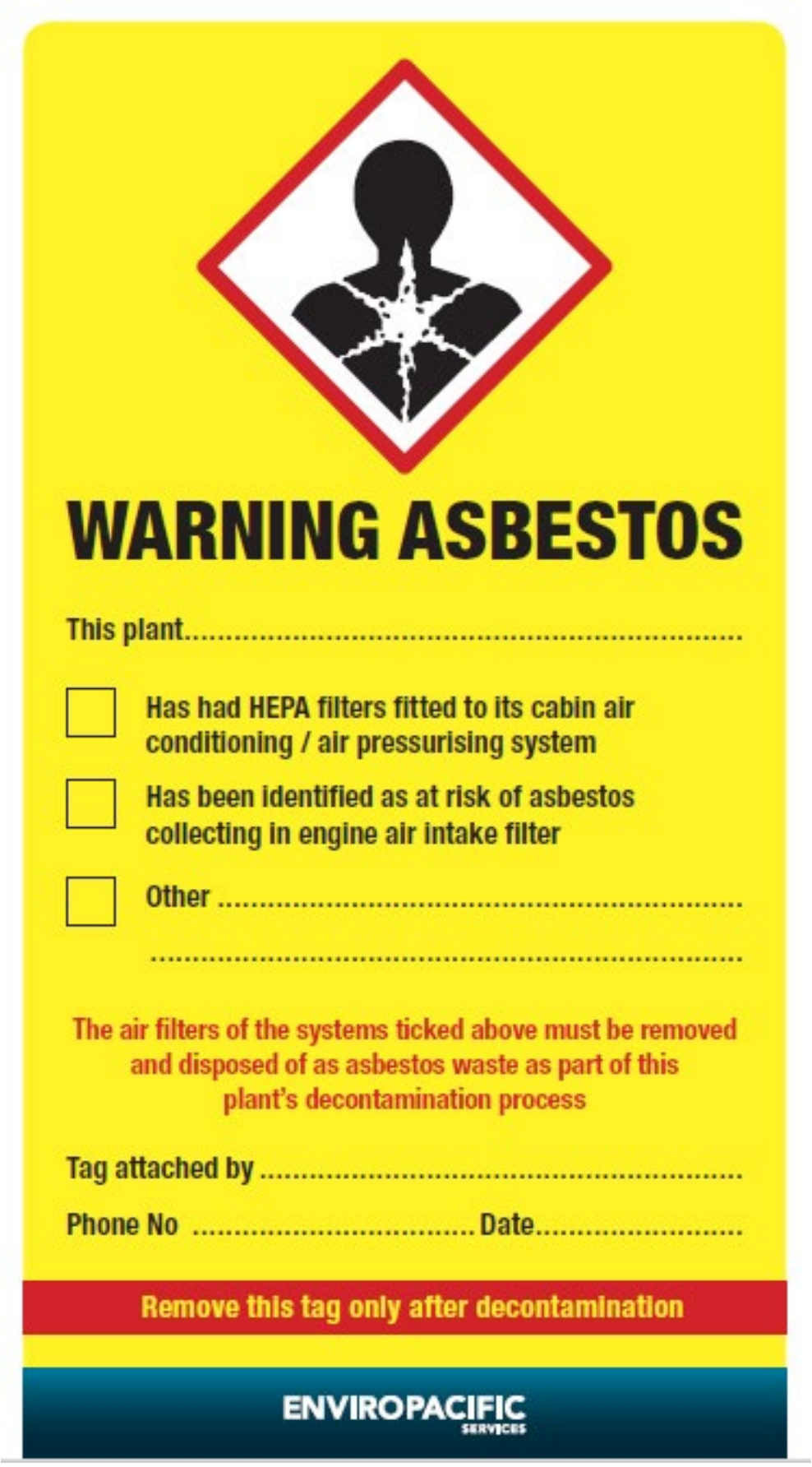


Figure 1 – "Warning Asbestos" Decal Sticker

6.5. PROHIBITIONS

Plant and processes that generate dust should not be used on asbestos. These include:

- high-speed abrasive power and pneumatic tools, for example angle grinders, sanders, saws and high-speed drills;
- brooms and brushes (unless brushes are used for sealing);
- high-pressure water spray, jets, power or similar tools and instruments on asbestos in the workplace;
- compressed air.

The use of equipment and processes that cause the release of asbestos, including power tools and brooms, may be used on asbestos if the equipment is enclosed and/or designed to capture or suppress asbestos fibres and/or the plant is used in a way that is designed to capture or suppress asbestos fibres safely, for example:

- enclosing the plant or tool;
- engineering controls such as extraction ventilation;
- using the plant or equipment within an enclosed removal area (for example, full enclosure or small enclosure).

6.6. ASBESTOS ZONE PLANT REGISTER

An asbestos Zone Plant Register will be maintained throughout the project. The register will record details of all plant working within the asbestos area including;

- Plant description
- Plant model/number
- Date HEPA filter installed
- Maintenance/servicing details
- Date plant entered asbestos area
- Date plant left asbestos area
- Confirmation of decontamination prior to leaving the asbestos area

6.7. INSPECTION AND MAINTENANCE OF PLANT

All plant used for the removal of asbestos should be inspected before the commencement of the asbestos removal work, daily before use and after any repairs. Attention must be given to any dust capture or suppression features of the plant. A register with the details of these inspections, the state of the plant, any repair details and its decontamination upon leaving the asbestos removal site must be maintained. Plant inspections including record keeping will be the responsibility of Daracon.

All refuelling of plant will take place in the designated plant parking area which will be adjacent to the exclusion zone. The fuel truck will park on the outside of the exclusion zone with only the fuel hose to extend within the exclusion zone to fill the plant. The Enviropacific Asbestos Labourer will fill the plant using the fuel hose, whilst wearing the required asbestos PPE for ground personnel within the asbestos area as per Section 6.10.

6.8. MOBILE PHONES

Mobile phones are for emergency use only inside asbestos work zones and must be stored inside a waterproof snap lock bag or similar.

6.9. ASBESTOS VACUUM CLEANERS

Asbestos vacuum cleaners shall comply with the requirements in **AS/NZS 60335.2.69** *Household and Similar Electrical Appliances – Safety - Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use* or its equivalent. Filters for the vacuum cleaners shall conform to the requirements of **AS 4260** *High efficiency particulate air (HEPA) filters – Classification, construction and performance.*

Warning: Domestic vacuum cleaners are not suitable and should never be used, even if they have a HEPA filter.

Asbestos vacuum cleaners will only be used for collecting small pieces of asbestos dust and debris (larger pieces should never be broken into smaller sizes, so they can be vacuumed).

Asbestos vacuum cleaners will not be used for vacuuming wet materials as this can damage the HEPA filter.

The correct attachment to the asbestos vacuum cleaner will be used for the type of surface which is being cleaned.

Management of "H" class vacuum cleaners must be in accordance with the *NSW WorkCover Management of "H" class vacuum cleaners for asbestos (High Consequence, Low Frequency program 2015/16)* Guidance Note; *WHS Regulation – Section 471 and 483; and NSW WorkCover How to Safely Remove Asbestos Code of Practice – Section 4.4 and 4.6.*

Asbestos vacuum cleaners shall be cleaned externally with a wet cloth after each task. The vacuum, hose and attachments will be stored in a labelled impervious bag.

Asbestos work PPE and RPE must be worn whenever an asbestos vacuum cleaner is opened to change the bag or filter or to perform other maintenance or decontamination. Asbestos vacuum cleaners must only be emptied by a competent person wearing the correct asbestos work PPE and RPE and the remove waste treated as asbestos waste.

Whenever possible, asbestos vacuum cleaners shall not be hired, as they can be difficult to fully decontaminate. If hiring is necessary, they will be hired only from an organisation that provides vacuum cleaners specifically for work with asbestos.

6.10. DISPERSED OIL PARTICULATE (DOP) TESTING

The Type H HEPA vacuums used for asbestos removal works must be subject to a DOP test on an annual basis or every six months depending on use. The DOP test is performed to ensure that there are no leaks within the HEPA filter or in the seals inside the vacuum or negative pressure unit, ensuring the 99.995% efficiency requirement.

Up to date certificates pertaining to each individual machines DOP test must be kept on file and readily available for viewing. Details of DOP testing dates and results including general vacuum maintenance records are recorded within the Enviropacific National HEPA Vacuum Register.

6.11. PPE AND RPE REQUIREMENTS

All ground personnel (including personnel required to enter the removal site for inspections/testing etc) will be required to wear the following PPE whilst in the asbestos removal area;

6.11.1. Coveralls

Asbestos rated Type 5, Category 3 disposable coveralls must be worn. The coveralls must be made of 100% synthetic material

6.11.2. Boots / boot covers

Should the same pair of boots be worn both outside and inside the asbestos removal area personnel must wear disposable, anti-slip boot covers within the removal area. The boot covers must be covered by the legs of the coveralls and the join between the coverall and boot cover must be duct taped to create a dust seal between them.

Alternatively, personnel may utilise a “dirty” pair of boots which remain within the asbestos removal area for the duration of the removal works. The “dirty” boots must be waterproof, tight fitting and lace less.

6.11.3. Gloves

Tight-fitting, disposable gloves must be worn within the asbestos removal area

6.11.4. Respiratory protective equipment (RPE)

Ground personnel within the asbestos removal area must wear half face non-disposable respirators with P3 filter cartridges fitted. Each respirator will be clearly labelled with the individual’s name.

Non-disposable respirators will be sealed and stored separately from other clothing and in a clean area approved by the asbestos supervisor as being not subject to asbestos contamination. Respirators will be decontaminated by wet wiping. The **Asbestos Mask – Issue, Cleaning and Maintenance Register** shall be maintained to record the frequency of cleaning for each respirator.

Worker’s will receive instruction (i.e. via toolbox talks), from the Enviropacific project manager or asbestos supervisor on the correct method of using and maintenance of the respirator and on the importance of correct facial fit. All personnel within the asbestos work area must be clean shaven.

6.11.5. Plant operators

As plant operators will remain within their cabin (fitted with HEPA filters) with all doors and windows closed they are not required to wear asbestos PPE whilst in their machine. Whilst walking between the decontamination unit and their machine plant operators will be required to wear the following PPE;

- P2 respirator
- Boot covers

Specific detail on the procedures for plant operators to enter/exit their machines are described in Section 7.1.2 below.

7. DECONTAMINATION

Decontamination applies to all personnel exiting the asbestos work area and all plant and equipment used in the asbestos work area.

7.1. DECONTAMINATION OF PERSONNEL

Personal decontamination must be undertaken each time workers exit the asbestos work area (except in extreme emergencies). For this project, at each asbestos removal area a wet decontamination unit will be established at the entry/exit point to the asbestos removal area. The decontamination unit will include the following areas;

Dirty Decontamination Area	Clean Decontamination Area	Clean Change Area

An example schematic of a typical decontamination unit is shown in Figure 2 Below.

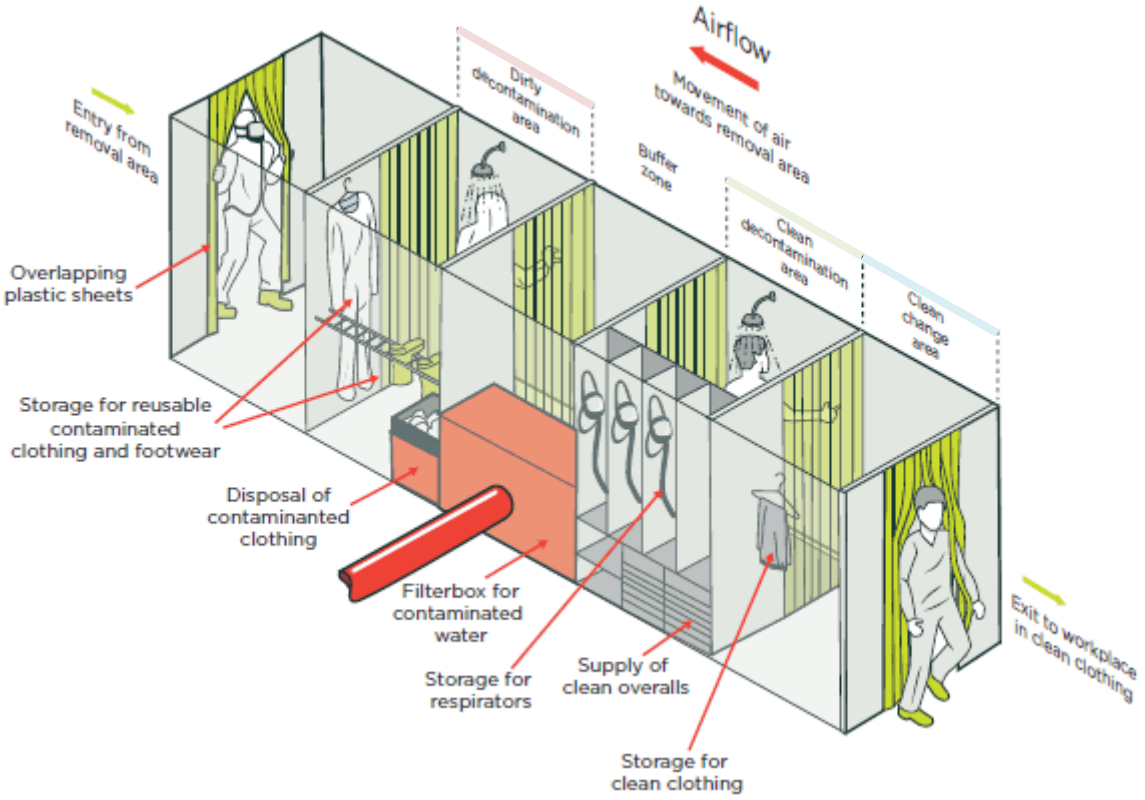


Figure 2 – Example Asbestos Decontamination Unit Schematic

All personnel must enter and exit the asbestos removal area via the decontamination unit. The following procedures will be used on this project;

7.1.1. Ground personnel entering / exiting the asbestos removal area

When entering the asbestos removal area;

Clean Change Area	Enter the decontamination unit into the clean change area. Put on required protective clothing (ie coveralls/boot covers/gloves). Store any removed clothing in dust proof containers. Move into clean decontamination area
Clean Decontamination Area	Put on RPE. Ensure that there is a good facial seal. Move to the dirty decontamination area.
Dirty Decontamination Area	Put on any additional PPE that has been stored in the dirty decontamination area. Move from the dirty decontamination area to the asbestos removal area

When exiting the asbestos removal area;

Asbestos Removal Area	Remove any obvious signs of asbestos from protective clothing. If using "dirty" boots remove and leave inside the asbestos area next to the decontamination unit. Proceed into the dirty decontamination area.
Dirty Decontamination Area	Shower while wearing protective clothing and RPE. Leaving RPE on remove protective clothing (ie coveralls, gloves) and place in asbestos waste bags. Remove wet underclothing while showering and place in the storage unit provided within the dirty decontamination area. Proceed through to the clean decontamination area
Clean Decontamination Area	Shower and remove RPE. Thoroughly wash hands, fingernails, face, head and respirator. Store RPE in a suitable container within the clean decontamination area. Proceed to the clean change area.
Clean Change Area	Change into clean clothing. Proceed out of the decontamination area to exit the asbestos removal area

7.1.2. Plant operators entering / exiting the asbestos removal area

All plant will be parked in the designated plant parking area which will be located adjacent to the Decontamination Unit. Operators will be required to enter asbestos work zone through the decontamination unit. Upon entry in the decontamination unit operator's will be required to put on a P2 Respirator and boot covers before proceeding through the decontamination unit and to their machine located in the plant parking area (operators will be required to be clean shaven) Once at their machine operator's will remove the boot coveralls and place on the ground or hand to a designated ground personnel for bagging and disposal. Once inside the cabin of the machine the respirator can be removed, and the operator traverse the machine from the plant parking area to the work area. When stopping for meal breaks machines are to be tracked back to plant parking area where operator's will be required to put on the P2 respirator and boot coveralls then make their way back through the decontamination unit. Boot coveralls are to be disposed in the asbestos bags provided and respirators are to be removed, cleaned thoroughly using wet wipes and stored in the clean decontamination area.

7.1.3. Emergencies and injured personnel

In the event of emergencies personnel will adhere to the decontamination procedures outlined above only where safe to do so. If undertaking the above decontamination procedures is likely to place workers at greater risk of harm (by delaying evacuation) then evacuating the area will take precedence over the decontamination procedures. Once workers have evacuated to a safe area the Asbestos Supervisor will assist them with decontamination

Should a person be injured within the asbestos removal area they will follow the decontamination procedures outlined above if they are capable of safely doing so. If the injured person is unable to decontaminate themselves due to their injury, assistance will be provided by the Asbestos Supervisor and Daracon personnel where safe to do so. In the instance where attempting to

decontaminate an injured person is likely to cause more harm (ie suspected spinal injuries), project staff will not attempt to decontaminate the injured person and will be guided by the advice of emergency services personnel.

7.2. DECONTAMINATION OF RE-USABLE PPE

PPE that is to be re-used for asbestos removal work, e.g. boots, helmets, non-disposable respirators, must be fully cleaned in a suitable asbestos work area and placed in sealed containers that are labelled 'For asbestos removal work only'. Before removal from the asbestos work area the containers must be decontaminated by vacuuming and/or wiping down with wet cloths. The retained PPE must only be used for asbestos removal work.

7.3. DECONTAMINATION OF MOBILE PLANT

Excavators/Dozers

Prior to excavators/dozers leaving the asbestos removal area it must be decontaminated. This decontamination process will be undertaken with a nominated Plant Decontamination Area. Within this area, plant will be parked on a section of geofabric where all loose soils and debris can be cleaned off the plant before the plant receives a final washdown with a water cart or high-pressure hose.

On completion of decontamination, the section of geofabric will be folded up and removed as asbestos waste.

The occupational hygienist will provide a clearance certification prior to any plant leaving the asbestos removal area.

Trucks

Trucks will exit the capped waste pile and the cell via a wheel wash prior to entering the designated haulage route. Trucks will not leave the designated haulage route or the removal areas / cell for the duration of the works. Prior to a truck leaving the area defined by the haulage route/removal areas/cell it must be decontaminated as per the process outlined in 7.3

7.4. DECONTAMINATION OF EQUIPMENT

At the end of the asbestos removal work, all equipment should be:

- Decontaminated in a suitable asbestos work area;
- Placed in sealed containers that are labelled 'For asbestos removal work only' (and used only for asbestos removal work) or disposed of as asbestos waste.

7.5. DECONTAMINATION OF ASBESTOS WORK AREA

For this project the removal areas will be validated by HAKK's Environmental Consultant (Ramboll) on completion of the removal works. The asbestos removal boundaries/exclusion zones will remain in place until successful validation has been achieved

8. ASBESTOS WASTE TRANSPORT AND DISPOSAL

The scope of work for this project is to place all asbestos waste (including used PPE) in the on-site containment cell. It is not envisaged that any offsite disposal will be required.

9. UNEXPECTED ASBESTOS FINDS

As stated in Section 4 there are several remediation areas where asbestos has not been identified during investigation works. There is still however potential that asbestos may be encountered in these areas during remediation works. All site workers will be made aware of the unexpected finds protocol during the site inductions and the potential for additional asbestos to be encountered in previously unidentified areas. Should asbestos be identified the following procedure shall be implemented;

- Immediately stop work in the area and notify the Daracon PM and Enviropacific Asbestos Supervisor
- Daracon PM to notify HAKK Superintendent
- Enviropacific Supervisor to inspect the potential asbestos and isolate the area (ie flagging/bunting)
- Install asbestos signage on barricading
- Either Ramboll or a third-party hygienist is to inspect the area, sample the potential asbestos (if required) and confirm if it is asbestos and whether it is in a bonded or friable state
- If asbestos is confirmed the Enviropacific Supervisor is to prepare an Asbestos Removal Control Plan for the area
- Safely undertake the removal in accordance with the Asbestos Removal Control Plan

10. REFERENCES

- Work Health and Safety Act NSW
- Work Health and Safety Regulations NSW
- **AS 1216** *Class labels for dangerous goods*
- **AS 1319** *Safety signs for the occupational environment*
- **AS/NZS 1715** *Selection, use and maintenance of respiratory protective equipment*
- **AS/NZS 1716** *Respiratory protective devices*
- **AS 4260** *High efficiency particulate air (HEPA) filters – Classification, construction and performance*
- **AS/NZS 60335.2.69** *Household and Similar Electrical Appliances – Safety - Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use*
- Safe Work Australia: How to Manage and Control Asbestos in the Workplace - Code of Practice
- Safe Work Australia: How to Safely Remove Asbestos - Code of Practice
- Guidelines for Asbestos Removal Contractors (2008) - WorkCover NSW
- NSW WorkCover Management of “H” class vacuum cleaners for asbestos (High Consequence, Low Frequency program 2015/16) Guidance Note

11. ATTACHMENTS

- ARCP Template
- Asbestos Awareness Training Template
- Asbestos Mask – Issue, Cleaning and Maintenance Register Template
- Asbestos Removal Checklist
- PPE Register Template