



**Hunter Power Project  
Construction Waste Management Plan**

| Amended Final  
28 December 2021



## Hunter Power Project

Project No: IS354500  
 Document Title: Construction Waste Management Plan  
 Revision: Final  
 Date: 28 December 2021  
 Client Name: Snowy Hydro  
 Project Manager: Karl Ivanusic  
 Author: Alana Horan  
 File Name: Hunter Power Project\_Waste Management Plan\_Final

Jacobs Group (Australia) Pty Limited  
 ABN 37 001 024 095  
 Level 4, 12 Stewart Avenue  
 Newcastle West NSW 2302 Australia  
 PO Box 2147 Dangar NSW 2309 Australia  
 T +61 2 4979 2600  
 F +61 2 4979 2666  
 www.jacobs.com

© Copyright 2021 Jacobs Group (Australia) Pty Limited. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright.

Limitation: This document has been prepared on behalf of, and for the exclusive use of Jacobs' client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the client. Jacobs has relied upon, and presumed accurate, information provided by the client and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of all such information provided. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this document by any third party.

### Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
Final	20 December 2021	Final	A Horan	P Horn	M Luger	K Ivanusic
Amended Final	28 December 2021	Final	A Horan	I Smith	M Luger	K Ivanusic

**Contents**

**1. Introduction..... 1**

1.1 Background and purpose..... 1

1.2 Application ..... 1

1.3 Objectives..... 1

**2. Legislative context..... 2**

2.1 Existing environment..... 2

2.2 Overview ..... 2

2.3 Infrastructure Approval conditions..... 4

2.4 Standards and guidelines ..... 6

2.4.1 Waste classification ..... 6

**3. Waste impacts..... 7**

**4. Management and mitigation measures ..... 9**

4.1 General..... 9

4.2 Prevention (avoid and reduce waste) ..... 10

4.3 Reuse and recycling ..... 12

4.4 Waste disposal ..... 12

4.5 Waste handling and storage..... 13

4.6 EIS Commitments ..... 1

4.7 Classification of waste streams..... 2

4.8 Classification of potential project waste streams..... 5

**5. Compliance management..... 6**

5.1 Monitoring and reporting ..... 6

5.1.1 Waste management register ..... 7

5.2 Auditing ..... 7

5.3 Training and induction requirements ..... 7

5.4 Staging and Review of Management Plans ..... 7

5.5 Review and improvement..... 8

5.6 Incident notification..... 9

5.7 Non-compliance notification ..... 9

5.8 Compliance reporting ..... 10

5.9 Complaints and enquiry management..... 10

**6. References ..... 12**

**Appendix A. Waste classification definitions**

A.1 Special waste

A.1.1 Clinical and related waste

A.1.2 Asbestos waste

A.1.3 Waste tyres

A.2 Pre-classified waste

A.2.1 Hazardous waste

A.2.2 Restricted solid waste

A.2.3 General solid waste (putrescible)

A.2.4 General solid waste (non-putrescible)

**Appendix B. Resource recovery exemptions**

**List of figures**

Figure 4-1: Waste management hierarchy (NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA 2014))..... 9

Figure 4-2: Steps 1 to 3 of the six-step process to classify waste streams (EPA 2014) ..... 2

Figure 4-3: Steps 4 to 5 of the six-step process to classify waste streams (EPA 2014) ..... 3

Figure 4-4: Step 6 of the six-step process to classify waste streams (EPA 2014)..... 4

**List of tables**

Table 2-1: Summary of relevant legislation ..... 2

Table 2-2: Infrastructure Approval conditions relevant to waste and resource use ..... 4

Table 2-3: Waste classification groups ..... 6

Table 3-1: Activities, aspects and potential impacts relevant to waste generation – Hunter Power Project construction ..... 7

Table 4-1: Classification of potential project waste streams ..... 5

Table 5-1: Waste management monitoring plan ..... 6

## **1. Introduction**

### **1.1 Background and purpose**

This Construction Waste Management Plan (CWMP or Plan) forms part of the Construction Environmental Strategy (CEMS) for the Hunter Power Project being delivered by Snowy Hydro.

The purpose of this CWMP is to describe how potential impacts associated with waste will be managed during construction. Works will be implemented in accordance with the management measures and mitigation strategies set forth in this CWMP.

The processes defined within this CWMP will be implemented by all parties either directly employed by Snowy Hydro or subcontracted and will apply to all construction activities.

### **1.2 Application**

The Project Site is subject to this CWMP. Waste will require management throughout all stages of the Project.

### **1.3 Objectives**

The objective of this CWMP is to mitigate impacts and risks associated with waste and resource consumption during construction of the Project through:

- Identifying the key waste issues that require control measures
- Developing strategies to manage impacts from waste and implementing those strategies
- Assigning responsibilities for impact monitoring and management
- Providing sufficient information to assist with auditing the implementation of the CWMP
- Establishing a waste monitoring program and management measures
- Maximising workers' awareness of waste management issues and avoiding or minimising potential impacts due to waste generation and management.

## 2. Legislative context

### 2.1 Existing environment

The project site forms a component of the former Kurri Kurri aluminium smelter site, a site which is owned by Hydro Aluminium and has been subject to considerable assessment and subsequent remediation of land contamination.

A Site Audit Statement prepared by a site auditor in accordance with Part 4 of the CLM Act stating that the land to which the statement applies is suitable for the proposed use in accordance with the proposed Rezoning Master Plan for ReGrowth Kurri Kurri must be in place prior to construction works commencing. This is now identified as condition of approval B46. The proposed zoning for the site is IN3 Heavy Industrial zoning. This means that prior to any construction works for the Hunter power station project, the project site is required to be remediated, and validated, by an EPA site auditor as suitable for that use. Consequently, any assessment and remediation of the project site that may be required must be completed prior to construction commencing for this project.

The remediation undertaken was identified and comprehensively assessed under the Hydro Aluminium Kurri Kurri Smelter Remediation and Demolition Project EIS and associated Remediation Action Plan both completed by Ramboll Environmental Consultants in 2016. Its noted that the project site for the power station takes up only a fraction of the overall former smelter site that is the subject of the remediation EIS and RAP, and the capped waste stockpile and containment cell that are the primary components of the former smelter site management with respect to contamination and waste, are both outside and distant from the power station project area.

### 2.2 Overview

This CWMP has been prepared in accordance with the relevant legislative and regulatory requirements applicable to waste and resource consumption in New South Wales (Table 2-1).

Table 2-1: Summary of relevant legislation

Legislation	Key Requirements	Implications for the CWMP
Environmental Planning and Assessment Act 1979	This Act establishes a system of environmental planning and assessment of development proposals for the State.	Infrastructure Approval conditions have been incorporated into the CWMP.
Protection of the Environment Operations (POEO) Act 1997	Part 5.2: It is an offence to wilfully or negligently: <ul style="list-style-type: none"> <li>▪ Cl 115: Dispose of waste in a manner that harms or is likely to harm the environment.</li> <li>▪ Cl 116: Cause any substance to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment.</li> </ul>	Mitigation measures incorporated to manage and dispose of waste – Section 4.4-4.8.
	Division 3: It is an offence: <ul style="list-style-type: none"> <li>▪ Cl 143: To transport waste to a place that cannot lawfully be used as a waste facility for that waste, or cause or permit waste to be so transported.</li> <li>▪ Cl 144: For an owner or occupier of any place to use the place, or cause or permit the place to be used, as a waste facility without lawful authority.</li> <li>▪ Cl 144AA: To supply information about waste to another person in the course of dealing with the</li> </ul>	Mitigation measures incorporated for use of appropriately licenced waste facilities/transporters and records to be maintained – Section 4.1 and 4.4.

Legislation	Key Requirements	Implications for the CWMP
	waste, that is false or misleading, in a material respect.	
Protection of the Environment Operations (Waste) Regulation 2014	<p>Requirements for the tracking of waste apply if the waste is of a type described in Part 1 or 2 of Schedule 1.</p> <p>Division 2, Cl 43: Imposes obligations on the consignor of waste to:</p> <ul style="list-style-type: none"> <li>▪ Hold a consignment authorisation for the transportation of the waste from the place to the other place.</li> <li>▪ Obtain a waste transport certificate for the waste and accurately complete and certify required parts.</li> <li>▪ Give the waste transport certificate to the transporter of the waste.</li> <li>▪ Ensure that the transporter holds an environment protection licence (if required by or under the Act) to transport the waste.</li> <li>▪ Ensure that the waste facility to which the waste is to be transported can lawfully accept waste of the type concerned.</li> </ul>	<p>Mitigation measures incorporated for use of appropriately licenced waste facilities/transporters and records to be maintained – Section 4.1 and 4.4.</p> <p>Project record keeping to be monitored – Section 5.1.</p>
	<p>Part 9. Cl 91 and 92: Provide for exemptions relating to resource recovery.</p> <p>Resource recovery exemptions allow some wastes to be beneficially and safely re-used independent of the usual NSW laws that control applying waste to land, using waste as a fuel, or using waste in connection with a process of thermal treatment.</p> <p>Resource recovery exemptions are only appropriate if the re-use:</p> <ul style="list-style-type: none"> <li>▪ Is genuine, rather than a means of waste disposal.</li> <li>▪ Is beneficial or fit-for-purpose, and</li> <li>▪ Will not cause harm to human health or the environment.</li> </ul>	<p>Mitigation measures consider Resource Recovery Exemptions – Sections 4.1 and 4.3.</p>
	<p>Part 11, Cl 112: A person who stores waste on premises (whether or not the waste was generated on the premises) must ensure that it is stored in an environmentally safe manner.</p>	<p>Mitigation measures incorporated for waste storage – Section 4.5.</p>
Waste Avoidance and Resource Recovery Act 2001	Establishes the waste management hierarchy.	<p>Management measures have been developed in accordance with the waste management hierarchy (Section 4).</p>



### 2.3 Infrastructure Approval conditions

This Plan seeks to address the Infrastructure Approval conditions detailed in Table 2-2.

Table 2-2: Infrastructure Approval conditions relevant to waste and resource use

Reference	Requirement	Section of this CWMP
B17	<p>The Proponent must store and handle all chemicals, fuels and oils in accordance with:</p> <ul style="list-style-type: none"> <li>(a) the requirements of all relevant Australian Standards;</li> <li>(b) within a bunded area with a minimum bund capacity of 110% of the volume of the largest single stored vessel within the bund; and</li> <li>(c) the NSW EPA’s Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids.</li> </ul> <p>In the event of an inconsistency between the requirements in (a) to (c) above, the most stringent requirement shall prevail to the extent of the inconsistency.</p>	Section 4
B44	Any waste materials exposed or created in association with the construction works and proposed to be disposed of to an offsite location, must be classified in accordance with the EPA’s Waste Classification Guidelines.	Section 2 Section 4
B45	Chemicals, fuels and oils used on-site must be kept in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA’s Storing and Handling of Liquids: Environment Protection- Participants Manual (Department of Environment and Climate change, 2007).	Section 4
B46	<p>Construction cannot commence until a copy of the Site Audit Statement that covers the site subject to the development is provided to the Secretary. The Site Audit Statement must demonstrate the site is suitable for the development. Note:</p> <p><i>This condition has been included because the remediation of the site subject to the development is being carried out under a separate consent.</i></p>	Section 4
C1	<p>Prior to commencing construction, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:</p> <p>(e) include:</p> <ul style="list-style-type: none"> <li>(i) the following subplans: <ul style="list-style-type: none"> <li>• construction and operational waste management plan, incorporating management of any contaminated materials disturbed during construction.</li> </ul> </li> </ul>	Section 4 Construction Environmental Management Strategy Section 8

---

Reference	Requirement	Section of this CWMP
-----------	-------------	----------------------

*Note – approval for staging of construction and operations has been approved by DPIE, as such operations is not yet incorporated in this Plan.*

## 2.4 Standards and guidelines

The main standards and guidelines relevant to this Plan include:

- NSW Waste and Resource Recovery Strategy 2014-21 (NSW EPA, 2014)
- NSW Government Resource Efficiency Policy (OEH 2014)
- Waste Classification Guidelines (NSW EPA 2014).

### 2.4.1 Waste classification

The Environment Protection Authority's Waste Classification Guidelines (EPA, 2014) provide a step-by-step process for classifying waste based on risks to the environment and human health. The classes of waste are defined in the Protection of the Environment Operations Act 1997, Schedule 1, clause 49.

Table 2-3: Waste classification groups

Waste classification	Description
Special waste	Includes waste that has unique regulatory requirements such as asbestos or tyres and includes anything classified as special waste under an EPA gazettal notice.
Liquid waste	Waste (excluding special waste) that has an angle of repose of less than 5 degrees above horizontal, becomes free-flowing at or below 60°C or when it is transported, is generally not capable of being picked up by a spade or shovel or is classified as liquid waste under an EPA gazettal notice.
Hazardous waste	Hazardous waste (other than special waste or liquid waste) includes waste that is a dangerous good that is classified under the Transport of Dangerous Goods Code as a 'Class 1' to 'Class 8' type of waste. It can also include coal tar or coal tar pitch waste, lead-acid or nickel-cadmium batteries, lead paint waste or any mixture containing one of these types of wastes.
General solid waste (putrescible)	General solid waste (putrescible) (other than special waste, liquid waste, hazardous waste or restricted solid waste) includes standard household and litter bins waste that is collected by or on behalf of local councils, food waste, animal waste, manure and night soil and any grit of screening from sewage treatment systems.
General solid waste (non-putrescible)	General solid waste (non-putrescible) (other than special waste, liquid waste, hazardous waste, restricted solid waste or General solid waste (putrescible)) includes household recyclable waste that does not contain food waste, garden waste, wood waste, waste that was previously in dangerous containers that have been thoroughly cleaned out, virgin excavated material and building and demolition waste.

### 3. Waste impacts

An initial environmental risk assessment has been undertaken for construction of the Hunter Power Project in accordance with the process described in Section 5.1 of the CEMS. The following waste streams have been identified for construction:

- Green waste
- Construction and demolition wastes
- Virgin excavated natural material
- Excess spoil
- Hazardous liquid wastes
- Packaging.

The identified activities and potential impacts relevant to waste generation are summarised in Table 3-1. The waste classification of each waste source, and estimated volume generation during construction of the Project is presented in Table 3-1.

Table 3-1: Activities, aspects and potential impacts relevant to waste generation – Hunter Power Project construction

Activity	Waste type	Potential impact
Site clearing and grubbing including the removal of vegetation	<ul style="list-style-type: none"> <li>▪ Generation of vegetation waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased waste from improper practices or failure to implement waste hierarchy</li> </ul>
Excavation and piling	<ul style="list-style-type: none"> <li>▪ Generation of liquid waste (extracted groundwater)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inappropriate classification or disposal of extracted groundwater leading to regulatory non-compliance or environmental harm</li> </ul>
Bulk earthworks	<ul style="list-style-type: none"> <li>▪ Generation of virgin excavated natural material (VENM)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased waste from improper practices or failure to implement waste hierarchy</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Generation of excess spoil</li> </ul>	<ul style="list-style-type: none"> <li>▪ Excess volumes of excavated material requiring storage, treatment or disposal</li> <li>▪ Incorrect classification or treatment of potentially contaminated soils leading to regulatory non-compliance or environmental harm</li> </ul>
Demolition and power station construction	<ul style="list-style-type: none"> <li>▪ Generation of inert construction waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased waste from improper practices or failure to implement waste hierarchy</li> <li>▪ Excessive waste directed to landfill</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Generation of hazardous liquid wastes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inappropriate disposal of hazardous wastes leading to regulatory non-compliance or environmental harm</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Resource consumption (fuel and power)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduced resource availability</li> <li>▪ Greenhouse gas emissions due to consumption of energy from non-renewable sources</li> </ul>

Activity	Waste type	Potential impact
Compound and workshop operation	<ul style="list-style-type: none"> <li>▪ Packaging materials including scrap metals timber and cardboard</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased waste from improper practices or failure to implement waste hierarchy</li> </ul>
General office/administration, amenities including food and human waste	<ul style="list-style-type: none"> <li>▪ Generation of office waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased waste from improper practices or failure to implement waste hierarchy</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Generation of food and domestic waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Litter from inappropriate disposal of domestic waste from construction personnel</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Generation of grey and septic waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inappropriate disposal of grey and septic wastes leading to regulatory non-compliance or environmental harm</li> </ul>
Storage of waste on site	<ul style="list-style-type: none"> <li>▪ Emissions to air, land and water</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pollution of soils, groundwater and surface water</li> </ul>
		<ul style="list-style-type: none"> <li>▪ Dust or odour pollution</li> <li>▪ Littering</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Classification and segregation of waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cross contamination of wastes</li> </ul>
		<ul style="list-style-type: none"> <li>▪ Reduction in re-use of materials</li> </ul>
Waste transport and disposal	<ul style="list-style-type: none"> <li>▪ Unlicensed waste contractor's transporting waste</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regulatory non-compliance</li> </ul>
		<ul style="list-style-type: none"> <li>▪ Potential illegal dumping of waste</li> </ul>

## 4. Management and mitigation measures

A range of environmental requirements are identified in the associated environmental documents, including legislation, the Environmental Impact Statement and Infrastructure Approval conditions. Specific measures and requirements to address waste and resource consumption during construction are outlined in this section.

These measures are presented in this section within the framework of the waste management hierarchy (Figure 4-1).

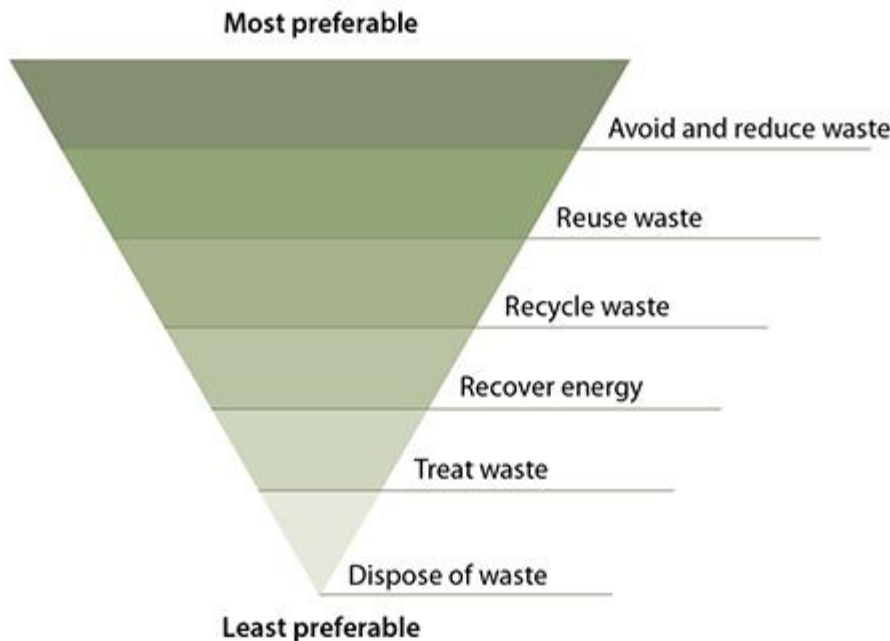


Figure 4-1: Waste management hierarchy (NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA 2014))

### 4.1 General

General requirements to mitigate the effects of waste generation and effectively implement the waste hierarchy are outlined below.

Overarching requirements for the management of waste include a commitment

- to ensure all waste chemicals, fuels and oils associated with construction (including during commissioning) are handled and stored in accordance with all relevant Australian Standards.
- the handling and storage of any hazardous liquid waste will be carried out in accordance with the *NSW EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook*.
- Where there is an inconsistency between Australian Standards and the NSW EPA requirements, the most stringent requirement shall prevail to the extent of the inconsistency

In addition to the above overarching requirements, a Site Audit Statement must be provided by Snowy Hydro to the Secretary prior to commencement of construction.

Mitigation Ref	Action / requirement	Responsibility
W1	The Principal Contractor is to be informed of the project specific requirements included in this Plan.	Snowy Hydro
W2	The site induction will inform all site personnel about the site-specific waste management procedures based on the waste management hierarchy.	Principal Contractor
W3	All work areas will be maintained in a neat and tidy condition. Covered bins for different waste streams will be used at all times and regular emptying will minimise the accumulation of litter on site.	Principal Contractor
W4	The following information will be required and provided to Snowy Hydro for information: <ul style="list-style-type: none"> <li>▪ Waste management contractors to maintain and document (via monthly reports) the types and volumes of wastes collected, recycled and disposed of.</li> <li>▪ Copies of licences or licence numbers (under the Waste Avoidance and Resource Recovery Act 2001) for transporters of industrial/hazardous waste.</li> </ul>	Principal Contractor
W5	The relevant licences of waste treatment and disposal facilities utilised for the disposal of project waste will be obtained (on a regular basis if necessary) to ensure they are legally able to accept that waste and provided to Snowy Hydro for information.	Principal Contractor
W6	Waste sampling is to occur when waste is being transported offsite to determine if it can be reused on another construction site or project or whether disposal is required, and the waste classification. In general, waste sampling will be in accordance with NSW EPA "Waste Classification Guidelines" or the relevant Resource Recovery Exemption (refer to Appendix B).	Principal Contractor

#### 4.2 Prevention (avoid and reduce waste)

The following measures will be implemented to prevent the creation of excessive waste during construction. These measures typically occur during design, construction planning and procurement activities.

Mitigation Ref	Action / Requirement	Responsibility
W7	Detailed determination of types and quantities of packaging materials required prior to ordering/purchasing to minimise wastage.	Principal Contractor
W8	Procurement of materials to favour suppliers who can reduce bulk packaging and minimise waste generation.	Principal Contractor
W9	Proactive coordination of site activities (where possible) to minimise waste by utilising unused materials.	Principal Contractor
W10	Earthworks to minimise the demand for imported fill or the need to export/dispose of excess spoil.	Principal Contractor
W11	Store supplies in a secure location that is protected from the weather.	Principal Contractor

Mitigation Ref	Action / Requirement	Responsibility
W12	Laydown areas to be kept tidy and organised so that items stored are not damaged and can be readily and safely accessed when needed by the construction operation.	Principal Contractor



### 4.3 Reuse and recycling

When avoiding or reducing waste is not possible, the following measures will be implemented so that waste can be reused on site or off site for the same or a similar use or recovered through recycling and reprocessing into a non-waste product. Waste separation and segregation will be promoted on site to facilitate effective reuse and recycling.

Ref	Action / Requirement	Responsibility
W13	Construction waste materials, including spoil and demolition waste, will be separated on site into dedicated bins / areas for either reuse on site or collection by a waste contractor and transport to offsite facilities.	Principal Contractor
W14	Waste within site offices will be segregated on site with colour coded bins being provided for mixed recyclable, organic waste, landfill and paper.	Principal Contractor
W15	Where possible, reuse excavated materials as fill on other parts of the Project in preference to off-site beneficial re-use or disposal in accordance with NSW EPA "Waste Classification Guidelines".	Principal Contractor
W16	Where re-use onsite is not possible, waste will be beneficially reused or recycled offsite in accordance with relevant approvals in preference to disposal. This may occur through the following pathways and in compliance with appropriate legislation: <ul style="list-style-type: none"> <li>▪ Resource recovery orders and exemptions as referenced in Section 2.1 of this Plan</li> <li>▪ Appropriately approved recycling facility</li> <li>▪ Appropriately approved developments which can accept waste using a notice under Section 143(3A) of the POEO Act (s.143 Notice).</li> </ul>	Principal Contractor

### 4.4 Waste disposal

The following measures will be implemented to manage waste disposal activities during construction. Waste disposal is the least preferred management approach in the waste hierarchy and will be applied only where necessary.

Ref	Action / Requirement	Responsibility
W17	All waste (including contaminated spoil) requiring off-site disposal will be classified and disposed of in accordance with the NSW EPA "Waste Classification Guidelines". Wastes that are unable to be reused or recycled will be disposed of offsite at a licensed waste management facility, or premises lawfully permitted to accept the materials following classification. Ensure NSW EPA waste tracking and licencing requirements are complied with.	Principal Contractor
W18	Regular audits of waste facility receipts will be undertaken, and cross referenced with the waste facility. Details of waste types, volumes and destinations are to be recorded in the Waste Management Register.	Principal Contractor

#### 4.5 Waste handling and storage

The following measures apply where waste is required to be handled and stored on site prior to re-use or off-site recycling or disposal. These measures are required to provide effective segregation of wastes and prevent waste from escaping into the environment.

Ref	Action / Requirement	Responsibility
W19	All stored wastes to be identified and labelled during storage at the site.	Principal Contractor
W20	Spoil, topsoil and mulch are to be stockpiled onsite in allocated areas, where appropriate, and mitigation measures for dust control and surface water management will be implemented as per the CEMS.	Principal Contractor
W21	Liquid wastes are to be stored in appropriate containers in bunded areas until transported offsite. Bunded areas will have the capacity to hold 110 per cent of the liquid waste volume for bulk storage or 120 per cent of the volume of the largest container for smaller packaged storage.	Principal Contractor
W22	Hazardous waste will be stored in bunded storage facilities at all compound areas.	Principal Contractor
W23	All other recyclable or non-recyclable wastes are to be stored in appropriate covered containers (e.g. bins or skips) in appropriate locations onsite and contractors commissioned to regularly remove/empty the bins to approved disposal or recycling facilities.	Principal Contractor
W24	Bunded areas will comply with the Department of Environment and Conservation Liquid Waste Fact Sheet – Storing liquid waste (Oct 2005).	Principal Contractor

#### 4.6 EIS Commitments

The following table are the commitments made as mitigation measures in the EIS for waste management.

EIS Ref	Mitigation measures	Timing
W1	A Construction Waste Management Plan (CWMP) will be developed and implemented prior to construction commencement. This will include consideration of a waste management hierarchy, mitigation strategies (avoidance, mitigation, reuse, recycle or disposal), use of materials with minimal packaging requirements, removal of packaging offsite and fabrication of parts offsite and appropriate segregation of any waste materials.	Construction
W2	An Operational Waste Management Plan (OWMP) will be developed and implemented prior to operational commencement. The OWMP will be implemented with consideration of a hierarchical waste management approach, mitigation strategies (avoidance, mitigation, reuse, recycle or disposal), appropriate segregation of any waste materials and a plan to collect general solid waste and hazardous waste from the Proposal Site.	Operation
W3	Any waste that cannot be recovered or recycled will be sorted and taken to a licensed treatment or disposal facility where it will be treated and disposed of according to its classification	Construction and operation
W4	An audit regime will be implemented, in accordance with the Proponent’s Health and Safety Environmental Management System during construction and operation which includes (but not limited to) quantities of waste, storage areas and contractor services.	Construction and operation

*Note – approval for staging of construction and operations has been approved by DPIE, as such operations is not yet incorporated in this Plan for implementation. The operational commitments in the table above are included for completeness.*

### 4.7 Classification of waste streams

The classification of waste streams is to be done in accordance with the six-step process described in the EPA Waste Classification Guidelines Part 1: Classifying Waste (2014) – see Figure 4-2 to Figure 4-4 and Appendix A (definitions).

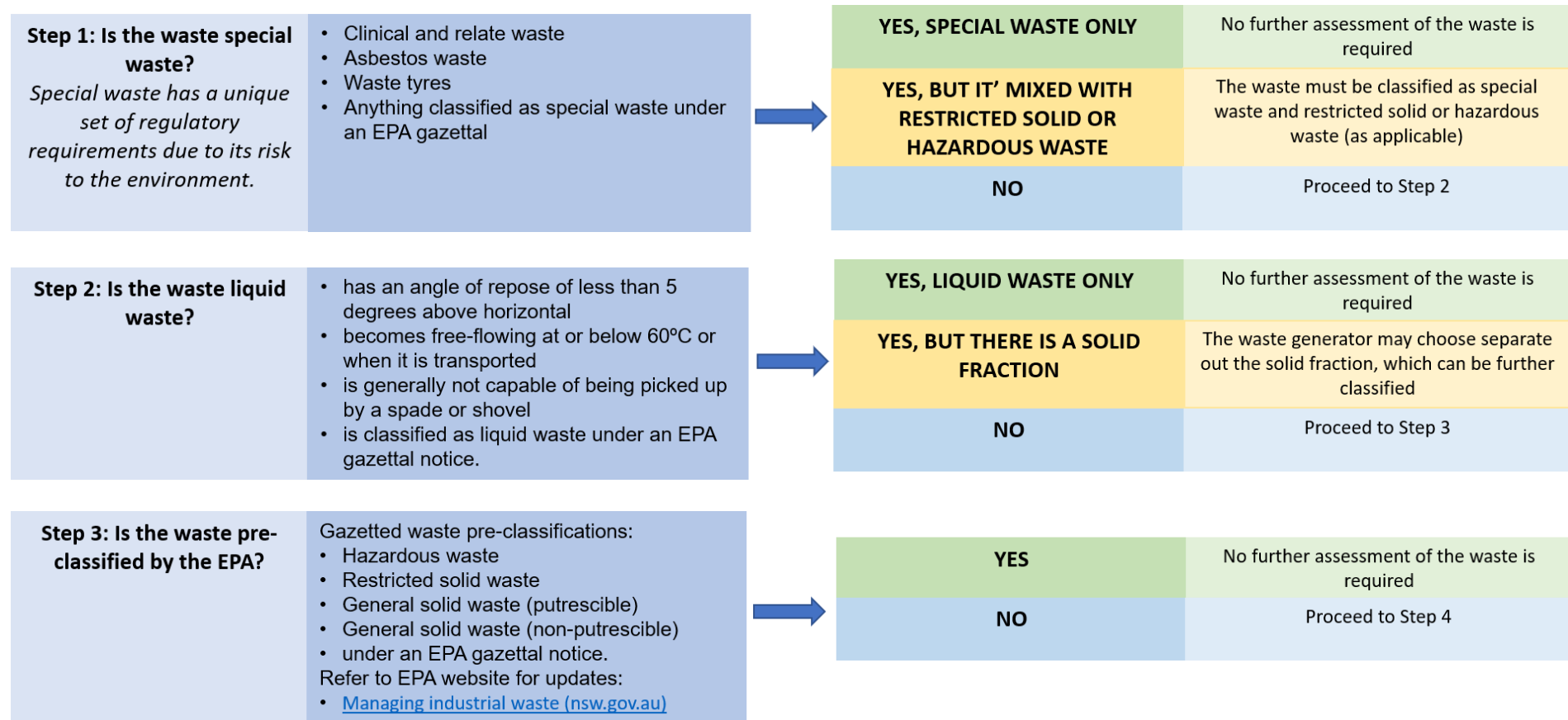


Figure 4-2: Steps 1 to 3 of the six-step process to classify waste streams (EPA 2014)

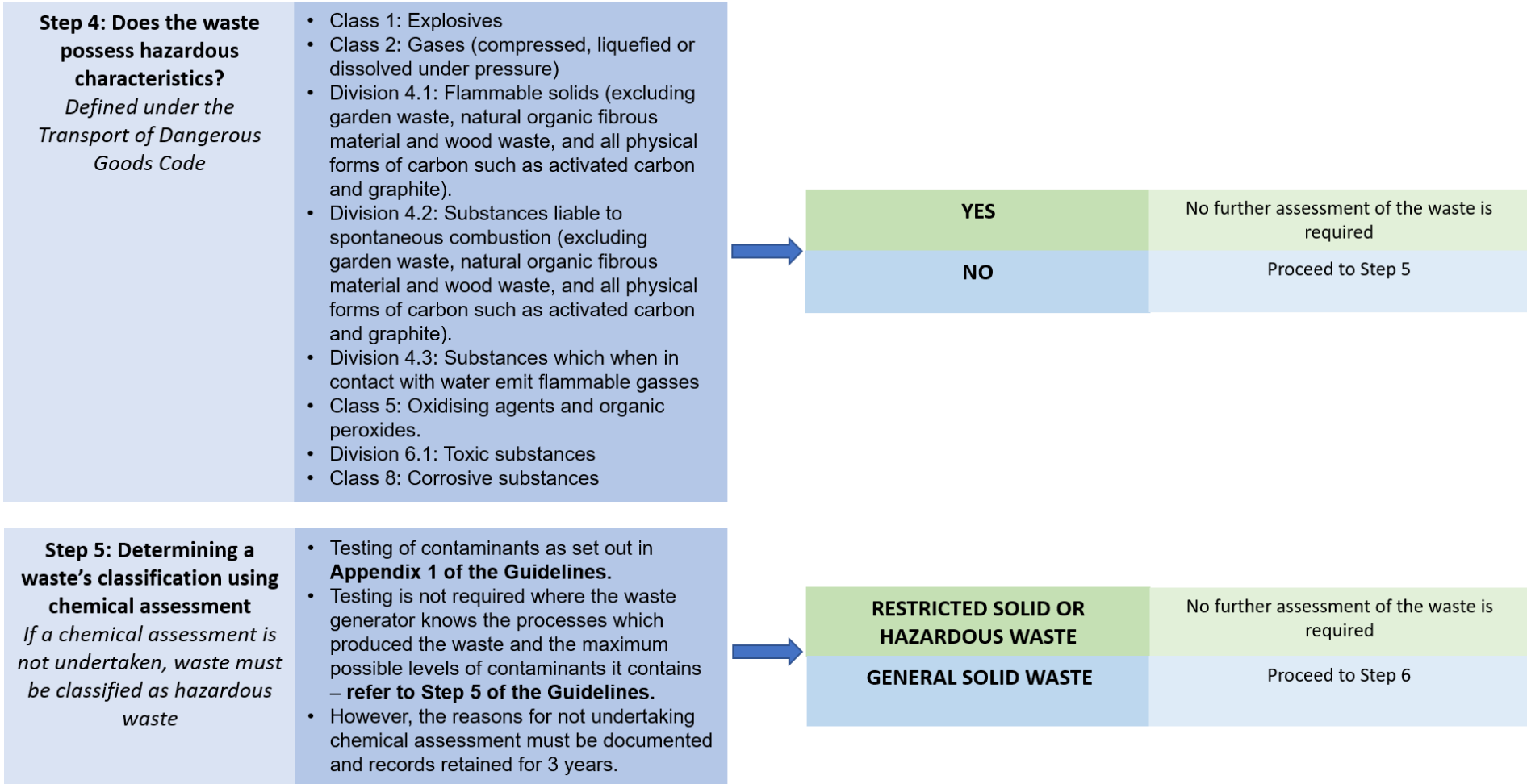


Figure 4-3: Steps 4 to 5 of the six-step process to classify waste streams (EPA 2014)

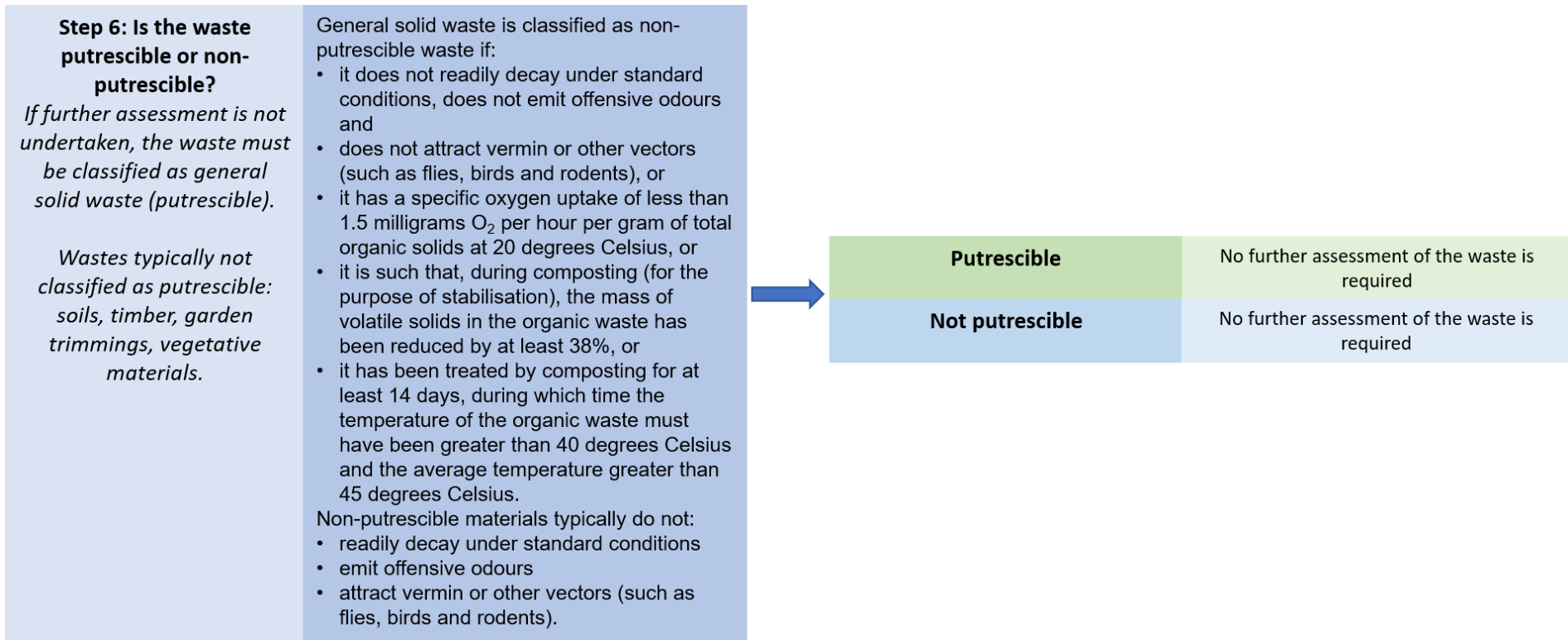


Figure 4-4: Step 6 of the six-step process to classify waste streams (EPA 2014)

#### 4.8 Classification of potential project waste streams

The types of wastes expected to be generated during construction of the Project are shown in Table 4-1.

Table 4-1: Classification of potential project waste streams

Waste Type	Waste Classification	Destination (Re-Use, Recycle or Dispose)
Vegetation	General solid waste (non-putrescible)	<ul style="list-style-type: none"> <li>Cleared vegetation will be reused or recycled to the greatest extent practicable via mulching or chipping and reapplication on site in landscaping and vegetation.</li> <li>Offsite disposal of excess mulch in accordance with the Mulch Exemption/Order 2016 or disposal to licensed waste disposal facility.</li> </ul>
Surplus soil - Virgin excavated natural material (VENM)	General solid waste (non-putrescible)	<ul style="list-style-type: none"> <li>Balance cut and fill earthworks, where possible, to minimise waste generation.</li> <li>Waste soil tested and classified.</li> </ul>
Surplus soil – Excavated natural material (ENM)	General solid waste (non-putrescible)	<ul style="list-style-type: none"> <li>Soil generated on site classified as VENM may be used in landscaping on site.</li> <li>Where an excavated material cannot be classified as VENM, it may be eligible for re-use the Excavated Material Exemption/Order 2014.</li> </ul>
Contaminated soil	Hazardous	<ul style="list-style-type: none"> <li>Investigate potential to treat and validate contaminated soil on site. If this cannot be done, contaminated soils transported to waste facility licensed by the EPA to accept the class of waste.</li> </ul>
Inert construction and demolition waste	General solid waste (non-putrescible)	<ul style="list-style-type: none"> <li>Separation for re-use/recycling on-site or send offsite for recycling.</li> <li>Collection by licensed waste contractor for offsite disposal.</li> </ul>
Hazardous liquid waste	Liquid waste	<ul style="list-style-type: none"> <li>Liquid waste will be stored in appropriate bunded containers in locked storage areas and removed off-site to a licensed waste facility.</li> </ul>
Groundwater extracted from excavations	Liquid waste	<ul style="list-style-type: none"> <li>Liquid waste will be stored in appropriate bunded containers in locked storage areas and removed off-site to a licensed waste facility.</li> </ul>
Packaging materials	General solid waste (non-putrescible)	<ul style="list-style-type: none"> <li>Collection by licensed waste contractor for offsite disposal</li> </ul>
Office waste	General solid waste (non-putrescible)	<ul style="list-style-type: none"> <li>Recycled off-site (co-mingled recycling).</li> <li>Collection of non-recyclables by licensed waste contractor for offsite disposal.</li> </ul>
Food waste	General solid waste (putrescible)	<ul style="list-style-type: none"> <li>Collection by licensed waste contractor for offsite disposal.</li> </ul>
Grey and septic waste water	Liquid waste	<ul style="list-style-type: none"> <li>To be managed as trade waste under agreement with Hunter Water Corporation.</li> </ul>

## 5. Compliance management

This section describes the environmental monitoring and reporting required to demonstrate the environmental performance of the Project compared to objectives and targets.

### 5.1 Monitoring and reporting

Monitoring and inspection of CWMP management activities will be undertaken in accordance with Table 5-1, by the Principal Contractor.

Table 5-1: Waste management monitoring plan

Type of monitoring	Frequency	Location	Responsibility	Records
Environmental inspection – <ul style="list-style-type: none"> <li>▪ Implementation of waste management activities.</li> <li>▪ Site neat, tidy, and free of litter.</li> <li>▪ Stockpiled and segregated waste collection points clearly signposted and collection adequate.</li> <li>▪ Quantities of stored materials are appropriate based on construction scheduling/procurement constraints.</li> </ul>	Weekly	Active construction areas and waste storage areas	Principal Contractor	Weekly environmental inspection checklist
Monthly review of records – <ul style="list-style-type: none"> <li>▪ Waste Management Register is being maintained monthly.</li> </ul>	Monthly	NA	Principal Contractor	Daily site diary Waste management register Disposal dockets
Environmental audit - Any environmental incidents arising from waste management activities have been reported and investigated in accordance with the Principal Contractor’s Environmental Incident procedure.	As per Project Audit schedule	NA	Principal Contractor	Environmental incident report
Environmental audit - <ul style="list-style-type: none"> <li>▪ Tracking and reporting of all waste is undertaken in accordance with the NSW EPA waste classification guidelines.</li> <li>▪ Waste facility receipts are maintained.</li> </ul>	As per Project Audit schedule	NA	Principal Contractor	Environmental audit report



Type of monitoring	Frequency	Location	Responsibility	Records
Close-out of waste management incidents – lessons are disseminated to project personnel	As required	NA	Principal Contractor	Toolbox records Pre-start records

**5.1.1 Waste management register**

A Waste Management Register of all waste collected for disposal and/or recycling will be maintained monthly until final completion. As a minimum, the register will include:

- Date of waste collection
- Waste type
- Waste classification
- Quantity
- Management method (re-use, re-cycle, disposal etc.)
- Waste contractor.

**5.2 Auditing**

Audits will be undertaken to assess the effectiveness of environmental controls, compliance with the CWMP and relevant Infrastructure Approval conditions. Audits will be undertaken in accordance with the overarching CEMS.

Review of this CWMP will be undertaken in accordance with the overarching CEMS.

**5.3 Training and induction requirements**

Environmental training, inductions, and awareness are key activities to be conducted by the Principal Contractor to ensure all staff working the Project are aware of environmental risks associated with construction, and their individual obligations.

Environmental training and awareness activities that will be conducted for staff and contractors include:

- General environmental training and awareness
- Specialised environmental training
- Site Awareness induction conducted
- Short-term workers induction
- Toolbox talks
- Targeted environmental awareness training
- Daily pre-start meetings.

A training needs and competency evaluation will also be completed, and training conducted for all personnel, contractors, and visitors to the Project Site.

Further detail on training and inductions are provided in section 7.3 of the CEMS.

**5.4 Staging and Review of Management Plans**

The Department's approval for the staging of management plans into construction and operation phases was provided on the 22nd of December 2021, and is appended to this Plan.

Regular reviews of management documentation will also occur and after certain events. The triggers for further review of this Management Plan include:

- (a) the submission of an incident report under condition C6;
- (b) the submission of an audit report under conditions C15 to C19;
- (c) the approval of any modification to the conditions of this approval;
- (d) a direction of the Secretary (Department of Planning Industry and Environment) under condition A2 of Schedule 2;
- (e) as initiated by the Principal Contractor or Snowy Hydro; or
- (f) upon the advice of the Environmental Representative.

Where revisions are made, then within 4 weeks of the review the revised document will be submitted to the Secretary for approval, unless otherwise agreed with the Secretary, or within the scope of the Environmental Representative role as set out in condition A23.

## 5.5 Review and improvement

The CEMS and associated plans will be regularly reviewed as part of a continual improvement process to ensure they remain current and relevant to the Project.

It is the Principal Contractor's responsibility to advise Snowy Hydro when a change to the CEMS or plan is required to enable the Project to continue or improve. Where an amendment is required, this will be made by Snowy Hydro and if required, agreed with DPIE, prior to the work that it relates to is conducted. The exact wording of condition of approval C5 is used below under 'Trigger events and CEMS review'.

Throughout the construction of the Project, the Principal Contractor will communicate to Snowy Hydro any proposed changes to their own environmental management documentation which may necessitate an amendment to the overall CEMS. In this case the Environmental Representative will also be consulted regarding the potential change.

It is a requirement the CEMS and all associated plans are reviewed and updated within three months of the following events:

- The submission of an environmental incident report
- The submission of an audit report
- The approval of any modification to the conditions of the Infrastructure Approval
- A direction of the Secretary.

Condition C22 provides for the Secretary to approve a revised strategy or plan required under the conditions of approval, or the stage submission of these documents, at any time. With the approval of the Secretary, the Proponent may prepare the revised or staged strategy or plan without undertaking consultation with all parties nominated under the applicable.

It is recommended that a non-routine review of the CEMS and all plans occur within 3 months of the following:

- Practical completion of a significant stage of construction works
- A significant change in site conditions
- A change in the applicable laws, approvals, EPL or Infrastructure Approval conditions
- If a new, major sub-contractor begins working on site
- If requested by the Principal Contractor or Snowy Hydro.

## 5.6 Incident notification

The Principal Contractor will notify Snowy Hydro upon becoming aware of an incident, and Snowy Hydro will then notify the Secretary in writing via the Major Projects website immediately.

The key aspects the notification will address are:

- (a) the development and application number (12590060);
- (b) details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
- (c) how the incident was detected;
- (d) when the Proponent became aware of the incident;
- (e) any actual or potential non-compliance with conditions of approval;
- (f) what immediate steps were taken in relation to the incident;
- (g) further action(s) that will be taken in relation to the incident; and
- (h) a development contact for further communication regarding the incident. Unless otherwise stated in the incident notification, this is the Snowy Hydro Approvals Manager on 0409 840 165.

## 5.7 Non-compliance notification

In the instance of a non-compliance, the Secretary will be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance. Snowy Hydro will lodge the notification.

The Principal Contractor must notify Snowy Hydro whenever it is aware of a non-compliance.

The key aspects a non-compliance notification will address are:

- (a) the development and application number (12590060);
- (b) the condition of approval that the development is non-compliant with;
- (c) the way in which the development does not comply;
- (d) the reasons for the non-compliance (if known); and
- (e) the corrective and preventative actions undertaken to address the non-compliance.

For clarity, a non-compliance which has been already been notified as an incident does not need to also be notified as a noncompliance to the Major Projects website.

### 5.8 Compliance reporting

Compliance Reports of the development will be carried out by Snowy Hydro with the support of the Principal Contractor, and also upon the advice of the Environmental Representative where applicable. Reporting is to be in accordance with, and upon the timing set out in, the *Compliance Reporting Post Approval Requirements (2020)* or subsequent version.

Snowy Hydro must make each Compliance Report publicly available within 60 days of submitting it to the Secretary.

There is an opportunity to request and agree an alternative reporting method and timing with the Secretary to those identified in this section. If sought, this is to be done by Snowy Hydro in consultation with the Department.

### 5.9 Complaints and enquiry management

An enquiry is defined as a question or request for information.

A complaint is defined as a statement that describes Project related activities as unsatisfactory or unacceptable. Complaints may also be accompanied by threats to contact the media, local MP, or some other authority.

Complaints and enquiries may be received by any method. The CRM will acknowledge and respond to enquiries and complaints about the Project, as per the process and timeframes shown in the table below. Where the complaint rises to the level of a dispute it shall be managed in accordance with the steps outlined in section 6.3 in the Construction Environmental Management Strategy.

Table 5-1: Complaints and enquiries management

Complaints and enquiries management	
Responding to complaints received during standard work hours	<ul style="list-style-type: none"> <li>▪ Investigate and determine source of complaint immediately</li> <li>▪ Provide an oral response acknowledging receipt of complaint to complainant as soon as possible. Every effort will be made to respond within 24 hours for emails, or one week for letters</li> <li>▪ Investigate the potential environmental impacts and consequences of the complaint</li> <li>▪ Record details of complaint received, how it was managed and the actions required to close out the complaint</li> <li>▪ Provide an update of the complaints register to the ER for any complaints received on the day they are received.</li> </ul>
Responding to enquiries received during standard work hours	<ul style="list-style-type: none"> <li>▪ Record details of enquiry received</li> <li>▪ Provide a response to enquirer on the next business day.</li> </ul>
Responding to enquiries and complaints out of hours	<ul style="list-style-type: none"> <li>▪ Stakeholders will be provided with the Project phone number for specific complaints and enquiries related to works out of hours. This number will be monitored by the CRM on a 24-hour basis</li> <li>▪ The CRM will triage complaints and enquiries and liaise directly with the Principal Contractor to respond. Non-urgent enquiries and complaints will be dealt with on the next business day</li> <li>▪ All details of the enquiry or complaint will be recorded in the Project consultation complaint register by the CRM.</li> <li>▪ Provide an update of the complaints register to the ER for any complaints received on the day they are received.</li> </ul>



## 6. References

Jacobs (2021). Hunter Power Project Environmental Impact Statement. Prepared for Snowy Hydro Limited, 22 April 2021

NSW EPA (2014). NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (NSW EPA, 2014)

NSW EPA (2014). Waste Classification Guidelines (NSW EPA 2014).

Office of Environment and Heritage (2014). NSW Government Resource Efficiency Policy (OEH 2014)

Ramboll (2016). Environmental Impact Statement, Former Hydro Aluminium Kurri Kurri Smelter Remediation and Demolition Project, July 2016.

Ramboll (2016). Remedial Action Plan Hydro Aluminium Smelter Kurri Kurri Smelter, July 2016

## Appendix A. Waste classification definitions

Source: EPA Waste Classification Guidelines Part 1, 2014

### A.1 Special waste

#### A.1.1 Clinical and related waste

Clinical and related waste means:

- clinical waste
- cytotoxic waste
- pharmaceutical, drug or medicine waste
- sharps waste.

#### A.1.2 Asbestos waste

**Asbestos** means the fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.

**Asbestos waste** means any waste that contains asbestos.

#### A.1.3 Waste tyres

**Waste tyres** means used, rejected or unwanted tyres, including casings, seconds, shredded tyres or tyre pieces.

### A.2 Pre-classified waste

#### A.2.1 Hazardous waste

The following waste types (other than special waste or liquid waste) have been pre-classified by the EPA as 'hazardous waste':

- containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies, from which residues have not been removed by washing<sup>2</sup> or vacuuming
- coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising of more than 1% (by weight) of coal tar or coal tar pitch waste
- lead-acid or nickel-cadmium batteries (being waste generated or separately collected by activities carried out for business, commercial or community services purposes)
- lead paint waste arising otherwise than from residential premises or educational or child care institutions
- any mixture of the wastes referred to above.

**Transport of Dangerous Goods Code** means the document called the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition), approved by the Ministerial Council for Road Transport and published by the Commonwealth Government from time to time.

#### A.2.2 Restricted solid waste

Currently, no wastes have been pre-classified by the EPA as 'restricted solid waste'.

Restricted solid waste therefore currently only includes wastes assessed and classified as restricted solid waste in accordance with the procedures in Step 5 of this guide.

### A.2.3 General solid waste (putrescible)

The following wastes (other than special waste, liquid waste, hazardous waste or restricted solid waste) have been pre-classified by the EPA as 'general solid waste (putrescible)':

- household waste that contains putrescible organics
- waste from litter bins collected by or on behalf of local councils
- manure and night soil
- disposable nappies, incontinence pads or sanitary napkins
- food waste
- animal waste
- grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids
- any mixture of the wastes referred to above.

In assessing whether waste has been pre-classified as general solid waste (putrescible), the following definitions apply:

**Animal waste** includes dead animals and animal parts and any mixture of dead animals and animal parts.

**Food waste** means waste from the manufacture, preparation, sale or consumption of food but does not include grease-trap waste.

**Manure** includes any mixture of manure and biodegradable animal bedding, such as straw.

### A.2.4 General solid waste (non-putrescible)

The following wastes (other than special waste, liquid waste, hazardous waste, restricted solid waste or general solid waste (putrescible)) are pre-classified as 'general solid waste (non-putrescible)':

- glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal
- paper or cardboard
- household waste from municipal clean-up that does not contain food waste
- waste collected by, or on behalf of, local councils from street sweepings
- grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems, that has been dewatered so that they do not contain free liquids
- grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids
- garden waste
- wood waste
- waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions
- containers, previously containing dangerous goods, from which residues have been removed by washing or vacuuming



- drained oil filters (mechanically crushed), rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids
- drained motor oil containers that do not contain free liquids
- non-putrescible vegetative waste from agriculture, silviculture or horticulture
- building cavity dust waste removed from residential premises or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact
- synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) being waste that is packaged securely to prevent dust emissions, but excluding
- asbestos waste
- virgin excavated natural material
- building and demolition waste
- asphalt waste (including asphalt resulting from road construction and waterproofing works)
- biosolids categorised as unrestricted use, or restricted use 1, 2 or 3, in accordance with the criteria set out in the Biosolids Guidelines (EPA 2000)
- cured concrete waste from a batch plant
- fully cured and set thermosetting polymers and fibre-reinforcing resins
- fully cured and dried residues of resins, glues, paints, coatings and inks
- any mixture of the wastes referred to above.

In assessing whether waste has been pre-classified as general solid waste (non-putrescible), the following definitions apply:

**Building and demolition waste** means unsegregated material (other than material containing asbestos waste or liquid waste) that results from:

- the demolition, erection, construction, refurbishment or alteration of buildings other than
  - chemical works
  - mineral processing works
  - container reconditioning works
  - waste treatment facilities
- the construction, replacement, repair or alteration of infrastructure development such as roads, tunnels, sewage, water, electricity, telecommunications and airports

and includes materials such as:

- bricks, concrete, paper, plastics, glass and metal
- timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP)

but does not include excavated soil (for example, soil excavated to level off a site prior to construction or to enable foundations to be laid or infrastructure to be constructed).

**Garden waste** means waste that consists of branches, grass, leaves, plants, loppings, tree trunks, tree stumps and similar materials, and includes any mixture of those materials.

**Virgin excavated natural material** means natural material (such as clay, gravel, sand, soil or rock fines):

- that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities
- that does not contain sulfidic ores or soils, or any other waste,

and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice published in the NSW Government Gazette.

**Wood waste means** sawdust, timber offcuts, wooden crates, wooden packaging, wooden pallets, wood shavings and similar materials, and includes any mixture of those materials, but does not include wood treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP).

## Appendix B. Resource recovery exemptions

The general resource recovery exemptions that may be applicable to this work are defined below. These are general gazette orders and exemptions that do not require approval.

Current orders and exemptions in force in NSW are reported on the NSW EPA website:

<https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/resource-recovery-framework/current-orders-and-exemption>

Prior to utilising these exemptions, the waste needs to be adequately classified using the Waste Classification Guidelines to make sure that the waste meets the requirements. This may include sampling and testing for example to prove that the material is excavated natural material.

Once classified, these exemptions may be used to enable the reuse of waste rather than disposing of it at a licenced facility. A specific exemption may be granted where an application is made to the EPA.

Exemption/order	General conditions
The excavated natural material exemption 2014	<ul style="list-style-type: none"> <li>▪ The chemical concentration or other attributes of the excavated natural material listed in the Excavated Natural Material Exemption must not be exceeded.</li> <li>▪ The excavated natural material can only be applied to land as engineering fill or used in earthworks.</li> <li>▪ Excavated natural material handling, processing and testing requirements are outlined in detail in the exemption.</li> </ul>
The mulch exemption 2016	<ul style="list-style-type: none"> <li>▪ The raw mulch can only be applied to land for the purposes of filtration or as a soil amendment material or used either singularly or in any combination as input material(s) to a composting process.</li> <li>▪ The consumer must apply the raw mulch to land within a reasonable period of time.</li> </ul>