Tallawarra Stage B Gas Turbine Power Station

Waste Management Sub Plan

EnergyAustralia Tallawarra Pty Ltd

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Abbreviations

Abbreviation	Meaning
CCGT	Combined cycle gas turbine
CEMP	Construction environmental management plan
CoA	Conditions of Approval to Major Project MP07-0124
DPIE	Department of Planning, Industry and Environment
EA	Environmental Assessment (SKM, 2009)
EMS	Environmental management strategy
ENM	Excavated natural material
EP&A Act	*Environment Planning and Assessment Act 1979*
EPA	NSW Environment Protection Agency
EPL	Environment protection licence
ER	Environmental representative
EWMS	Environmental work method statements
GECL	GE Clough, engineering, procurement and construction contractor
HSSE	Health, safety, security and environment
kV	Kilovolts
Mod-1	Modification 1 to Major Project MP07-0124
Mod-2	Modification 2 to Major Project MP07-0124
MW	Megawatts
OEMP	Operational environmental management plan
OCGT	Open cycle gas turbine
POEO Act	*Protection of the Environment Operations Act 1997*
SEPP	State Environmental Planning Policy
SoC	Statement of Commitments within the Environmental Assessment and Submissions Report (SKM, 2009/2010)
SWMP	Soil and water management plan
VENM	Virgin excavated natural material
WARR Act	*Waste Avoidance and Resource Recovery Act 2001*
WMP	Waste management plan

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1 Introduction

1.1 Document structure

The Tallawarra B open cycle gas turbine power station project (the Project) Environmental Management Strategy (EMS) provides the overarching strategic environmental management framework for the delivery (design, construction and operation) of the Project.

Within the management framework provided by the EMS, a Construction Environment Management Plan (CEMP) has been developed by EnergyAustralia to provide a system of environmental management for the construction phase of the project. The CEMP includes procedures, policies, and processes to establish and maintain project compliance and best practice controls. Its implementation will ensure that potential environmental impacts are managed during the construction of the Project. The CEMP is structured to include a range of aspect specific management sub-plans, including this document, to translate the corresponding environmental management requirements, commitments, and conditions of approval into an actionable construction management plan.

This Waste Management Sub-Plan (WMP) has been prepared to supplement the CEMP. It should be read in conjunction with the EMS and CEMP. This WMP should be used to inform the development of Environmental Work Method Statement (EWMS)

This WMP is required to be implemented by EnergyAustralia and contractors that undertake construction work on the project.

1.2 Location and land use

The Project is located at Yallah Bay Road, Yallah approximately 13 km south of Wollongong and 60 km south of Sydney. The site was previously used for a coal-fired power station, which was decommissioned in 1989. The Project will be constructed immediately adjacent to the existing Tallawarra A closed cycle gas turbine power station. As a result of its previous uses, most of the land surrounding the Project site (Tallawarra Lands) is vacant and has been cleared of vegetation. Currently, cattle grazing, and other rural activities constitute the primary land use beyond the power station site boundary.

1.3 Tallawarra A power station

The existing Tallawarra A closed cycle gas turbine power station is operated by EnergyAustralia. It will continue be operational throughout construction of the Project. The Project will utilise much of the existing Tallawarra Stage A power station equipment and infrastructure during construction.

1.4 Objectives

The Project objectives underpin the objectives of the Waste Avoidance and Resource Recovery Act 2001 and are created in line with the NSW Government's hierarchy of waste management. The objectives of this WMP are to:

- Comply with relevant policies, legislation and licences
- Prevent and reduce adverse waste impacts on the environment throughout the construction and pre-operational stages of the Project, through:
  - Avoiding waste where possible
  - Minimising waste generation
  - Reuse and recycle waste products where possible
  - Separation of waste into classification groups (with specific attention to Non-hazardous and Hazardous categories)

- Promote ecologically sustainable development through maximising efficient use, re-use, recovery, and recycling, of resources
- Dispose of all waste in line with classification and legal requirements
- Handle and dispose of all waste in an appropriate and safe manner.

2 Relevant legislation and guidelines

2.1 Relevant legislation

The relevant legislation addressed in this WMP include:

- *Contaminated Land Management Act 1997*
- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- EP&A Regulation 2000
- *Environmentally Hazardous Chemicals Act 1985*
- *Protection of the Environment Operations Act 1997* (POEO Act)
- POEO (General) Regulation 2009
- POEO (Waste) Regulations 2005
- *Waste Avoidance and Resource Recovery Act 2001* (WARR Act)
- *Work Health and Safety Act 2011*
- Work Health and Safety Regulation 2011
- Wollongong City Council local requirements.

A responsibility table for addressing approvals, licenses, and permits required for the Project is provided in the EMS Appendix G.

2.2 Guidelines and policies

The guidelines and policies addressed in this WMP include:

- Wollongong City Council Development Control Plan– Management of All Wastes Associated with Building Sites - Technical Policy, 1999.
- Environmental Guidelines: Assessment, Classification and Management of Non-Liquid and Liquid Waste (EPA, 1999).
- Waste Classification Guidelines Part 1: Classifying waste (NSW EPA, 2014).
- Waste Classification Guidelines Part 2: Immobilisation of waste (NSW EPA, 2014).
- Waste Classification Guidelines Part 3: Waste containing radioactive material (NSW EPA, 2014)
- Waste Classification Guidelines Part 4: Acid sulfate soils (NSW EPA, 2014).
- Waste Reduction and Purchasing Policy (WRAPP) (NSW Government, 1997).
- Guidelines on Resource Recovery Exemptions - Land Application of Waste Materials as Fill (NSW EPA, 2017)
- Guidelines on Resource Recovery Exemptions - Land Application of Waste Materials as fertiliser or soil amendment (NSW EPA, 2017).
- Storing and Handling Liquids, Environmental Protection: Participants Manual (NSW DECC, 2007).
- Hazard Analysis State Environmental Planning Policy No. 33 (SEPP 33) – Hazardous and Offensive Development
- Code of Practice How to Safely Remove Asbestos (NSW Government, 2019).

2.3 Conditions of approval

The conditions of approval specifically relating to this WMP are provided in Table 2-1 along with the responsibility for compliance. Where these conditions translate into an environmental safeguard or management measure, Table 5-1 indicates where in this WMP (or other management plan) the condition is addressed.

Table 2-1: Conditions of approval relevant to the WMP

CoA #	Condition Requirement	Responsibility	Where addressed
3.20	The Proponent shall not permit any offensive odour, as defined under section 129 of the *Protection of the Environment Operations Act 1997*, to be emitted beyond the boundary of the site.	EnergyAustralia	NAQMP
3.58	All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.	EnergyAustralia Contractor	Section 3.8 Section 5
3.59	The Proponent shall, to the extent that is reasonable and feasible, maximise the treatment, reuse and/or recycling on the project site of any waste oils, excavated soils, vegetation, slurries, sludges or other solid and liquid waste materials associated with the project, to minimise the need for treatment or disposal of those materials outside the power station.	EnergyAustralia	Section 3.6 Section 5
3.60	The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste.	EnergyAustralia	Section 3.8 Section 5
3.61	The Proponent shall ensure that all liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with Waste Classification Guidelines (EPA, 2009), or any superseding document.	EnergyAustralia	Section 3.4 Section 5
5.1 and Appendix 1	The Secretary must be notified in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. The notification must identify the development (including the application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 1 [of the major project approval].	EnergyAustralia	Section 7.5 Appendix C
7.7	Within 3 months, unless the Secretary agrees otherwise, of: a) the submission of an incident report under condition 5.1 of this approval; b) the submission of an Independent Environmental Audit report under condition 5.11 of this approval; c) the approval of any modification to the conditions of this approval; or d) a direction from the Secretary under condition 1.3 of this approval; the Proponent must review and, if necessary, revise the studies, strategies or plans required under the conditions of approval to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Secretary for approval, unless otherwise agreed with the Secretary.	EnergyAustralia	Section 7.6

3 Aspects and impacts

3.1 Project waste sources

The potential environmental impacts from construction and pre-operational activities include generation of:

- Demolition wastes would include concrete, asphalt, masonry and bricks, and scrap metal
- Construction wastes from construction activities would include timber, oil, grease and chemical fluids, masonry, concrete, scrap metal, packaging material and plastics
- Green wastes from clearing and grubbing activities would include vegetation, soil and rock
- Excess soil / spoil from earthworks
- General administration and domestic waste from onsite personnel would include ink cartridges, paper, cardboard, plastic, food waste, glass bottles, aluminium cans
- Wastewater from additional construction and preoperational workers.

3.2 Project waste management

The waste management approaches for the Project would include:

- Demolition waste would be processed offsite and recycled where practical. Some material may be processed onsite and reused for the Project.
- Construction waste would be processed offsite and recycled where practical. Some material may be processed onsite and reused for the Project.
- Green waste and earthworks waste would be disposed of at an appropriate facility. Some material may be processed onsite and reused for the Project.
- Excess soil / spoil from earthworks is expected to be approximately 18,000m^3. It would be classified and reused on site where appropriate, such as in landscaping or for structural fill if appropriate.
- Unsuitable and excess material (including contaminated soils and asbestos containing material) will be classified and removed to an appropriately licenced facility.
- General waste will be sorted and recycled or disposed of off-site at appropriate facilities.
- Wastewater including oily water or sewerage from construction personnel will be collected with temporary pump out facilities and will be removed from site.

Requirements for the management or disposal of Project wastes are provided in Table 5-1.

3.3 Reuse and recycling

Underpinning the objectives of the WARR Act (2001), the NSW government prioritises waste management and minimisation with the following hierarchy (Table 3-1).

Table 3-1: Waste minimisation hierarchy

Priority	Action	Details
1	Avoid or reduce	■ Avoid single use products ■ Purchase sustainable or biodegradable products ■ Choose products with less packaging
2	Reuse	■ Reuse without processing product ■ Sell products ■ Donate products

Priority	Action	Details
3	Recycle	▪ Process to make similar or different products of use
4	Recover	▪ Recover energy from the product ▪ Cycle energy back into the productive economy or the environment
5	Treat or dispose	▪ Some hazardous materials cannot be reused or recycled ▪ May need to be treated to minimise potential environmental or health impacts.

3.4 Classifying waste

Waste classification for the project will be undertaken in accordance with the Waste Classification Guidelines Part 1: Classifying waste (NSW EPA, 2014), classifies six types of waste:

1. Special
2. Liquid
3. Hazardous
4. Restricted solid
5. General solid (putrescible)
6. General solid (non-putrescible).

Liquid and pre-classified wastes are listed on the EPAs '**managing industrial waste**' webpage. Pre-classifications are defined in Schedule 1 of the POEO Act.

The 6-step process for classifying waste is outlined in Table 3-2. Complete definitions and regulations can be found in Waste Classification Guidelines Part 1: Classifying waste (NSW EPA, 2014).

Table 3-2: Six-step process for waste classification (NSW EPA, 2014)

Step	Process	Detail / examples
1	Is it 'special waste'?	▪ Clinical and related waste ▪ Asbestos waste ▪ Waste tyres ▪ Anything under EPA gazettal notice
2	Is it 'liquid waste'?	▪ Angle of repose of less than 5 degrees above horizontal ▪ Becomes free flowing at or below 60°C, or when it's transported ▪ Generally, not capable of being picked up by a spade or shovel ▪ Classified as a liquid waste under EPA gazettal notice
3	Is the waste 'pre-classified'?	▪ Hazardous ▪ Restricted Solid ▪ General Solid (putrescible) ▪ General Solid (non-putrescible)
4	Is the waste 'hazardous'?	▪ Explosives ▪ Gases ▪ Flammable solids ▪ Substances liable to spontaneous combustion ▪ Substances which when in contact with water emit flammable gases ▪ Oxidising agents and organic peroxides

Step	Process	Detail / examples
		■ Toxic substances ■ Corrosive substances
5	Undertake a chemical assessment	■ Chemically assess waste if it has not been classified in Step 1-4. ■ If no chemical assessment takes place, waste must be classified as hazardous
6	Is the solid waste 'putrescible' or 'non-putrescible'?	■ If chemical assessment shows waste as solid, further assessment is required to determine whether it is putrescible or non-putrescible. If this assessment does not take place, the waste must be classified as solid (putrescible).

3.5 Resource recovery exemptions

Under Clause 51 of the POEO (Waste) Regulation 2005, certain resources are permitted as exceptions to licensing and payment levies by the EPA. Application for a resource recovery order and exemption can be made via the EPA if none currently exist for the planned waste re-use. See NSW EPA Guidelines (2017) for the full guidelines on resource recovery orders and exemptions.

3.6 Handling and storage

When waste must be handled and stored onsite, the appropriate measures depend on the waste classification. When waste is stored onsite, separate containers will be used for different waste classifications and different management methods (reuse/recycle/dispose). All waste material will be stored and handled in line with the relevant legislation and guidelines. General handling and storage guidance include:

Special waste/ contaminated soil/ spoil:

- Spoil will be classified as either VENM, ENM, clean fill, or potentially contaminated material
- Clean fill spoil and VENM can be reused onsite
- Special waste/ contaminated material must be stored so that there is no risk of drenching/ stormwater run-off coming into contact with the waste
- Unsuitable and excess material (including contaminated soils and asbestos containing material) will be classified and removed from site to an appropriately licenced facility.
- Where on site treatment of contaminated soils is feasible (such as for acid sulfate soils) this may be undertaken in accordance with the SWMP.

Liquid waste:

- Stored in appropriate containers or bunded areas
- Generally taken off site to an appropriately licenced facility.

Hazardous waste:

- Hazardous material will be stored and handled in line with the relevant legislation and guidelines
- Segregate all hazardous waste from non-hazardous waste
- Stored so that there is no risk of drenching/ stormwater run-off coming into contact with the waste
- Managed by appropriately qualified and licenced personnel
- Disposed of in line with the EPA waste disposal guidelines.

General solid waste: recyclable/ reusable

- Stored in appropriate containers
- Separate recyclable and reusable
- Separate putrescible and non-putrescible materials.

General solid waste, disposable:

- Stored in appropriate containers
- Separate putrescible and non-putrescible materials.

3.7 Disposal

With respect to the NSW waste minimisation hierarchy (see Section 3.3), when waste cannot be avoided, reused, recycled, or recovered, it must be disposed of correctly. Disposal method will be dependent on waste classification (see Section 3.4), and in accordance with the POEO Act 1997 and the WARR Act 2001 (and associated regulations). All waste material will be managed, transported, and disposed of in line with the relevant legislation and guidelines.

3.7.1 Onsite

Waste generated during the Project should be managed as described in Table 3-3 and should be recorded in the waste management register (Appendix A).

Table 3-3: Potential waste generation streams and waste management measures

Aspect	Waste	Classification	Reuse/ Recover/ Recycle/ Dispose	Method
General (Domestic)	Sewage	General solid (putrescible)	Dispose	In part managed by the existing sewerage system controlled by the Owner. Pump out facilities will be required to facilitate extra sewage from construction workers. Transported by a licensed waste carrier to an appropriate disposal facility.
	Food waste	General solid (putrescible)	Recycle	Compost if practical. Excess transported to an appropriate waste facility for disposal.
	Glass bottles/ aluminium cans	General solid (non-putrescible)	Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible.
	General plastic	General solid (non-putrescible)	Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible.
General (Administration)	Paper, cardboard, and plastic	General solid (non-putrescible)	Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible.
	Ink cartridges	General solid (non-putrescible)	Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible.
	Batteries	Hazardous	Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible.
Earthworks	Vegetation	General solid (non-putrescible)	Reuse Dispose	Mulch/reuse native vegetation onsite; excess not reused can be transported to a licensed green waste facility Noxious weeds disposed of at a licensed landfill facility Transported by a licensed waste carrier to an appropriate recycling facility where possible.
	Asbestos	Special waste	Dispose	Disposed off-site at an appropriately licenced facility

Aspect	Waste	Classification	Reuse/ Recover/ Recycle/ Dispose	Method
	Contaminated soil and spoil	General solid (non-putrescible), or Hazardous if containing toxic substances	Dispose	Disposed off-site at an appropriately licenced facility
	Clean fill/ VENM	General solid (non-putrescible)	Reuse	Clean fill can be reused as construction fill
Construction/ Demolition	Oil, grease, fuel, chemicals, other fluids	Liquid waste, or Hazardous if containing toxic substances	Disposal	Separated from no hazardous waste Transported by a licensed waste carrier to an appropriate disposal facility where possible.
	Spoil	General solid (non-putrescible)	Reuse Disposal	Sorted onsite for reuse Excess transported to an appropriate waste facility for disposal.
	Concrete/ asphalt/ gravel	General solid (non-putrescible)	Reuse Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible. Expected to be processed via crushing offsite and recycled Some amounts may be processed onsite and reused.
	Masonry/ brick	General solid (non-putrescible)	Reuse Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible. Expected to be processed via crushing offsite and recycled Some amounts may be processed onsite and reused.
	Scrap metal	General solid (non-putrescible)	Reuse Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible. Expected to be processed via crushing offsite and recycled Some amounts may be processed onsite and reused
	Timber	General solid (non-putrescible)	Reuse Recycle	Transported by a licensed waste carrier to an appropriate recycling facility where possible.
	Packaging materials and plastics	General solid (non-putrescible)	Reuse Recycle	Expected to be processed via crushing offsite and recycled- Some amounts may be processed onsite and reused Transported by a licensed waste carrier to an appropriate recycling facility where possible.

3.7.2 Offsite

As stated in the Conditions of Approval, the Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the POEO Act 1997, if such a licence is required in relation to that waste.

When waste is generated onsite and disposed of offsite, the waste will be:

- Separated into waste classifications

- Transported by a licensed contractor
- Transported to an EPA approved waste management site that is lawfully permitted to accept the materials, a licensed recycling facility, or licensed landfill facility.

All waste that is moved offsite should be recorded in the Waste Management Register (Appendix A).

3.8 Tracking waste

Certain wastes are required to be tracked when they are moved offsite, in accordance with Schedule 1 of the POEO (Waste) Regulation 2005, see Annexure 1 of POEO Waste, 2005 for a full list of trackable wastes and tracking requirements. When tracking wastes offsite, the following requirements must be adhered to by the producer of the waste, transporter, and receiver of the waste (Table 3-4):

Table 3-4: Waste tracking obligations under the POEO (Waste) Regulation 2005

Responsible party	Obligations
Producer of waste	■ Obtain a consignment authorisation for the waste ■ Obtain a certified waste transport certificate for the waste, and give this certificate to the waste transporter ■ Engage a licensed waste transporter ■ Keep records (consignment authorisation, and waste transportation certificate) for a minimum of 4 years and available for inspection upon request
Transporter of waste	■ Certify the waste transport certificate for the waste ■ Check that there is a consignment authorisation for the waste ■ Retain the waste transport certificate for the waste ■ Must not remove the waste (exceptions in POEO [Waste] Regulation 2005)
Receiver of waste	■ Check that there is a consignment authorisation for the waste ■ Obtain and certify the waste transportation certificate for the waste ■ Must be licensed to store the waste ■ Notify the EPA if the waste has been rejected ■ Notify the proponent whether the waste has been accepted or rejected

3.9 Project GeoPortal and sensitive area maps

The Project's environmentally sensitive areas (e.g. waste management areas, areas of contaminated soil, asbestos risk areas, stockpile locations, etc) are identified and visually displayed in the project **GeoPortal**. The GeoPortal is a web-based geospatial mapping tool that digitally identifies site environmentally sensitive areas and key project features and ancillary facilities.

Works should consider avoidance, management and/or mitigation of these environmentally sensitive areas. Further information is available in the CEMP, Section 6.4.

4 Roles and responsibilities

Full details on contracting arrangements, organisational structure and project roles and responsibilities are provided in Section 8 of the CEMP. The project personnel roles and responsibilities are replicated from the CEMP in Table 4-1.

Table 4-1 Roles and responsibilities

Organisation / authority	Role	Responsibilities
EnergyAustralia	Project Director	■ Ensures delivery of the design and construction phase of the Project. They are ultimately responsible for ensuring that impacts are minimised, and obligations are met. ■ Ensure adequate resources are assigned to the site ■ Overall site responsibility for Health, Safety, Security and Environmental Compliance (some delegated authority to the Environmental and Safety Specialist) ■ Day to day management of the project site ■ Responsibility for liaison with property owners and general community on site matters such as complaints and incident management ■ Ensuring that task activities are planned, implemented, controlled and their progress monitored in accordance with the EMS, CEMP and related plans ■ Reviewing the results of internal audits (including the delegation to action owners to respond to corrective action requests) ■ Ensures that incidents requiring investigation are followed up and effective ■ Provide monthly Operational Reports to EnergyAustralia Management ■ Auditing site activities to ensure compliance with the specifications, drawings, contract requirements, statutes, approval standards environmental commitments and sound engineering practice ■ Liaison with EnergyAustralia and government authorities as required ■ Ensure Leaders are completing training scheduling as per the Training Report received from the Business Operations Coordinator ■ Responsible for ensuring sufficient resources are allocated to install, inspect, maintain and repair environmental controls particularly after wet weather

Organisation / authority	Role	Responsibilities
EnergyAustralia	Construction Lead	▪ Assisting the HSSE Lead ▪ Ensuring adequate knowledge transfer during shift handover ▪ Participating in plant walk downs to ensure work area issues are identified and rectified ▪ Assist in risk assessments reviews to ensure hazards are identified and appropriate controls are in place ▪ Ensuring that all personnel under the team's control comply with HSSE Lead requirements ▪ Oversee management of the day to day environmental aspects of the site ▪ Manage the works, including management of sub-contractors ▪ Leads the investigation of environmental incidents and near misses ▪ Ensures all personnel are aware of environmental compliance requirements and environmental controls ▪ They are responsible for ensuring that the engineers take into consideration the requirements detailed within the CEMP and that there are sufficient resources in the field to meet these commitments. ▪ EWMS collection, assessment, monitoring and review ▪ Ensure that all workers have signed onto and off EWMS ▪ Manage day to day works in the field. Ensure activities are undertaken in accordance with the EMS, CEMP and EWMS ▪ Reporting all environmental incidents to the HSSE Lead ▪ Checking the site on a regular basis and ensuring that regular maintenance is undertaken to minimise environmental impacts ▪ Ensure that personnel are provided with appropriate environmental "toolbox" training ▪ Ensure that appropriate scheduling of works is undertaken to enable meeting environmental requirements ▪ Ensure that the requirements associated with erosion and sediment controls are implemented ▪
EnergyAustralia	HSSE Lead	▪ Implement the project environmental management strategy ▪ Review the CEMP ▪ Consult with the Stakeholder Manager regarding regulatory requirements and environmental design issues ▪ Ensure that all project environmental obligations are met and prepare reports on compliance ▪ Obtain relevant pre-construction licences, permits and approvals ▪ Provide input and advice to others preparing activity specific EWMS ▪ Manage environmental consultants ▪ Consultation with regulatory agencies ▪ Ensure that all project environmental obligations are met ▪ Obtain relevant licences, permits and approvals necessary during construction ▪ Identify and prepare environmental induction and training materials ▪ Liaise with government agencies and relevant stakeholders ▪ Respond to environmental incidents ▪ Supports the investigation of environmental incidents and near misses ▪ Maintain environmental documents.

Organisation / authority	Role	Responsibilities
EnergyAustralia	Deputy Project Director (and subordinates)	■ Responsible for ensuring that environmental considerations are integral to the decision making for all design and construction activities ■ Liaise closely with the HSSE Lead to ensure that the environmental controls and procedures contained in the EMS and CEMP are implemented ■ Conduct regular checks of the site to ensure environmental controls such as sediment fences and dust suppression are functioning effectively.
Contractors and subcontractors	All employees / sub-contractors	■ Comply with all HSSE procedures, including adopted procedures from approved environmental management systems ■ Conducting Safe work observations ■ Reporting all safety and environmental incidents ■ Complying with the requirements of the EMS, the CEMP and sub-plans ■ Preparing activity specific EWMS that comply with the EMS and CEMP ■ Undertaking activities in accordance with approved EWMS ■ Maintaining environmental records.

5 Environmental safeguards and management measures

The Project environmental safeguards and management measures are consolidated in Table 5-1.

5.1 Conditions of approval

The conditions of approval specifically relating to this WMP are provided Table 2-1 along with the responsibility for compliance. Where these conditions translate into an environmental safeguard or management measure, they are included in Table 5-1.

5.2 Statements of commitments

The Environmental Assessment, inclusive of the Statement of Commitments (EA, 2009) provides the mitigation measures and safeguards that have been developed to manage potential environmental impacts associated with the Project. The Environmental Assessment commitments specifically applicable to this WMP are addressed in Table 5-1.

5.3 Commitments made in Project modifications

No commitments relevant to the management of potential waste impacts have been made in Modification 1, Modification 2, submissions reports associated with these modifications, or technical specialist studies that prepared to support the modification applications.

The exception to this is the commitment made by EnergyAustralia in Mod-2 that during construction wastewater pump out facilities will be used, and construction sewerage will be removed from site to an appropriate facility. This commitment is addressed in the SWMP.

5.4 Environmental protection licence

No licence conditions relevant to the management of waste are required by the environmental protection licence (EPL) during construction of the Project.

Table 5-1: Environmental safeguards and management measures

ID	Objectives	Action	Timing	Responsibility	Reference
1.	Avoid or minimise waste where possible	Adherence to the NSW government waste minimisation hierarchy throughout the construction and preoperational stage of the project.	Preconstruction Construction	▪ HSSE Lead ▪ Contractor	NSW government waste minimisation hierarchy WARR Act 2001
		Maximise the treatment, reuse and/or recycling on the project site of any waste oils, excavated soils, vegetation, slurries, sludges or other solid and liquid waste materials associated with the project, to minimise the need for treatment or disposal of those materials outside the power station.	Construction	▪ HSSE Lead ▪ Contractor	CoA 3.59
		Native vegetation and green waste can be re-used as mulch for revegetation. Noxious weeds will be disposed of at an appropriately licensed landfill facility. Vegetation not reused can be transferred to an appropriately licensed green waste facility	Preconstruction Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.4
		Make sure that correct quantities of materials are ordered and delivered.	Preconstruction Construction	▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Investigate use of recycled materials onsite	Construction	▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Existing concrete pavement material is expected to be processed via crushing offsite and recycled. Some amounts may be processed onsite and reused.	Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Asphalt to be re-used as a roads base layer, or through transferring to batching plants, where practicable.	Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Clean excavated fill material is to be used as construction fill where suitable.	Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Excavated material to be used for landscaping where practicable	Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Scrap metal to be transferred to an appropriate recycling facility or reused where suitable.	Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2
		Materials that cannot be reused will be disposed of at licensed management waste management and recycling facilities.	Construction	▪ HSSE Lead ▪ Contractor	SKM 2009 Environmental Assessment Section 7.11.2

ID	Objectives	Action	Timing	Responsibility	Reference
		Monitoring of waste generation and disposal will be undertaken with the Waste Management Register.	Construction	■ HSSE Lead ■ Contractor	Statement of Commitments (SKM 2009)
		The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the POEO Act 1997, if such a licence is required in relation to that waste.	Construction	■ HSSE Lead ■ Contractor	Conditions of Approval 3.60
2.	Personnel training	Site Induction and Environmental training is mandated for all project personnel, subcontractors, and consultants. Training will address waste management obligations and practices.	Preconstruction Construction	■ HSSE Lead ■ Contractor	CEMP section 8.1
		A waste management plan (WMP) will be developed for incorporation into the CEMP. The WMP will include: – procedures for the management of construction wastes from the site – an inventory of all waste types anticipated – the preferred options for re-use, recycling or disposal. The WMP will seek to ensure that all waste generated at the site is recorded to help achieve waste minimisation.	Preconstruction	■ HSSE Lead	This plan
3.	Correct waste management, including storage and handling, transport, and disposal	Ensure that all liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with Waste Classification Guidelines (EPA, 2009), or any superseding document.		■ HSSE Lead ■ Contractor	Conditions of Approval 3.61 Waste Classification Guidelines (EPA, 2009)
		All waste with be handled, stored and disposed of in accordance with its waste classification and in line with the relevant legislation and guidelines. All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.	Preconstruction Construction	■ HSSE Lead ■ Contractor	POEO Act 1997 WARR Act 2001 Condition of Approval 3.58 Statement of Commitments (SKM 2009)
		All relevant waste will be tracked offsite according to Schedule 1 of the POEO (Waste) Regulation 2005.	Construction	■ HSSE Lead ■ Contractor	POEO (Waste) Regulation 2005

ID	Objectives	Action	Timing	Responsibility	Reference
4.	Minimise hazardous waste risks	All hazardous waste material, including contaminated soil, empty oil drums or fuel drums, will be managed, transported and disposed of in line with hazardous or special waste classification and in line with the relevant legislation and guidelines. All hazardous waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials. Asbestos containing materials will be managed in accordance with the EnergyAustralia Asbestos Management Plan version 7 or any superseding version, and NSW Code of Practice.	Preconstruction Construction	▪ HSSE Lead ▪ Contractor	Energy Australia's Asbestos Management Plan version 7 NSW Code of Practice (Asbestos) Statement of Commitments (SKM 2009)
5.	Economical use of existing facilities	Maximise the use of the EnergyAustralia existing Tallawarra Stage A power station equipment and infrastructure, including but not limited to the power station control room, administration building, amenities and workshop building, internal roads and car parking domestic wastewater treatment and disposal system, security fencing and visual screening.	Preconstruction Construction	▪ HSSE Lead ▪ Contractor	Preliminary assessment CEMP

6 Monitoring

Monitoring, measurement, analysis and evaluation for the project is detailed and maintained as part of the EMS, Section 7.5. Specific monitoring for the WMP is detailed in this section.

6.1 Tallawarra A wastewater management system

Energy Australia's operational EMP in place for the Tallawarra A power station addresses the EPL 555 requirements regarding sewage and effluent. The construction wastewater generated by the Project will be collected and managed with pump-out facilities (see SWMP). However, during early construction works the Tallawarra A wastewater management facilities may be used by Project personnel provided it does not exceed the system design capacity.

Specific monitoring requirements for the Tallawarra A wastewater management system that therefore apply to this WMP are provided in Table 6-1. These monitoring requirements are addressed in the Tallawarra A OEMP.

Table 6-1: Tallawarra A wastewater management EPL monitoring requirements

Type	Purpose	Frequency	Method	Responsibility
EPL No.555 Identification P1.3 item 2	Effluent quality monitoring	Quarterly during discharge	Pit grab sample and lab testing	HSSE Lead as part of implementation of the Tallawarra A OEMP
EPL No. 555 Identification P1.3 item 3	Sewage volume monitoring	Continuous	Measurement from flowmeter	HSSE Lead as part of implementation of the Tallawarra A OEMP

6.2 Project waste monitoring

Monitoring, measurement, analysis and evaluation for the project is detailed and maintained as part of the EMS, Section 7.5. Specific monitoring requirements that apply to this WMP are provide in Table 6-2.

Table 6-2: WMP monitoring requirements

Type	Purpose	Frequency	Responsibility
Waste	To maintain tracking register for appropriate disposal of wastes. Refer to the Waste management Register (Appendix A).	Weekly during construction	▪ HSSE Lead ▪ Contractor

7 Compliance management

7.1 Communication

Communication shall be undertaken as outlined in the EMS Section 6.

7.2 Consultation

The conditions of approval do not require any specific consultation to occur in relation to this WMP. No consultation with agencies or Public Authorities has been conducted for the WMP. Any consultation that occurs during the Project should be logged in the agency consultation log in Appendix B.

7.3 Training and competency

All project personnel are required to undergo site induction training which incorporates WMP measures in accordance with Section 8 of the CEMP.

7.4 Auditing and reporting

Regular audits and inspections are to be completed in accordance with Section 12 of the CEMP. Audits and inspections will assess WMP compliance, to identify any issues of noncompliance, and to confirm licence and approval conditions are being met. Audits shall also consider how following targets that apply to this WMP are being addressed:

- Adherence to relevant legislation, statutory requirements, permit and/or licenses
- Waste generation and disposal is monitored through the Waste Management Register, up to date and accessible
- Waste is managed according to the WMP
- Waste storage and handling is in line with the WMP and in accordance with the relevant legislation and guidelines per waste classification
- Waste disposal, transportation, and tracking is in line with the WMP and in accordance with the relevant legislation and guidelines per waste classification
- Adequate waste storage and disposal areas, clearly labelled and segregated depending on waste classification/ disposal or recycling method
- Hazardous and special waste managed appropriately and safely, and stored separately to non-hazardous waste, no risk of stormwater runoff
- Adherence to the reuse and recycle hierarchy of waste management, including avoiding and minimising waste where possible
- No complaints received in relation to waste management practices.

Reporting on audit outcomes is to be undertaken in accordance with Section 12 of the CEMP.

7.5 Incident management and corrective actions

The management, investigation, reporting and notification process for environmental incidents is to be undertaken in accordance with:

- GECL Emergency Response Plan for Tallawarra B (where related to the construction of the project)
- EnergyAustralia Emergency Response and Preparedness Plan TALLA-EA-10111-AQB070-0002 (where related to the broader project site or Tallawarra A operations)

- Conditions of Approval incident reporting requirements
- EPL 555 requirements.

If an incident does occur, project personnel in the immediate area are required to promptly cease works and follow the processes in line with the EnergyAustralia Emergency Response and Preparedness Plan TALLA-EA-10111-AQB070-0002, and notification and reporting requirements outlined in the following sections.

If the incident is under the control of GECL during construction, then the GECL Emergency Response Plan for Tallawarra B must be followed.

Generally environmental incident notification and reporting would ensure that all environmental incidents and non-compliances must be immediately reported to the HSSE Lead and Construction Manager. Verbal notification must occur immediately on becoming aware of the incident or non-compliance. EnergyAustralia will notify NSW EPA immediately of all pollution incidents that cause or threaten material harm to the environment. EnergyAustralia will also notify the ER of any environmental incident immediately or within 24 hours of becoming aware of the incident.

EnergyAustralia will notify the Secretary in writing via the Major Projects website immediately after it becomes aware of an environmental incident following the requirements of CoA 5.1 and Appendix 1 of the major project approval. The major project approval Appendix 1 incident reporting requirements are replicated in Appendix C of this WMP.

For full details of incident management requirements, refer to Section 10 of the CEMP.

7.6 Review

This plan will be subject to continuous review throughout the construction stage of the Project, aimed at identifying areas for improvement.

Specific review of this plan is required to comply with Condition of Approval 7.7. This condition requires that within 3 months, unless the Secretary agrees otherwise, of:

a) the submission of an incident report under condition 5.1 of this approval;

b) the submission of an Independent Environmental Audit report under condition 5.11 of this approval;

c) the approval of any modification to the conditions of this approval; or

d) a direction from the Secretary under condition 1.3 of this approval;

EnergyAustralia must review and, if necessary, revise the studies, strategies or plans required under the conditions of approval to the satisfaction of the Secretary.

Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Secretary for approval, unless otherwise agreed with the Secretary.

8 References

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Appendix A: Waste management register

Example waste management register

Date/ Time	Waste Classification	Waste Stream	Description (e.g. brick, vegetation, sewage)	Amount	Onsite/ Offsite	Transport	Receiving Facility	Waste Use (Disposed/ Recycled/ Reused)	Invoice No/ Reference

Appendix B: Agency consultation log

No consultation with stakeholders has been undertaken specifically in relation to the WMP. Any future consultation undertaken for this WMP should be summarised in the table below.

Agency	Date	Method	Actions and responses
No consultation undertaken	*19/10/2021*		

Appendix C: Incident notification requirements (major project approval, Appendix 1)

Written incident notification requirements:

1. A written incident notification addressing the requirements set out below must be submitted to the Secretary via the Major Projects website within seven days after the Proponent becomes aware of an incident. Notification is required to be given under this condition even if the Proponent fails to give the notification required under condition 5.1 or, having given such notification, subsequently forms the view that an incident has not occurred.

2. Written notification of an incident must:

    a. identify the development and application number;
    b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
    c. identify how the incident was detected;
    d. identify when the Proponent became aware of the incident;
    e. identify any actual or potential non-compliance with conditions of approval;
    f. describe what immediate steps were taken in relation to the incident;
    g. identify further action(s) that will be taken in relation to the incident; and
    h. identify a project contact for further communication regarding the incident.

3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Secretary, the Proponent must provide the Secretary and any relevant public authorities (as determined by the Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.

4. The Incident Report must include:

    a. a summary of the incident;
    b. outcomes of an incident investigation, including identification of the cause of the incident;
    c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
    d. details of any communication with other stakeholders regarding the incident.

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