



Hunter Power Project

Construction Environment Management Strategy

| Approved Version 4

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Hunter Power Project

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Executive Summary

Snowy Hydro Limited has received approval from the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) to develop the Hunter Power Project (the 'Project') near Kurri Kurri, NSW. The Project involves the construction, commissioning, and operation of a gas-fired power station, electrical switchyard and associated supporting infrastructure. The power station is expected to have a generation capacity of up to approximately 750 megawatts (MW), which would be generated via two industrial frame heavy duty F-Class gas turbine units in open cycle gas turbine configuration. The gas turbines will primarily be fired on natural gas with the use of diesel fuel as a backup.

The Project will operate as a "peak load" generation facility supplying electricity at short notice when there is a requirement in the National Energy Market. The Project will connect into Ausgrid's existing 132 kV electricity overhead transmission infrastructure located adjacent to the Project Site.

As part of the approval, a Construction Environment Management Strategy (CEMS) is required prior to the commencement of construction. A CEMS and associated management plans have been prepared to provide an environmental management framework for the construction and commissioning stages of the Project. The CEMS describes how the Principal Contractor will comply with all statutory environmental requirements, manage potential environmental impacts, and ensure appropriate controls are in place to minimise and prevent risks to the environment.

The CEMS utilises information gathered in the planning phase and carries it through to the operational phase ensuring continuity of relevant environmental information and transfer from the Principal Contractor, subcontractors, and all teams working on the construction and commissioning stages of the project. The CEMS is supported by management plans in specialist areas to ensure adequate detail is carried through for areas of major environmental risk.

Glossary of terms

| Term | Definition |
|----------------------|--|
| Commissioning | Program of testing and certification of all Project components, systems, and processes to demonstrate the Project can operate to the required standards before commencing operation. This includes cold commissioning stage comprised of standard construction type activities, and hot commissioning stage comprised of burning fuel to set up the operational plant and test it according to various performance scenarios |
| Department | Same meaning as Department under the EP&A Act |
| Gas lateral | Branch pipeline to connect the main Sydney-Newcastle gas pipeline to the Project Site (not yet built; outside of scope of CEMS) |
| Principal Contractor | The Contractor engaged by Snowy Hydro Limited, who has management and control over the construction and commissioning stages of the Project, and who will plan, manage, monitor and coordinate Health, Safety and Environment activities |
| Project Site | The area of land that is directly impacted on by a development, including access roads, and areas used to store construction materials. Includes the areas covered by Modification 1 and Modification 2 |
| Proponent | Snowy Hydro Limited |
| Secretary | Planning Secretary under the EP&A Act, or nominee |
| Secretary's Approval | A written approval from the Secretary and/or delegate |
| Sensitive Receptor | A location where people are likely to work or reside; this may include a dwelling, school, hospital, office, or public recreational area (EPA 2016) |

Abbreviations

| Abbreviations | Definitions |
|-----------------|--|
| ACH | Aboriginal cultural heritage |
| AHD | Australian Height Datum |
| APZ | Asset Protection Zone |
| ASS | Acid Sulfate Soils |
| BDAR | Biodiversity Development Assessment Report |
| BFMCs | Bush Fire Management Committees |
| CEMS | Construction Environmental Management Strategy |
| CSSI | Critical State Significant Infrastructure |
| CWMP | Construction Waste Management Plan |
| dB(A) | Decibel: A-weighted, approximates the sensitivity of the human ear |
| DECC | Department of Environment and Climate Change |
| DPHI | Department of Planning, Housing and Infrastructure (formerly DPIE) |
| DPIE | Department of Planning, Industry and Environment |
| EP&A Act | <i>Environmental Planning and Assessment Act 1979</i> |
| EP&A Regulation | Environmental Planning and Assessment Regulation 2021 |
| EPA | Environment Protection Authority (NSW) |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999</i> |
| EPL | Environment Protection Licence under the POEO Act |
| GIS | Geographic Information System |
| NSW DCCEEW | NSW Department of Climate Change, Energy, the Environment and Water |
| OEMP | Operational Environment Management Plan |
| OSOM | Oversize overmass (heavy vehicle transport) |
| PHA | Preliminary hazard analysis |
| POEO Act | <i>Protection of the Environment Operations Act 1997</i> |
| RAPs | Registered Aboriginal Parties |
| RFS | NSW Rural Fire Service |
| SEARs | Secretary's Environmental Assessment Requirements |
| SSI | State Significant Infrastructure |
| TfNSW | Transport for NSW |
| TMP | Traffic Management Plan |
| WM Act | <i>Water Management Act 2000</i> |

1. Introduction

1.1 Purpose

This Construction Environment Management Strategy (CEMS) and associated management plans have been prepared to provide a framework for the construction and commissioning stages of the gas fired power station at Kurri Kurri, NSW ('Hunter Power Project', or 'Project'). The CEMS describes how the Project will comply with all statutory requirements, manage potential environmental impacts, and ensure appropriate controls are in place to minimise and prevent risks to the environment. It provides a framework for environmental management and utilises information gathered in the planning stage through to the operational stage to ensure information continuity and transfer between the parties working on each stage of the project. The CEMS is supported by plans in specialist areas to ensure adequate detail is carried through for areas of major project environmental risk.

Implementing the CEMS and associated management plans will ensure the Project meets the Infrastructure Approval conditions of the New South Wales (NSW) Department of Planning, Housing and Infrastructure (DPHI, or the Department) and will provide the Principal Contractor and subcontractors on the Project Site the guidance needed to mitigate environmental risks and meet or exceed their environmental obligations. The conditions are from the Department's Infrastructure Approval (refer to Section 1).

1.2 Scope

The CEMS is the principal environmental management document that describes the systems in place to minimise and manage environmental risks associated with the construction and commissioning of the project. It incorporates all requirements of the EIS, and all relevant licences, permits, and approvals for the project. The Environmental Management Strategy will be developed in a staged manner, this Construction Environmental Management Strategy will be followed by an Operational Environmental Management Strategy.

The CEMS has been prepared in accordance with:

- Infrastructure Approval SSI-12590060 (Specifically Conditions C1 – Environmental Management Strategy and C21 – Updating and Staging of Studies, Strategies and Plans)
- AS/NZS ISO 14001
- Controls and mitigation measures outlined in the Project EIS (Appendix D)
- *Environmental Management Plan Guideline – Guideline for Infrastructure Projects* (Department of Planning, Industry and Environment, April 2020).

Management plans that are required for construction and commissioning are appended to the CEMS and sit within the overarching CEMS framework. The management plans, their key content and associated consultation and approval requirements are listed in Table 1-1 and included in the Appendices. Environmental aspects that require management and controls during construction and commissioning, but are not included in specific management plan, are included within the CEMS and are outlined in Section 8: Environmental management.

Snowy Hydro with Jacobs has developed the management plans identified in Table 1-1. The Principal Contractor is required contractually to develop site practices documented in a Construction Environmental Management Plan, and other supporting plans as required, that address these management plans and Infrastructure Approval conditions.

Table 1-1 CEMS management plan framework

| CEMS plans | Key content | Consultation and approval requirements |
|--|---|--|
| Water Management Plan (refer to Appendix E) | <ul style="list-style-type: none"> ▪ Surface water quality monitoring ▪ Spill response ▪ Stockpile management ▪ Unexpected, contaminated land and asbestos finds ▪ Groundwater drawdown monitoring ▪ Erosion and stormwater ▪ As required by condition B40 | <ul style="list-style-type: none"> ▪ Consultation with EPA NSW, NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW), Hunter Water Corporation and Cessnock Council ▪ Approval by Secretary as part of CEMS ▪ To be prepared by a suitably qualified person endorsed by the Secretary |
| Air Quality Management Plan (refer to Appendix F) | <ul style="list-style-type: none"> ▪ Dust ▪ Plant/ vehicle emissions | <ul style="list-style-type: none"> ▪ Consultation with EPA NSW ▪ Approval of Air Quality Management Plan by Secretary as part of the overall CEMS |
| Noise and Vibration Management Plan (refer to Appendix G) | <ul style="list-style-type: none"> ▪ Out of Hours work ▪ Noise and vibration | <ul style="list-style-type: none"> ▪ Consultation with EPA NSW ▪ Approval by Secretary as part of the overall CEMS |
| Waste Management Plan (refer to Appendix H) | <ul style="list-style-type: none"> ▪ Licences and permits for handling, transportation and disposal ▪ Waste classification | <ul style="list-style-type: none"> ▪ Approval by Secretary as part of the overall CEMS |
| Biodiversity Management Plan (refer to Appendix I) | <ul style="list-style-type: none"> ▪ Vegetation pre-clearance ▪ Fauna rescue and relocation ▪ Environmental monitoring ▪ Unexpected Finds Procedure ▪ Biodiversity offset settlement process | <ul style="list-style-type: none"> ▪ Consultation with BCS ▪ Approval by Secretary ▪ To be prepared by a suitably qualified and experienced biodiversity expert. |
| Cultural Heritage Management Plan (refer to Appendix J) | <ul style="list-style-type: none"> ▪ Archaeological monitoring ▪ Unexpected finds ▪ Strategy for managing Aboriginal objects | <ul style="list-style-type: none"> ▪ Consultation with Registered Aboriginal Parties (RAPs) and Heritage NSW ▪ Approval by Secretary ▪ To be prepared by a suitably qualified and experienced biodiversity expert. |
| Traffic Management Plan (refer to Appendix K) | <ul style="list-style-type: none"> ▪ Construction parking and access ▪ Drivers code of conduct ▪ Vehicle movement program and monitoring ▪ Dilapidation survey for Hart Road | <ul style="list-style-type: none"> ▪ Consultation with Cessnock Council and TfNSW ▪ Approval by Secretary |

| CEMS plans | Key content | Consultation and approval requirements |
|------------|---|--|
| | <ul style="list-style-type: none"> ▪ Oversize overmass (OSOM) vehicle requirements | |

The CEMS is applicable to the construction and commissioning stages of the project; details of the construction and commissioning activities are described in Section 3: Project. While the Operational stage of the project will be managed under a separate OEMP, environmental risks and mitigation measures that may be relevant to both stages are noted to ensure consistency and to aid in the transition between the construction and operational stages.

2. Project description

2.1 Project overview

Snowy Hydro Limited (Snowy Hydro, the Proponent) is developing a gas fired power station near Kurri Kurri (Figure 2-1 and Figure 2-2), NSW. Snowy Hydro has obtained approval from the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This approval was modified on 1 March 2023 (Modification 1) to expand the Project Site to include Precinct 3B and allow specific activities to occur in this area as well as an increase in light vehicle traffic associated with the Project during its construction phase. The approval was further modified on 16 November 2023 (Modification 2) to allow the construction of a 200 bed Temporary Worker Accommodation Facility which will operate for the duration of the Project's construction phase.

The Project involves the construction, commissioning and operation of a power station and electrical switchyard, together with other associated infrastructure (Figure 2-3). The power station will have a generation capacity of up to approximately 750 megawatts (MW), generated by two industrial frame heavy duty F-Class gas turbine units in Open Cycle Gas Turbine configuration. The gas turbines will primarily be fired on natural gas with the use of diesel fuel as a backup.

The major supporting infrastructure required for the Project would be a 132 kV electrical switchyard located within the Project Site. Also required is a new gas lateral pipeline and gas receiving station (which is being developed by a third party and is the subject of a separate planning approval). Multiple existing 132 kV transmission lines will exit the electrical switchyard and eventually connect into the Kurri Zone Substation and the Newcastle Terminal Station.

Dispatchable electricity is deemed critically important to the stability of the National Energy Market due to the increase in intermittent renewable (solar and wind) energy generators entering the market, along with the future retirement of coal-fired power stations. The Project will operate as a "peak load" generation facility supplying electricity at short notice when there is a requirement in the National Energy Market.

Operations are expected to commence in 2025, with a total Project life of about 30 years.

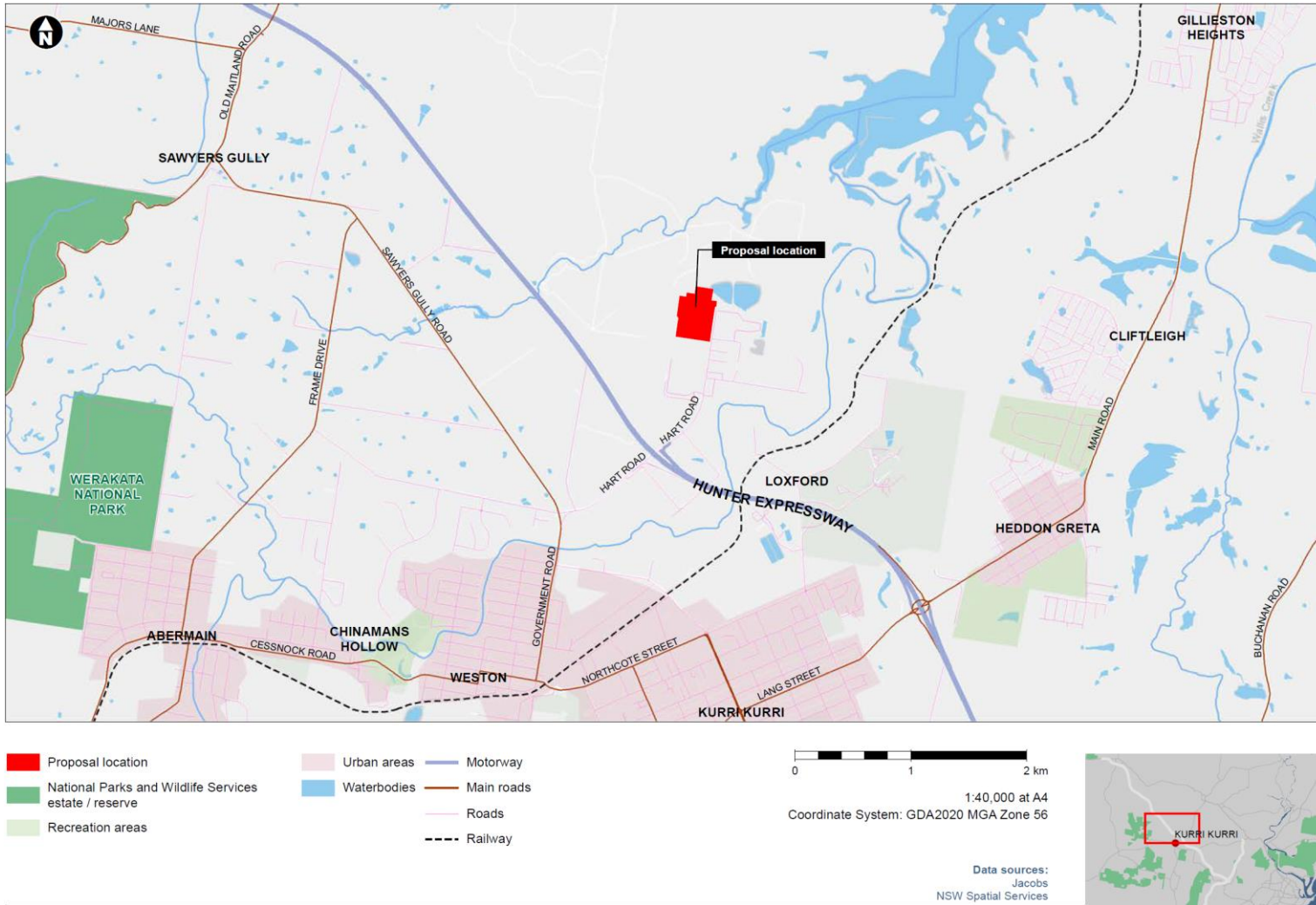
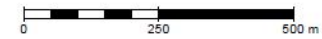


Figure 2-1 Project location (regional)



- Hunter Power Project site
- Modification 1: Precinct 3B site
- Modification 2: Temporary workforce accommodation facility site
- Asset Protection Zone
- Railway
- Waterways
- Waterbodies



1:10,000 at A4
Coordinate System: GDA2020 MGA Zone 56

Data sources:
Jacobs 2023
Aerometrex 2024
NSW Spatial Services



Hunter Power Project

Date: 19/10/2024 Path: J:\0\Projects\04_System\0334301\02_Spatial\Directory\Templates\Figures\HPP\WFacilityModification\0334301_TWAFacilityModification.aprx Created by: AA | QA by: KI

Figure 2-2 Project location (local)

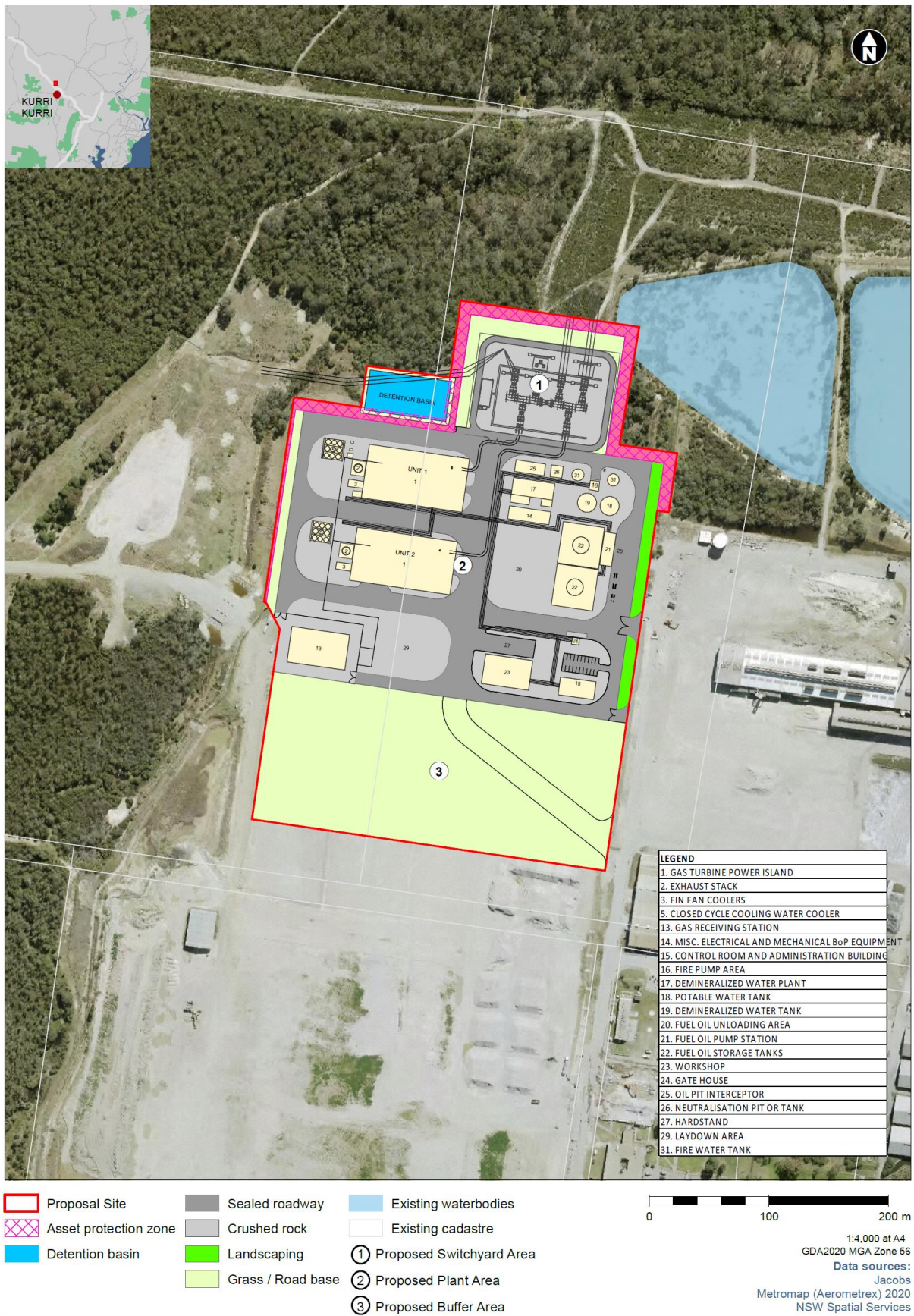


Figure 2-3 Power station site layout

2.2 Project elements

Key Project elements are described in Table 2-1.

Table 2-1 Key Project elements

| Project element | Summary |
|--|---|
| Gas turbine power Island | Two heavy duty F-class Open Cycle Gas Turbines, with the necessary balance of plant infrastructure, generator circuit breakers and generator step-up transformers. |
| 132 kV Electrical Switchyard | <p>Circuit breakers, bus-bars, isolators, series reactor and switchyard equipment including either underground cables or overhead line support gantries between the power station and the switchyard.</p> <p>Switchyard would be either air-insulated or gas-insulated; subject to detailed design.</p> <p>Switchyard voltage would be 132 kV. The switchyard would connect directly to existing Ausgrid overhead 132 kV transmission lines.</p> |
| Supporting balance of plant infrastructure | <ul style="list-style-type: none"> ▪ Internal site access roadways ▪ Water storage tanks (potable, fire and demineralised), pumps, demineralised water plant, piping ▪ Diesel fuel storage tanks, effective volume of approximately 1.75 ML each, and forwarding pumps ▪ Diesel tanker truck unloading facilities ▪ Other (non-fuel) truck loading/unloading facilities ▪ Control room ▪ Concrete bunded areas for liquid fuel tanks, liquid chemicals store, oil filled transformers and other facilities where such liquids could leak ▪ On site oily water separation system, with pit or tank storage, including facilities for: <ul style="list-style-type: none"> - Diesel fuel unloading area - Diesel fuel storage tanks bund - Gas turbine diesel fuel skid - Gas turbine and generator lube oil area - Gas turbine wash drains - Generator step up transformer bund. ▪ Concrete foundations, bitumen roadways, concrete surfaces in liquid fuel unloading station and gas turbine unit maintenance areas ▪ Stormwater drainage system e.g., pits, pipes, triple interceptor or equivalent, pumps (as required) ▪ Provisional stormwater basin ▪ Security fence, security lighting, stack aviation warning lights (if required) and surveillance system ▪ Office/administration buildings and amenities ▪ Workshop, warehouse/storage areas ▪ Communication systems ▪ Occupational health and safety systems including an emergency warning and evacuation system ▪ Firefighting system including water storage, pumps, hydrants, and deluge systems (as required) ▪ Emergency diesel generator(s) with associated internal fuel storage ▪ Closed circuit cooling systems for small on-site heat exchangers ▪ Local electrical switch/control rooms |

| Project element | Summary |
|--|---|
| | <ul style="list-style-type: none"> ▪ Laydown areas ▪ Landscaped areas and staff parking ▪ Other ancillary facilities located within the Project Site, predominantly utilising the buffer land identified on Figure 2-3. |
| Temporary site areas | <ul style="list-style-type: none"> ▪ Car parking, site access roads, fabrication and laydown areas located within Precinct 3B (Modification 1), shown on Figure 2-2 ▪ Temporary Worker Accommodation Facility (Modification 2), shown on Figure 2-2 |
| Existing offsite supporting infrastructure (Roads) | <ul style="list-style-type: none"> ▪ Public road network including Hart Road and M15 Hunter Expressway ▪ Fire trails adjacent to site for bushfire management |
| Existing offsite supporting infrastructure (Utilities) | <ul style="list-style-type: none"> ▪ Waste and wastewater disposal facilities in the region ▪ Auxiliary power supply network ▪ Direct connection to existing Ausgrid overhead 132 kV transmission lines |

2.3 Project location

The Project Site address is 1 Hart Road, Loxford. Access to the property is via Hart Road and the property is approximately 1.0 km from the M15 Hunter Expressway as shown in Figure 2-2.

The Project Site is part of an Industrial Estate development and is zoned IN3 Heavy Industrial under the Cessnock Local Environmental Plan 2011, with surrounding land zoned either IN1 General Industrial or RU2 Rural Landscape.

2.3.1 Access

The Project Site is accessed off Hart Road, which is adequate for construction, commissioning and operation activities. All vehicular access to the Project Site, including heavy vehicles is via the Hunter Expressway and Hart Road. Parking for staff will be provided on-site and on adjacent Hydro Aluminium/ Industrial Developer land as per Modification 1 and Modification 2.

3. Project construction and commissioning

3.1 Works within construction and commissioning scope

The key construction and commissioning stages and activities for the Project are summarised in Table 3-1 and covered under the CEMS unless noted otherwise. Preliminary work and pre-construction activities that are not considered construction include road dilapidation surveys, installation of fencing, and geotechnical drilling and/or surveying. Pre-construction works include temporary sheds, amenities, fencing, laydown/stockpiling areas, site surveys and initial internal road building.

Table 3-1 Construction and commissioning activity summary

| Construction stage | Construction activity per program | Activity details |
|-------------------------------------|---|---|
| Pre-construction/site establishment | Site access, civil works, and road construction to establish site | <ul style="list-style-type: none"> • Installation of environmental controls including erosion and sediment controls • Construction of reinforced concrete pavement to support heavy vehicles (up to B-double size) • Internal road layout design to account for turning paths of large vehicles, cranes, and articulated vehicles, so that movements in and out can be made in a forward direction • Roadworks and hardstand areas to be constructed for car parking, delivery/laydown areas • Where required, bunded areas for delivery, handling, and storage of fuel and other hazardous material would be constructed |
| Construction | Switchyard site preparation | <ul style="list-style-type: none"> • Clearing of vegetation |
| Site establishment and construction | Earthworks to prepare the Project Site and construction areas | <ul style="list-style-type: none"> • Initial site clearing and grading works. Earthworks may involve small amounts of cut and fill to achieve the necessary design levels across the site • Trenching for underground utilities and services would be installed such as stormwater, water and sewer reticulation, electrical cables, and (internal) gas pipes between the gas receiving station and the gas turbine locations • Preparation and construction of foundations. Deep piling is expected to support the heaviest infrastructure such as the gas turbines, generator and the main step-up transformers while shallower piling or pad type foundations would underpin the foundations where the proposed surface loads are less (e.g. site office/administration buildings, car park). Final numbers and depth of foundation piles will be subject to detailed design, as is the piling method (i.e. bored; driven; vibration piling) <ul style="list-style-type: none"> ▪ Reinforced concrete slabs would be constructed in certain pavement areas, with other areas being surfaced with crushed rock or other suitable materials |

| Construction stage | Construction activity per program | Activity details |
|----------------------------------|---|---|
| | | <ul style="list-style-type: none"> ▪ Establishment of car parking, site access roads, fabrication and laydown areas within Precinct 3B, shown on Figure 2-2 |
| Construction | Balance of Plant, Switchyard Construction, & Turbine Installation | <ul style="list-style-type: none"> • Installation of major plant items associated with the gas turbines including all above ground civil, mechanical, electrical plant equipment • Installation of electrical switchyard • Use of car parking, site access roads, fabrication and laydown areas within Precinct 3B |
| Commissioning | Commissioning and testing | <ul style="list-style-type: none"> • Program of testing and certification of all Project components, systems, and processes to demonstrate the Project can operate to the required standards before commencing operation. This includes two stages: <ul style="list-style-type: none"> ▪ Cold commissioning stage: comprised of standard construction type activities ▪ Hot commissioning stage: comprised of burning fuel to set up the operational plant and test it according to various performance scenarios |
| Post-construction/demobilisation | Demobilisation | <ul style="list-style-type: none"> • Removal of construction equipment, site fencing and construction compounds • Installation and establishment of landscaping • Relinquishment of Precinct 3B and temporary accommodation facility sites to landowner |

3.2 Conceptual program

3.2.1 Construction program

The initial construction work to prepare the site and install environmental controls commenced in early 2022 following the acquisition of all approvals. Since then, the construction phases and activities outlined above have progressed with commissioning anticipated to commence in early 2025.

3.2.2 Commissioning program

The commissioning program will include testing and certification of all Project components, systems, and processes to demonstrate the Project can operate to the required standards before commencing operation. The commissioning program is comprised of two commissioning stages (cold and hot) that will include a variety of sequential tests and activities to confirm the facility is ready for operation. The two commissioning stages and activities associated with each stage are described below.

Cold commissioning stage

Activities included in the cold commissioning phase include:

- A site acceptance test of all stand-alone plant and equipment completed by the equipment supplier / vendor prior to its integration into a system or sub-system
- A site integration test will then be completed to confirm all interfaces between the various systems and sub-systems such as controls, automation, metering, communications, power supplies, and protection schemes are integrated safely and capable of operation in accordance with the design for its intended use

Hot commissioning stage

Activities included in the hot commissioning phase will include:

- Performance testing of the system as a whole. The performance testing will be completed as two separate phases:
 - Phase 1 — During the first phase of hot commissioning the gas turbines will be commissioned sequentially on diesel fuel. The balance of the plant (other than those components associated with natural gas storage and supply) will also be commissioned during this phase so as to enable operation of the plant to commence on diesel fuel only.
 - Phase 2 — During the second phase of hot commissioning the gas turbines will be commissioned sequentially on natural gas. The balance of the plant not commissioned on Phase 1 will also be commissioned during this phase. Phase 2 of hot commissioning will occur once construction of the natural gas supply pipeline is completed.

Phase 1 and Phase 2 of the generator/turbine performance testing will include the following tests:

- No-Load Test: Comprises turbine initial first fire, adjustment of fuel air ratio's (combustion tuning), no-load testing including generator electrical testing, turbine overspeed trip test and Australian Energy Market Operator (AEMO) generator compliance testing.
- 25% Load Operation Test: Comprises turbine generator set first grid synchronisation and combustion tuning.
- 50% Load Operation Test: Comprises turbine combustion tuning and AEMO generator compliance testing.
- 75% Load Operation Test: Comprises turbine combustion tuning
- 100% Load Operation Test: Comprises turbine combustion tuning and AEMO generator compliance testing.

3.3 Construction and commissioning hours

3.3.1 Construction hours

All construction work will be undertaken during standard construction hours, which are defined as:

- 7:00 am to 6:00 pm Monday to Friday, inclusive
- 8:00 am to 1:00 pm on Saturday
- At no time on Sunday or Public Holidays

Exceptions to conducting construction activities outside of these hours may occur for the following activities in accordance with Infrastructure Approval Condition B31:

- Activities that cause noise levels $L_{Aeg(15\text{minute})}$ no more than 5dB above Rating Background Level at any residence in accordance with the Interim *Construction Noise Guideline* (DECC, 2009), and no more than the Noise Management Levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses
- For the delivery of material required by the police or other authorities for safety reasons
- Where it is required in an emergency to avoid the loss of lives, property, and/or to prevent environmental harm
- As approved with prior written approval of the Secretary, outlined in Condition B32.

3.3.2 Commissioning hours

The above construction hours are also applicable to cold commissioning activities.

Hot commissioning would also generally take place during standard construction hours, but will also take place during the evening and night. As the activity is more akin to operations, it will be undertaken in accordance with Noise Limit Conditions in Condition B21 (and EPL Condition L4.1) with commissioning activities to take place during the day, evening and night periods.

The number of personnel onsite during construction is predicted to vary with an expected peak of 650 Full Time Equivalent (FTE) personnel. While commissioning is likely to require no more than 50 persons onsite, commissioning will take place in parallel with certain construction and post construction activities. The increase in local traffic that is expected to accompany construction activities is discussed in detail in Appendix K.

4. Legislative requirements

4.1 Introduction

The CEMS reflects current legislation, policies, and strategies at both a Commonwealth and State level, as relevant to the Project.

The EP&A Act and the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) comprise the primary legislation governing land use planning and development assessment in NSW. Subordinate to the EP&A Act and EP&A Regulation are other statutory instruments including State environmental planning policies (SEPPs) and local environmental plans (LEPs). The Project has been declared to be critical State significant infrastructure (CSSI) under section 5.13 of the EP&A Act.

At the Federal level, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework to protect and manage nationally important flora, fauna, ecological communities, and heritage places defined as Matters of National Environmental Significance.

The detailed requirements of the relevant legislation are provided in Appendix B.

Codes of Practices, Standards and Guidelines relevant to the Project are listed in Appendix C.

4.2 Approvals, permits and licences

Snowy Hydro is responsible for obtaining the approvals in Table 4-1 and the Principal Contractor is responsible for all other licences, permits, and approvals required during the construction stage. A copy of all licences, approvals, and permits are to be made available on-site at all times.

SHL have obtained Environment Protection Licence (EPL) 21627 for the Scheduled Works component of the Project Site (i.e. the Project Site excluding the switchyard area and buffer site).

Table 4-1 Project approval, permits and licences

| Approval / Permit / Licence | Legislation | Responsibility |
|--------------------------------------|---|----------------|
| Infrastructure Approval | <i>Environmental Planning and assessment Act 1979</i> | Snowy Hydro |
| Environment Protection Licence (EPL) | <i>Protection of the Environmental Operations Act 1997 (POEO Act)</i> | Snowy Hydro |
| EPBC Approval | <i>Environment Protection and Biodiversity Conservation Act 1999</i> | Snowy Hydro |

4.3 Infrastructure approval conditions

Infrastructure approval conditions, as modified on 16 November 2023, set out the requirements for the CEMS and associated management plans and include:

- The strategic framework for environmental management of the development
- The statutory approvals that apply to the development
- Descriptions of the roles, responsibilities, authority and accountability of all key personnel involved in the environmental management of the development
- Procedures that would be implemented to:
 - Keep the local community and relevant agencies informed about the operation and environmental performance
 - Receive, handle, respond to, and record complaints
 - Resolve any disputes
 - Respond to non-compliance
 - Respond to emergencies
- Management plans required for construction that reference any strategies, plans, and programs approved under the conditions of approval, and include monitoring:
 - Construction air quality management plan prepared in consultation with the NSW EPA
 - Construction noise management plan prepared in consultation with the NSW EPA
 - Construction and operational waste management plan

A series of management plans sit within the CEMS framework and are provided in Appendix E to Appendix K. These management plans identify how:

- Environmental performance outcomes required in the Infrastructure Approval will be achieved
- Mitigation measures identified in the EIS and Infrastructure Approval will be implemented
- Relevant terms of the Infrastructure Approvals will be complied with
- Issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.
- Monitoring will be conducted for each environmental aspect where that monitoring is appropriate
- Reporting requirements both internally and to government agencies.

Opportunities for improvement will also be sought for each environmental aspect based on monitoring and management outcomes, audits and inspections, and incident and non-compliances should they occur.

The CEMS must be approved by the Secretary and implemented by Snowy Hydro.

As required by the Environmental Representative for endorsement, Table 4-2 identifies where this CEMS addresses relevant conditions of approval.

Table 4-2 Infrastructure approval conditions and where addressed in this CEMS

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|---|--|
| A1 | In addition to meeting the specific performance criteria established under this approval, the Proponent must implement all feasible and reasonable measures to prevent, and if prevention is not feasible and reasonable, minimise any material harm to the environment that may result from the construction, operation, decommissioning or rehabilitation required under this approval. | Section 8 and section 7.5.3 |
| A13 | The Proponent must ensure that all licences, permits and approvals are obtained and maintained as required throughout the life of the development. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent must ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the life of the development. | Section 4 |
| A20 | Prior to commencing the development, an environmental representative (ER) must be approved by the Secretary and engaged by the Proponent. | Section 7.2.3 |
| A21 | The Secretary’s approval of an ER must be sought no later than one (1) week before commencing the development. | Section 7.2.3 |
| A22 | The proposed ER must be a suitably qualified and experienced person who was not involved in the preparation of the documents listed in condition A2, and is independent from the design and construction of the development. The ER must meet only the requirements set out in sections 2.2, 2.3, 2.4 and 3 in the Environmental Representative Protocol (Department of Planning and Environment, October 2018). | Section 7.2.3 |
| A23 | <p>From commencing the development, until commencing operation, or as agreed with the Secretary, the approved ER must:</p> <p>(a) review the documents identified in conditions B5, B8, B12, B13, B19, B29, B33, B40, B43, B48 and C1 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:</p> <ul style="list-style-type: none"> (i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or (ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Department for information or are not required to be submitted to the Department); <p>(b) as may be requested by the Secretary, assist the Department in the resolution of community complaints; and</p> <p>(c) consider any minor amendments to be made to the plans / strategies in conditions B5, B8, B12, B13, B19, B29, B33, B40, B43, B48 and C1 that involve updating or are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure they are consistent with the terms of this approval and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval</p> | <p>Section 7.2.3</p> <p>Section 6.3</p> <p>Section 6.2</p> |
| B12 | Pre-construction | These reports have been submitted and accepted |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|--|---|
| | <p>B12. Prior to the commencement of the installation of the gas turbines, unless otherwise agreed by the Secretary, the Proponent must prepare and submit to the satisfaction of the Secretary:</p> <p>(a) A Fire Safety Study based on the detailed design of the development. This study must cover the relevant aspects of the Department’s Hazardous Industry Planning Advisory Paper No. 2, ‘Fire Safety Study’ and the New South Wales Government’s Best Practice Guidelines for Contaminated Water Retention and Treatment Systems. The study must be prepared in consultation with NSW Rural Fire Service to verify the required Asset Protection Zone (APZ) in view of up to 14 MPa gas releases from the gas receiving station. The study must also be submitted for the approval of Fire and Rescue NSW.</p> <p>(b) A Hazard and Operability Study based on the detailed design of the development, chaired by a qualified person independent of the development, approved by the Secretary prior to the commencement of the study. The study must be carried out in accordance with the Department’s Hazardous Industry Planning Advisory Paper No. 8, ‘HAZOP Guidelines’. The study report must be accompanied by a program for the implementation of all recommendations made in the report. If the Proponent intends to defer the implementation of a recommendation, reasons must be documented. The scope of the study must include and not be limited to:</p> <p>(i) components and processes associated with the power station, including the storage, handling and use of diesel fuel; and</p> <p>(ii) the supply tie-in at the gas receipt station.</p> <p>(c) A Final Hazard Analysis based on the detailed design of the development, prepared in accordance with the Department’s Hazardous Industry Planning Advisory Paper No. 6, ‘Hazard Analysis’. The scope of the study must include and not be limited to specifying all design variations between the final detailed design and the conceptual design described in the EIS.</p> | <p>by the Department and are not addressed further in this CEMS</p> |
| B17 | <p>B17. The Proponent must store and handle all chemicals, fuels and oils in accordance with:</p> <p>(a) the requirements of all relevant Australian Standards;</p> <p>(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</p> <p>(c) the NSW EPA’s Storing and Handling of Liquids: Environmental Protection – Participants Handbook if the chemicals are liquids.</p> <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 8.11 |
| B18 | <p>For the purpose of condition B17, any tanks or other storage vessels that are interconnected and may distribute their contents either by gravity or automated pumps must be considered a single vessel.</p> | Section 8.11 |
| B18B | <p>Prior to occupying the Temporary Workforce Accommodation Facility, the Proponent must prepare a Bush Fire Emergency Management and Evacuation Plan for the Temporary Workforce Accommodation Facility consistent with the NSW Rural Fire Service document A Guide to</p> | The separate Bush Fire Emergency Management and Evacuation Plan for the |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|--|---|
| | <p>Developing a Bush Fire Emergency Management and Evacuation Plan. The plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified bushfire planning and design accredited level 3 bushfire expert; (b) include contact details for the local Rural Fire Service District Office; (c) include procedures for co-ordinated evacuation of the site in consultation with local emergency services; (d) include procedures for the use of an on-site shelter in the case where evacuation routes cannot be accessed; and (e) adopt an early evacuation approach and include detailed plans of all emergency assembly areas, including on-site and off-site arrangements as stated in AS 3745 Planning for emergencies in facilities, are clearly displayed. | <p>Temporary Workforce Accommodation Facility</p> |
| <p>B33</p> | <p>Prior to commencement of construction, unless otherwise agreed by the Secretary, the Proponent must prepare a Biodiversity Management Plan to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced biodiversity expert/s; (b) be prepared in consultation with the BCS; (c) describe the short, medium and long-term measures to be undertaken to manage vegetation and fauna habitat on the site; (d) describe how biodiversity offsets required in condition B34 will be retired; (e) describe measures to be implemented within the site to minimise: <ul style="list-style-type: none"> (i) the amount of clearing; (ii) impacts on fauna, including undertaking pre-clearance surveys and maximising the salvage of resources for habitat enhancement; (iii) impacts on threatened flora and fauna species or ecological communities within the development footprint and its surrounds; (iv) the spread of weeds and fungal pathogens; (v) the generation and dispersion of sediment to watercourses; and (vi) light spill from night works; and (f) include a program to monitor, evaluate and report on the effectiveness of the measures. <p>The Proponent must implement the approved Biodiversity Management Plan.</p> | <p>The separate Biodiversity Management Plan</p> |
| <p>B39</p> | <p>The Proponent must ensure that any construction activities in identified areas of acid sulphate soil risk are undertaken in accordance with the Acid Sulphate Soil Manual (Acid Sulphate Soil Management Advisory Committee, 1998).</p> | <p>Section 8.3</p> |
| <p>B40</p> | <p>Prior to the commencement of construction, unless the Secretary agrees otherwise, the Proponent must prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary; (b) be prepared in consultation with EPA, NSW DCCEE, Hunter Water Corporation, and Council; (c) include a: <ul style="list-style-type: none"> (i) Site Water Balance that includes details of: | <p>The separate Water Management Plan</p> |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|--|---|
| | <ul style="list-style-type: none"> a) predicted annual inflows to and outflows from the site; b) sources and security of water supply, including reasonable and feasible measures to minimise potable water demand through detailed design and operations; c) water and wastewater storage capacity; d) water use and management on site including demineralisation water treatment and wastewater transfer; and e) reporting procedure; <p>(ii) Surface Water Management Plan that includes:</p> <ul style="list-style-type: none"> a) baseline data on surface water flows and quality of watercourses and/or water bodies potentially impacted by the development; b) a detailed description of the surface water management system; including <ul style="list-style-type: none"> - erosion control measures and pollution control measures which do not require an open basin excavated below the water table where practicable; and - measures to manage spills, off site flood impacts and stream erosion flows; c) a program to monitor and evaluate: <ul style="list-style-type: none"> - disturbance of acid sulphate soils; - surface water discharges, stormwater and storage volumes; - rainfall and flooding events; and - the effectiveness of the surface water management systems to minimise erosion and sediment impacts; d) reporting procedures for the results of the monitoring program; and e) a plan to mitigate any adverse surface water impacts of the development; <p>(iii) Groundwater Management Plan that includes:</p> <ul style="list-style-type: none"> a) detailed baseline data of hydrogeology and groundwater levels and quality of groundwater resources potentially impacted by the development; b) water licencing requirements; c) a detailed description of the groundwater management and monitoring system, including measures to reduce potential for contamination or take of groundwater and estimated groundwater take, if the base of the pollution and surface water management basin is located less than 1 m above the water table; d) a program to monitor and evaluate groundwater flows, groundwater quality and the effectiveness of groundwater management systems, including e) reporting procedures for the results of the monitoring program; f) a plan to respond to any probable or actual exceedances of the groundwater performance criteria and repair, mitigate and/or offset any adverse groundwater impacts of the development. <p>The Proponent must implement the approved Water Management Plan.</p> | |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|---|---|
| B41 | The Proponent must ensure the development does not cause any direct or indirect impacts on heritage items located outside the approved development footprint. | Section 8.9 |
| B43 | <p>Prior to the commencement of construction, unless the Secretary agrees otherwise, the Proponent must prepare an Aboriginal Cultural Heritage Management Plan for the development to the satisfaction of the Secretary. The plan must:</p> <ul style="list-style-type: none"> (a) be prepared by suitably qualified and experienced persons; (b) be prepared in consultation with Registered Aboriginal Parties and Heritage NSW - ACH; (c) be submitted to the Secretary for approval prior to carrying out construction under this approval; (d) describe the measures to be implemented on the site to: <ul style="list-style-type: none"> (i) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions; (ii) protect, monitor and/or manage Aboriginal objects, including an archaeological monitoring program which includes a methodology for test and/or salvage excavations of intact alluvial deposits, and measures for the long-term management of Aboriginal objects if discovered during construction; (iii) protect Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development; (iv) manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development; and (v) facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site; (e) an unexpected finds protocol; (f) include a strategy for the care, control and storage of Aboriginal objects salvaged on the site, both during the life of the development and in the long term. <p>The Proponent must implement the approved Aboriginal Cultural Heritage Management Plan.</p> | The separate Cultural Heritage Management Plan |
| B47 | <p>The Proponent must:</p> <ul style="list-style-type: none"> (a) maintain all roads and utility-related infrastructure on site in a safe and serviceable condition; (b) provide sufficient parking on site for all vehicles; (c) ensure heavy vehicles entering and leaving the site have loads covered or contained; (d) minimise dust and/or sediment being tracked onto Hart Road and the public road network; (e) minimise the traffic noise impacts of the development; and (f) keep the public informed of any road or infrastructure upgrades, disruptions to traffic, the closure of roads or other infrastructure, | Section 6.2 |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|--|---|
| | oversize overmass vehicle use, peak construction periods, and any emergencies. | |
| B48 | <p>Prior to the commencement of construction, unless the Secretary agrees otherwise, the Proponent must prepare a Traffic Management Plan in consultation with Council and TfNSW for the development and to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) describe the measures that would be implemented to comply with the transport management requirements in condition B47 above; (b) include details of the transport route to be used for all construction and operational traffic; (c) include details of the measures that would be implemented to minimise traffic safety issues and disruption to local users of the transport route/s during construction and operations; (d) include oversize overmass requirements and management; (e) include a driver’s code of conduct that addresses: <ul style="list-style-type: none"> (i) travelling speeds; (ii) driver fatigue; (iii) procedures to ensure that drivers adhere to the designated transport routes; and (iv) procedures to ensure that drivers implement safe drive practise; (f) include a program to: <ul style="list-style-type: none"> (i) record and track vehicle movements; and (ii) monitor the effectiveness of these measures; and (g) include a protocol for undertaking independent dilapidation surveys to assess the existing condition of Hart Road, prior to and following construction and decommissioning activities. (h) include measures to ensure that there are no more than 80 light vehicle movements per hour through the Main Road and Hunter Expressway interchange associated with the development in the morning and afternoon peak periods respectively during the construction period, including a protocol for the monthly verification of the origin of light vehicle movements in the morning and afternoon peak period; and (i) describe measures to investigate opportunities to promote the use of shuttle buses and car-pooling during the construction period. <p>The Proponent must implement the approved Traffic Management Plan.</p> | The separate Traffic Management Plan |
| B49 | <p>The Proponent must:</p> <ul style="list-style-type: none"> (a) minimise the off-site visual impacts of the development, including the potential for any glare or reflection; (b) ensure the visual appearance of infrastructure (including paint colours) blends in as far as possible with the surrounding landscape; and (c) not mount any commercial advertising signs or logos on site, except where this is required for identification or safety purposes. | Section 8.12 |
| B50 | <p>The Proponent must:</p> <ul style="list-style-type: none"> (a) minimise the off-site lighting impacts of the development; and (b) ensure that any external lighting associated with the development: | Section 8.12 |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|--|--|
| | (i) is installed as low intensity lighting (except where required for safety or emergency purposes); (ii) does not shine above the horizontal; and (iii) complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version. | |
| C1 | Prior to commencing construction, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: | Whole document |
| C1 (a) | provide the strategic framework for environmental management of the development; | Section 1 |
| C1 (b) | identify the statutory approvals that apply to the development; | Section 1.2 |
| C1 (c) | describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; | Section 7.2 |
| C1 (d) | describe the procedures that would be implemented to: (i) keep the local community and relevant agencies informed about the operation and environmental performance of the development; (ii) receive, handle, respond to, and record complaints; (iii) resolve any disputes that may arise; (iv) respond to any non-compliance; (v) respond to emergencies; and | Section 6.2 Section 6.3 Section 7.5 Section 7.4 |
| C1 (e) (i) | include: (i) the following subplans: <ul style="list-style-type: none"> • construction air quality management plan prepared in consultation with the EPA; • construction noise management plan prepared in consultation with the EPA; and • construction and operational waste management plan, incorporating management of any contaminated materials disturbed during construction | Section 8.4 - Appendix F Section 8.5 - Appendix G Section 8.6 - Appendix H |
| C1 (e) (ii) | references to any strategies, plans and programs approved under the conditions of this approval; and | Table 1-1 |
| C1 (e) (iii) | a clear plan depicting monitoring to be carried out under the conditions of this approval. | Section 7.5.2 - Appendix L |
| C1 | The Proponent must implement the approved Environmental Management Strategy. | Section 4.3 |
| C5 | Within 3 months, unless the Secretary agrees otherwise, of: (a) the submission of an incident report under condition C6 below; (b) the submission of an audit report under conditions C15 to C19 below; and (c) the approval of any modification to the conditions of this approval; or (d) a direction of the Secretary under condition A2 of Schedule 2; | Section 7.7 |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|---|---|
| | <p>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.</p> <p>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.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p> | |
| C6 | <p>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 4.</p> | Section 7.4 |
| C7 | <p>The Secretary must be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance.</p> | Section 7.4 Section 7.5 |
| C8 | <p>A non-compliance notification must identify the development and the application number for it, set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p> | Section 7.4 Section 7.5 |
| C9 | <p>A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</p> | Section 7.4 Section 7.5 |
| C10, C11, C12, C13 | <p><i>For information. Conditions C10, C11, C12, and C13 are not applicable during the construction period for which this Construction Environmental Management Strategy applies.</i></p> | N/A |
| C14 | <p>Prior to commencing the construction, operations, upgrading or decommissioning of the development or the cessation of operations, the Proponent must notify the Department via the Major Projects website portal of the date of commencement, or cessation, of the relevant phase.</p> <p>If any of these phases of the development are to be staged, then the Proponent must notify the Department in writing prior to commencing the relevant stage, and clearly identify the development that would be carried out during the relevant stage.</p> | Section 3.2 |
| C15-C19 | <p>C15. Independent Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (2020) or its latest version.</p> <p>C16. Proposed independent auditors must be agreed to in writing by the Secretary prior to the commencement of an Independent Audit.</p> <p>C17. The Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those specified in the Independent Audit Post Approval Requirements (2020) or its latest version, upon giving at least 4 weeks' notice (or timing) to the Proponent of the date upon which the audit must be commenced.</p> | Section 7.5.3 |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|---|---|
| | <p>C18. Independent Audit Reports and the Proponent’s response to audit findings must be submitted to the Secretary within 2 months of undertaking the independent audit site inspection, as outlined in the Independent Audit Post Approvals Requirements (2020) or its latest version, unless otherwise agreed by the Secretary.</p> <p>C19. Notwithstanding the requirements of the Independent Audit Post Approvals Requirements (2020) or its latest version, the Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Secretary’s satisfaction that independent operational audits have demonstrated operational compliance.</p> | |
| C20 | <p>Before the commencement of construction until the completion of all rehabilitation required under this approval, the Proponent must:</p> <p>(a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this approval) publicly available on its website:</p> <ul style="list-style-type: none"> (i) the EIS; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this approval; (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged; (v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this approval; (vi) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs; (vii) a summary of the current phase and progress of the development; (viii) contact details to enquire about the development or to make a complaint; (ix) a complaints register, updated monthly; (x) the Annual Reviews of the development; (xi) audit reports prepared as part of any Independent Environmental Audit of the development and the Proponent’s response to the recommendations in any audit report; (xii) any other matter required by the Secretary; and <p>(b) keep such information up to date, to the satisfaction of the Secretary</p> | Table 4-2 |
| C21 | <p>To ensure the studies, strategies and plans for the development are updated on a regular basis and incorporate any required measures to improve the environmental performance of the development, the Proponent may submit revised studies, strategies or plans required for the development under the conditions of approval at any time. With the agreement of the Secretary, the Proponent may also submit any study, strategy or plan required under the conditions of this approval on a staged basis.</p> | Section 7.7 |
| C22 | <p>The Secretary may 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</p> | Section 7.7 |

| Approval Condition number | Description of condition | Where the requirement is addressed in this CEMS |
|---------------------------|---|---|
| | <p>the revised or staged strategy or plan without undertaking consultation with all parties nominated under the applicable conditions in this approval.</p> <p>Notes:</p> <ul style="list-style-type: none"> • <i>While any study, strategy or plan may be submitted on a progressive basis, the Proponent must ensure that the existing operations on site are covered by suitable studies, strategies or plans at all times.</i> • <i>If the submission of any study, strategy or plan is to be staged, then the relevant study, strategy or plan must clearly describe the specific stage to which the study, strategy or plan applies, the relationship of this stage to any future stages, and the trigger for updating the study, strategy or plan.</i> | |
| Appendix 4: | <p>WRITTEN INCIDENT NOTIFICATION REQUIREMENTS</p> <ol style="list-style-type: none"> 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 C6 or, having given such notification, subsequently forms the view that an incident has not occurred. 2. Written notification of an incident must: <ol style="list-style-type: none"> (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 development 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: <ol style="list-style-type: none"> (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 | Section 7.4 |

4.4 Environment Protection Licence conditions

The Compliance Register includes all conditions from EPL 21627 (see <https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21627&id=21627&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued> for the latest version. The EPL conditions include:

- Administrative conditions with respect to the EPA's regulatory requirements and identification of the Schedule Activity for which the EPL is granted;
- Discharge points to air and water and respective limit conditions;
- A premises plan and boundary specific to the Scheduled Activity for which the EPL is granted;
- Specification of hours of operation and a protocol to follow should those hours be sought to be changed, noting this is already adopted in this CEMS;
- A requirement for preparation of a Pollution Incident Response Management Plan; and
- Reporting and notification requirements with respect to incidents and non-compliances.

A number of EPL conditions and conditions of the Infrastructure Approval reflect one another, and are often identical, so a change to the EPL or Infrastructure Approval is very likely to require a change to the other regulatory instrument.

Where conditions between the Infrastructure Approval and the EPL are different, the Proponent must address and report on both sets of conditions until such time as the discrepancy is resolved.

4.5 EPBC approval conditions

The Compliance Register includes all conditions from the EPBC Approval. These conditions include:

- Conditions specific to the action; and
- Standard administrative conditions.

A number of conditions of the Infrastructure Approval are referenced in EPBC Approval Condition 1. In accordance with Conditions 14 and 15 of the EPBC Approval, the Commonwealth Department of Climate Change, Energy, the Environment and Water will be notified in writing of any proposed or actual change to the Infrastructure Approval conditions that may relate to the environment.

5. Environmental risk management

5.1 Risk and management approach

The Principal Contractor is responsible for creating and managing an Environment Risk Assessment (ERA) for all activities with potential for environmental impacts and will revise the risk assessment throughout the construction of the project.

The avoidance hierarchy will support construction management - this hierarchy prioritises avoiding impacts, rather than minimising, repairing, or offsetting impacts. Where impacts cannot be avoided, the Principal Contractor will undertake all on-site activities in a manner that will minimise the impact of the Project on the environment.

An initial risk assessment will be generated based on the outcomes of the environmental impact assessments conducted as part of the EIS and is to be updated prior to commencing construction and again prior to commissioning.

A risk register will be produced and maintained by the Principal Contractor.

Review of the Risk Register will be continual to ensure any new risks are identified and managed, and all risks that are no longer relevant are removed.

5.2 Initial construction risk assessment

An initial environmental risk assessment will be prepared by the Principal Contractor prior to construction commencing and will be incorporated into the Principal Contractor's risk register.

The initial environmental risk assessment's purpose is to identify significant environmental aspects and impacts that could eventuate during construction of the Project. Aspects and impacts for all construction activities that could contribute to harm or impact on the environment, including air, noise, water, heritage, waste, and biodiversity will be included.

The initial risk assessment will include the environmental aspect, cause, and consequence, and include a matrix of likelihood and consequence ratings. Mitigations measures to eliminate or reduce the risks would be included, and revised likelihood and consequence ratings assigned. Risks with impacts categorised as 'major' or 'severe' require a risk owner to be identified by the Principal Contractor in the Construction Workshop (see Section 5.2.1).

Table 5-1 shows the criteria that will be employed in the risk assessment process to classify the impact and likelihood of each environmental risk. The significance of risk should consider potential impact to environmental aspects, and cost or delays to Project development as described in Table 5-2.

Further mitigations will be sought for risks identified with a residual risk of Medium or higher.

Table 5-1 Risk matrix

| | | Impact | | | | |
|------------|---|-----------------|--------|----------|-----------|-----------|
| | | Not significant | Minor | Moderate | Major | Severe |
| Likelihood | Almost certain <i>Expected to occur regularly under normal circumstances</i> | Medium | Medium | High | Very High | Very High |
| | Likely <i>Expected to occur at some time</i> | Low | Medium | Medium | High | Very High |
| | Possible <i>May occur at some time</i> | Low | Medium | Medium | Medium | High |
| | Unlikely <i>Not likely to occur in normal circumstances</i> | Low | Low | Medium | Medium | High |
| | Rare <i>Could happen, but probably never will</i> | Low | Low | Low | Low | Medium |

Table 5-2 Risk impact definitions

| | Impact description | | | | |
|----------------------|---|---|--|--|--|
| | Not Significant | Minor | Moderate | Major | Severe |
| Schedule delay | <3 hours | < 2 days | < 1 week | >1 week | Permanent disruption |
| Environment | Minor incident of environmental damage that can be reversed | Isolated but significant instance of environmental damage that can be reversed with moderate effort | Significant instance of environmental damage that can be reversed with intense efforts | Major loss of environmental amenity and danger of continuing | Severe widespread loss of environmental amenity and irrecoverable environmental damage |
| Stakeholders | Short term complaints | Short term but significant complaint | Sustained complaint(s) | Sustained and significant complaint(s) | Relationship with stakeholder irreversibly damaged |
| Legal and compliance | Issues of non-compliance and breach of regulation | Minor breach of legislation and or non-compliance | An event that results in fines or notice issued from regulatory authority | Major event that results in prosecution and or fine | A critical event that results in prosecution, jail and /or fine |

5.2.1 Environmental risk workshop

The Principal Contractor is required to organise and facilitate an Initial Environmental Risk Assessment, Risk Register and risk mitigation actions. Workshop will be informed by subject matter specialists in areas relevant to the environmental matters associated with construction.

5.3 Continuous risk assessment updates

The Principal Contractor must designate accountability to review the environmental risk register on a monthly basis, or when triggered by events. This will involve engaging with appropriate personnel to ensure the applicability and thoroughness of actions and follow up with risk owners to ensure that risk mitigations are identified and activated in line with the risk register.

The Principal Contractor is responsible for ensuring risk mitigation strategies are implemented and current.

6. Communications

6.1 Overview

Snowy Hydro is committed to ongoing consultation and engagement with the local community and stakeholder groups during Project development. Community engagement for the Project was guided by the International Association for Public Participation (IAP2) Spectrum of Engagement.

Community engagement tools included a dedicated webpage, email address, and free 1800 phone number, to assist stakeholders and community to contact the Project team. Information included on the webpage includes an overview and description of the Project, information about how to become involved and how community feedback is being used, and answers to frequently asked questions.

Webpage address: www.snowyhydro.com.au/hunter-power-project

Email address: communityconsultation@hunterpowerproject.com.au

6.2 Construction communication and stakeholder engagement plan

A Communication and Stakeholder Engagement Plan (CSEP) was prepared to provide a framework for communications and engagement activities throughout the construction of the Project. A Communications and Stakeholder Engagement Manager (CSEM) has been assigned to the Project.

Notifications relating to construction of the Project will be delivered through multiple communication tools (outlined in Table 6-1) to stakeholders potentially impacted by construction and commissioning activities.

Table 6-1 Communication tools

| Communication tool | Information / purpose |
|--------------------|---|
| Project webpage | <ul style="list-style-type: none"> ▪ General Project / Location ▪ Commencement of construction ▪ Major milestones ▪ Change to traffic conditions ▪ Disruption to access or utilities ▪ Any other activity that may impact the community, businesses, or key stakeholders ▪ Updating with information on the environmental performance of the development, in the form of Annual Reviews, regular monitoring results, and information as required by Condition C20(a) and C1. |
| Letters | <ul style="list-style-type: none"> ▪ Addressed mail containing information to particular households, businesses, or individuals who may be impacted by construction activities. |
| Advertising | <ul style="list-style-type: none"> ▪ Paid notices in local newspaper publications to advise of project updates (e.g. construction initiation, key milestones). |
| Media releases | <ul style="list-style-type: none"> ▪ Proactive media statements to provide project updates and address concerns. |
| Letterbox drop | <ul style="list-style-type: none"> ▪ Unaddressed mail containing information about the Project. |

| Communication tool | Information / purpose |
|---------------------------|--|
| Subscribed communications | <ul style="list-style-type: none"> ▪ Monthly construction updates to subscribers through letterbox drops/letters, email inboxes, and posted on the Project webpage ▪ Monthly construction updates will also be provided to all local Members of Parliament and Cessnock City Council via email. |
| Traffic updates | <ul style="list-style-type: none"> ▪ To advise public of any road closures or other traffic issues such as OSOM loads that may impede traffic ▪ Updates will be made on the Proponent webpage and through community newsletters and media releases ▪ For more closely affected neighbours, traffic updates will be made through letterbox drop and by door knocking to advise in person of changes to expected project generated traffic. |
| Variable message signs | <ul style="list-style-type: none"> ▪ Electronic variable message sign during major construction activities including traffic impacts to provide advanced notice to road users of traffic changes. |
| Community signage | <ul style="list-style-type: none"> ▪ To be installed on gate entries to the Project Site. |

Community and stakeholders will be provided with the Project’s dedicated hotline and email address on all notifications, and the Communications and Stakeholder Engagement Manager will be responsible for ensuring all inquiries are addressed.

6.3 Complaint 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 CSEM will acknowledge and respond to enquiries and complaints about the Project, as per the process and timeframes shown in Table 6-2.

If the Project team technical staff are approached by a member of the public, the following protocols are to be observed:

- Take the person’s name, contact details and questions or complaints, if possible
- Explain that a Project representative will be in contact shortly
- Pass details immediately onto the CSEM, who will respond to the enquiry or complaint per the below protocol.

Where a dispute arises with a member of the public the following protocol is to be observed:

- The Environmental Representative will be informed and advice sought on the matter in accordance with condition A23
- The dispute will be identified in the Complaints Register as such, and the Department advised in accordance with the incident procedure. If the dispute is shown to be a non-compliance, then the Department will be advised in accordance with requirements for non-compliances
- Initial step is to clarify that the same information regarding the matter is held by each party involved, such as monitoring records)
- The Principal Contractor or Snowy Hydro (depending upon who the dispute is with), if an environmental issue can be demonstrated, shall offer alternative environmental mitigation measures

- Should the dispute escalate a professional mediator may be introduced to facilitate an outcome.

A dispute process will be facilitated by the ER or CSEM depending upon the nature (environmental, or community relations based) of the dispute.

Table 6-2 Complaints and enquiries management

| Complaints and enquiries management | |
|--|---|
| Responding to complaints received during standard work hours | <ul style="list-style-type: none"> ▪ Investigate and determine source of complaint immediately ▪ 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 ▪ Investigate the potential environmental impacts and consequences of the complaint ▪ Record details of complaint received, how it was managed and the actions required to close out the complaint ▪ Provide an update of the complaints register to the ER for any complaints received on the day they are received. |
| Responding to enquiries received during standard work hours | <ul style="list-style-type: none"> ▪ Record details of enquiry received ▪ Provide a response to enquirer on the next business day. |
| Responding to enquiries and complaints out of hours | <ul style="list-style-type: none"> ▪ 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 CSEM on a 24-hour basis ▪ 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 ▪ All details of the enquiry or complaint will be recorded in the Project consultation complaint register by the CSEM. ▪ Provide an update of the complaints register to the ER for any complaints received on the day they are received. |

7. Environmental management framework

7.1 Environmental Management System accreditation

The Hunter Power Project will be designed, constructed, operated and maintained under an Environmental Management System (EMS) certified to ISO14001:2015.

The Principal Contractor selected for the project will be required to have an EMS certified to ISO 14001. As such all environmental management processes will be to that standard, and provide assurance with regard to the implementation of all management practices (such as this CEMS and associated plans), reporting, and overall diligence of environmental management. As ISO14001 has its own requirements with respect to assurance, the Principal Contractor (and Snowy Hydro) will not only have to comply with this CEMS and the oversight identified within, but also the oversight required by the International Standard Organisation.

7.2 Roles and responsibilities

This section outlines key roles and responsibilities of the Principal Contractor, and sub-contractor personnel, with overall responsibility of the CEMS implementation held by the Principal Contractor.

7.2.1 Principal Contractor key personnel

Roles and responsibilities and authority to undertake those responsibilities, as they relate to the implementation and review of the CEMS are provided in Table 7-1.

Table 7-1 Principal Contractor personnel and responsibilities

| Role | Responsibility |
|----------------------|--|
| Principal Contractor | |
| Project Manager | <ul style="list-style-type: none"> ▪ Overall environmental performance of the Project ▪ Provide leadership in the implementation of all project environmental initiatives ▪ Specify and determine resources to enable execution of project environmental management activities and emergency response systems ▪ Ensure personnel are competent and have undertaken required training and inductions ▪ Ensure resources are specified to eliminate or minimise project environmental hazards ▪ Coordinate and participate in incident investigations and review and report findings ▪ Review environmental audit findings and ensure corrective actions are implemented and documented ▪ Review work planning requirements to ensure they include adequate identification, assessment, and control of environmental hazards ▪ Interfacing with major subcontractors and client management, and environmental personnel as required regarding environmental matters |

| Role | Responsibility |
|---|--|
| Principal Contractor | |
| Project Environmental Manager | <ul style="list-style-type: none"> ▪ Specify resources to enable execution of environmental activities and emergency response systems on site ▪ Providing environmental advisors, project line management, and Contractor with feedback on environmental performance ▪ Coordinating and participating in scheduled environmental audits and reviews ▪ Develop training and induction schedules and content ▪ Coordinating and participating in workplace inspections ▪ Ensuring implementation of the CEMS in the field ▪ Provide leadership in the implementation of all environmental initiatives |
| Communications and Stakeholder Engagement Manager | <ul style="list-style-type: none"> ▪ Work proactively with Snowy Hydro on issues, collaborate on solutions with regard to communicating with the community and members of the public. ▪ Manage the handling of enquiries and complaints in line with the Principal Contractors enquiry and complaint procedure. ▪ Work closely with the technical streams to ensure known stakeholder requirements are proactively considered when developing program sequencing, design and construction methodology and operations and maintenance interfaces. ▪ Ensure stakeholder and community issues are dealt with in a proactive and efficient manner to enhance the Project, minimise issues and resolve community concerns. ▪ Provide internal escalation and advice around sensitive stakeholder and community issues or issues that have the potential to impact the reputation of Snowy Hydro. ▪ Manage the maintenance of Principal Contractor stakeholder databases and contribute to reporting requirements. |
| All staff, including subcontractors | <ul style="list-style-type: none"> ▪ Implementing CEMS ▪ Implement incident and complaint reporting and response ▪ Comply will all legislative requirements and the CEMS ▪ Participate in any relevant environmental training ▪ Reporting any near miss or environmental incidents to their supervisors ▪ Provide suggestions to improve environmental management on the project |

7.2.2 Snowy Hydro personnel

Snowy Hydro’s key personnel are identified below and have the authority to undertake the responsibilities outlined in Table 7-2.

Table 7-2 Snowy Hydro roles and responsibilities

| Role | Responsibility |
|--------------------|--|
| Snowy Hydro | |
| Project Manager | <ul style="list-style-type: none"> ▪ Provide overall coordination for Project team activities and responsibilities, and support for those activities and team members, including financial issues, business case, schedule, HSE, and quality requirements are met ▪ Ensure risk management process and compliance management processes are in place and undertaken, including mitigation actions, preventative, and corrective actions are carried out ▪ Ensure that design reviews are undertaken and coordinate support as required ▪ Provide progress updates via weekly/monthly reports and attend Project |

| Role | Responsibility |
|--------------------------------------|--|
| | <p>Steering Committee meetings</p> <ul style="list-style-type: none"> ▪ Attend meetings/inspections/tests at the Project Site and commissioning support. Proactively maintain a close overview of Project activities ▪ Develop, implement, manage and review the Project Management Plan (PMP) incorporating management of Risk, Quality, Safety & Environment. ▪ Ensure Principal Contractor HSE management plans and systems are in place and obligations are implemented |
| <p>Environment/Approvals Manager</p> | <ul style="list-style-type: none"> ▪ Review of amendments or additions to the Project that are consistent with the environmental assessments and approval requirements, and recommendation to the Snowy Hydro Project Director where necessary ▪ Identifying, maintaining and communicating changes in regulatory requirements ▪ Review and approve Principal Contractor environment management systems and plans, and responsibilities for regulatory approvals ▪ Review of approvals, conditions, notification requirements, and provision of advice on implementation and assurance ▪ Create and maintain a compliance register and monitoring program, ensuring corrective actions are undertaken. ▪ Participate in environment risk assessments, inspections and audits, and reporting ▪ Liaising with and supporting the Environmental Representative ▪ Provide specialist environment advice and recommendations within and outside the Project Team as required |
| <p>Site/ Construction Manager</p> | <ul style="list-style-type: none"> ▪ Provide oversight of Principal Contractor safety, environmental, and quality performance ▪ Overview of site activities during construction, reporting identified issues, and ensuring corrective actions are undertaken ▪ Ensure notifications are carried out, if required ▪ Liaising with the Principal Contractor, providing input to inductions and toolbox meetings as required, and attend meetings, inspections, tests, and commissioning support ▪ Monitor and record site construction progress by recording in daily diary activities undertaken, resources onsite, issues and resolutions ▪ Participate in risk assessments, inspect site risk controls, and report on their implementation ▪ Continual oversight of safety, environment and quality issues when carrying out daily duties and take corrective action as necessary ▪ Conduct quality inspections of site works as required by the Project Engineer and Project Quality Plan. |

7.2.3 Environment Representative

An independent Environmental Representative (ER) was appointed by Snowy Hydro and approved by the Planning Secretary prior to commencing the development.

The ER and their alternates are suitably qualified and experienced people who were not involved in the preparation of the EIS and associated submission documents, and is independent from the design and construction of the development. The ER must meet only the requirements set out in Sections 2.2, 2.3, 2.4 and 3 in the *Environmental Representative Protocol* (Department of Planning and Environment, October 2018).

Snowy Hydro has provided and continue to provide the ER with all documentation requested by the ER in order for them to perform their functions as specified in Condition of Approval A23.

ER endorsement

From commencing the development, until commencing operation, or as agreed with the Planning Secretary, the approved ER must review the documents identified in the Infrastructure Approval condition assigned to the Environmental Representative. These are primarily the CEMS and associated Management Plans, and other environmental assessments and verifications. The purpose of the reviews is to ensure the documents are consistent with approval requirements.

The ER will make written statements as required to the Department, assist in community complaints, and have the authority to approve 'minor amendments' to Environment Management Plans and this CEMS.

The ER endorsement of the current version of the CEMS is attached in Appendix N.

ER approval of minor amendments

A 'minor amendment' includes amendments that are consistent with the conditions of approval and do not require a modification to a condition of approval, including;

- to work methods that do not increase the environmental impact of the activity, such as, using an improved water management system that results in improved water quality.
- to the timing of environmental management or monitoring activities as a result of weather conditions outside the Proponent's control.
- are administrative in nature and do not affect physical works or reporting or notification requirements.
- to organisational structures of the Proponent or Principal Contractor.

If the ER is satisfied such an amendment is necessary, and consistent with the conditions of approval, the ER can approve the amendment. The process to obtain the approval from the ER is;

- Documented and kept on record for the duration of the Project;
- Initiated by the Principal Contractor, Snowy Hydro, or as a result of ER or other independent advice;
- The requested amendment shall be made on a 'minor amendment' request form, dated and numbered for each request;
- The request form will include;
 - a statement of reasons for the amendment,
 - a statement with justification as to why the amendment will not increase environmental impact, and
 - a revision of the amended document, clearly showing the proposed amendment.
- The ER will provide approval, or otherwise (such as for further information), to the proposed amendment, and that shall be returned in writing to the person requesting the amendment.
- The amendment will also require Snowy Hydro approval (as the Proponent), if the request is from the Principal Contractor.

Specific document reviews

As this Construction Environmental Management Strategy (CEMS) is for the construction and commissioning stages, the ER will review the plans listed below prior to commencement of construction or commissioning as appropriate:

- B33 - Biodiversity Management Plan
- B40 - Water Management Plan
- B43 - Aboriginal Cultural Heritage Management Plan
- B48 – Traffic Management Plan
- C1 - Environmental Management Strategy, including an air quality management plan, noise management plan, waste management plan and monitoring plan

Assessments required by the condition of approval prior to installation of the gas turbines include;

- B12 - Fire Safety Study, Hazard and Operability Study, Final Hazard Analysis
- B19 - Updated plume rise assessment report

- B20 – Submission of final design drawings

These were submitted to, and accepted by the Department and are not considered further in this CEMS.

Reviews required of conditions that can be undertaken after commissioning (such as B29 noise compliance), or are operational requirements (such as condition B13 Emergency Plan, Safety Management System) will be completed at those times in accordance with the conditions of approval.

The ER will make a written statement to the Department after review of the documents identified above, as outlined in condition A23(a), the review to be undertaken before implementation of the documents. The timing of the review will be as clarified with the Department as provided for in condition A23(a). As requested by the Department, the specifics of condition A23(a) are included, the condition reads;

“From commencing the development, until commencing operation, or as agreed with the Secretary, the approved ER must:

(a) review the documents identified in conditions B5, B8, B12, B13, B19, B29, B33, B40, B43, B48 and C1 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:

(i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or

(ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Department for information or are not required to be submitted to the Department);

(b) as may be requested by the Secretary, assist the Department in the resolution of community complaints; and

(c) consider any minor amendments to be made to the plans / strategies in conditions B5, B8, B12, B13, B19, B29, B33, B40, B43, B48 and C1 that involve updating or are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure they are consistent with the terms of this approval and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval.”

7.3 Training and induction requirements

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

7.3.1 Training needs and competency evaluation

Training needs will be determined, and training conducted for all personnel, contractors, and visitors to the Project Site.

All contractors and subcontractor representatives are required to work with the Principal Contractor's Project Environmental Manager to determine the environmental competency and training required for all site personnel and are responsible for ensuring training is conducted prior to work commencing.

7.3.2 Environmental training, awareness, and induction

The training in Table 7-3 describes the range of training expected to be conducted by the Principal Contractor for site personnel.

Table 7-3 Environmental training, awareness, and induction

| Environmental training and awareness | Required personnel | Content and purpose |
|--------------------------------------|--|---|
| Site awareness induction | All personnel, including subcontractors and visitors prior to working or visiting the Project Site | Environmental component can be covered in overall site induction. Conducted to ensure awareness of CEMS requirements and ensure the implementation of environmental management measures. |
| Environmental compliance training | All personnel, including subcontractors, prior to working on the site | Outline compliance obligations at the Project Site, and personnel's duties with regard to compliance. |
| Incident investigation training | Determined by training needs matrix / Principal Contractor's Environmental Manager – employees who are responsible for leading incident investigations | Training in incident cause and analysis method for incident investigations. |
| Specialised environmental training | Determined by training needs matrix / Principal Contractor's Environmental Manager | Training related to specific issues and activities that may require further training, such as use of spill kits, dust control procedures, vehicle washdown procedures, bushfire procedures or notification requirements to regulators in the event of an incident, or any other training required to fill gaps in competency. |
| Short-term workers induction | All personnel and contractors working on the Project for fewer than two days, where their tasks do not have significant risk of environmental harm | Briefing of responsibilities, and a site-specific induction for the work scope required to be undertake. Short-term workers will be supervised by a fully inducted person for the duration of their work scope. |
| Toolbox talks | Personnel and contractors on an as-needed basis | Raise awareness and educate personnel on environmental issues associated with construction. Discuss environmental issues relevant to upcoming works or previous incidents. They will include discussions of the key environmental aspects of the Project, and the controls that staff need to be aware of. |
| Daily pre-start meetings | Personnel and contractors on-site each day | Inform personnel of the day's activities, environmental protection practices, work area restrictions, activities that may affect the works, coordination with other trades, and hazards. To be conducted before commencement of work each day or shift, or where changes occur during a shift. |

Records for training and inductions conducted by the Principal Contractor will be maintained in the Principal Contractor's training database.

7.4 Incident and emergency management

The following definitions of an incident, material harm, and non-compliance have been provided together for the benefit of the reader and ease of interpretation of the document. The definitions provided below are as provided in the Infrastructure Approval under which this CEMS is required.

‘Incident’ – An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance

‘Material harm’ – Is harm that:

- involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or
- results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

‘Non-compliance’ – An occurrence, set of circumstances or development that is a breach of the Infrastructure Approval under which this CEMS is required.

7.4.1 Pollution incident response management plan

An EPL is required for the Project as per the POEO Act prior to construction. Accordingly, a Pollution Incident Response Management Plan will be prepared by the Principal Contractor (as the holder of the EPL). The Pollution Incident Response Management Plan will outline the procedures in place to manage any pollution incidents at the Project Site (as shown in the “Premises Plan”) and will be implemented immediately if a pollution incident occurs that causes or threatens harm to the environment.

7.4.2 Environmental incidents

Environmental incidents are to be managed in accordance with the Principal Contractor’s Environmental Incident procedure. The procedure will address:

- Types of incidents
- Criteria for classifying environmental incidents
- Process for responding to and managing emergency situations
- Processes and legal requirements for the reporting and notification of an environmental incident.

For any environmental incident involving a breach of the Infrastructure Approval the Principal Contractor will work with Snowy Hydro to notify the Secretary through the Major Projects website no more than seven days after becoming aware of any incident, and a report must be issued to the Secretary and relevant authorities within 30 days of the incident. The reporting requirements can be found in Appendix 4 of the Infrastructure Approval.

For a breach of the EPL, the Principal Contractor will report to the NSW EPA in accordance with the reporting requirements of the EPL.

For incidents involving actual harm or significant risk of environmental harm, the Principal Contractor will notify the EPA immediately and follow the procedure in the Pollution Incident Response Management Plan.

The Principal Contractor must provide the following names and contact details for key emergency response organisations and people onsite at all times. These details will be accessible in a hardcopy of the Emergency Response Plan and online through the Principal Contractor’s internal internet service and be part of the induction to the site:

- Police, Ambulance, Fire Services
- 24-hour emergency contact
- Principal Contractor Environmental Manager

- Principal Contractor Project Manager
- Environmental Representative
- Ecologist (subject matter specialist appointed by Snowy Hydro to support the Project)
- Archaeologist (subject matter specialist appointed by Snowy Hydro to support the Project).

7.4.3 Incident notification and reporting

The Principal Contractor's procedures will address the following and 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 Environment Manager on 0488 785 137. 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.

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.

7.4.4 Emergency management planning and response

Key elements of the Emergency Management Plan for construction and commissioning is provided below, which will be prepared and implemented by the Principal Contractor. The Plan will address;

- Implementation and maintenance of a documented process to identify potential HSE emergency situations for the Project and work activities undertaken by the Project;
- Regular review of the identified emergency situations for all packages of work;
- Access and egress situations, locations, and alert mechanisms for people at the Project Site;
- Ensure emergency response arrangements are communicated to all personnel and visitors.
- Integration of any requirements from the Pollution Incident Response Management Plan required by the EPA;

- Contact details of respective emergency services, and notification requirements.

The Principal Contractor will ensure designated emergency response personnel have:

- Been inducted in the site-specific emergency plans and procedures; and
- Obtained any qualification or formal training identified as required to fulfil the role.

As part of the Emergency Response Plan the Principal Contractor will ensure emergency response practice drills:

- Are scheduled and carried out on site at least every 6 months
- Are scenario based and test a variety of the identified potential emergency situations
- Are recorded and evaluated for effectiveness
- Incorporate a process for the identification and management of corrective action.

With regard to emergency response equipment the Principal Contractor will;

- Ensure a qualified person undertakes a first aid risk assessment to identify site first aid equipment and requirements in accordance with the relevant legislation, codes of practice and Australian Standards;
- Ensure a competent person identifies site emergency response equipment and requirements;
- Ensure there is a process for annual inspecting, testing and maintaining emergency and first aid equipment.

7.4.5 Internal incident reporting

All health, safety, and environmental injuries, incidents, hazards and near misses will be reported to ensure they are managed correctly. The overall objective of reporting is to identify and mitigate risk, to avoid a recurrence of the event.

Reporting captures actual or potential incidents that have caused or may cause injury or damage to the environment and property because of the Principal Contractor’s activities. This reporting includes all personal engaged on the Project and any risk posed to members of the public and is described in Table 7-4.

Table 7-4 Internal environmental reporting requirements

| Type | Guidance | Requirement |
|------------------------|---|---|
| Environmental incident | <p>An incident is an “An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance”.</p> <p>Environmental harm can occur because of a breach of one, or a combination of, three environmental management parameters:</p> <ol style="list-style-type: none"> 1) Environmental law and/or regulation (including EPL/Infrastructure Approval conditions) 2) Environmental harm to a technical environmental area (e.g., physical biological harm, loss of public amenity) 3) Failure of an environmental risk management method. | <ul style="list-style-type: none"> ▪ <u>Notify the Secretary in writing via the Major Projects website immediately</u> ▪ Reported via the Principal Contractor’s incident reporting system ▪ Report and investigate in accordance with Principal Contractor’s incident investigation procedures ▪ Details of complaints must be recorded ▪ Details of response and any investigations undertaken as a result of the complaint ▪ Action taken as a result of the finding of the complaint investigation and signature of responsible person. |
| Near miss | A near miss is an unplanned event that doesn’t cause harm to the environment, but had | Per environmental incident. |

| Type | Guidance | Requirement |
|-----------|---|---|
| | circumstances been different, the event could have resulted in harm. | |
| Complaint | Complaints are communications from the public, landholders, or stakeholders that raise concerns with the Principal Contractor’s construction or commissioning activities or behaviour of staff. | Refer to Section 6 for complaint management protocol. |

7.5 Compliance management

7.5.1 Inspections

A regular program of inspections is required throughout the duration of construction and commissioning. This schedule is to be revised for effectiveness each month to ensure environmental management plans are incorporating the appropriate environment protection measures.

The pre-start checklist and weekly inspection checklist will be developed by the Principal Contractor prior to the commencement of construction. The checklist is required to provide a surveillance tool to ensure safeguards are being implemented and housekeeping is maintained, and must:

- Ensure that environmental controls required for the day’s activities are identified
- Identify where environmental practices are not being implemented
- Identify gaps in environmental management with potential to impact the environment.

Any gaps in the checklist or inspection schedule will be evaluated and prioritised after each inspection, and a target close out date to rectify issues will be documented.

Non-routine inspections of the Project Site will be conducted in addition to the regular scheduled inspections by the Principal Contractor’s Environmental Manager. A non-routine inspection will also be conducted upon the following:

- After an incident as required by an investigation
- During works with an assessed high environmental risk
- Upon completion of a construction or commissioning stage
- A large increase in contractor/subcontractor staff begins working on site
- A severe weather event (high rainfall, strong winds).

The inspection schedule for the construction and commissioning phases is provided in Table 7-5.

Table 7-5 Inspection schedule

| Inspection | Frequency | Location | Responsibility | Reporting requirements |
|-------------------------------------|---|---|-----------------------------------|---------------------------|
| Daily workplace inspection | Daily | Work area Equipment in work area | Principal Contractor | None |
| Pre-start equipment inspections | Daily | Equipment and machinery to be used on the day | Principal Contractor | Pre-start checklist |
| Environmental site inspection | Weekly | Project Site | Principal Contractor | Site inspection checklist |
| Joint environmental site inspection | As requested by stakeholders (Snowy Hydro, NSW EPA, DPHI) | As requested by stakeholder | Stakeholder, Principal Contractor | Inspection report |

| Inspection | Frequency | Location | Responsibility | Reporting requirements |
|--|--|--------------|-----------------------------|------------------------------------|
| Management (corporate) site visit inspections | Quarterly (minimum) | Project Site | Principal Contractor | Inspection report |
| Rainfall inspection (assessed if there is >80% potential for 10mm or greater rainfall in a 24 hour period) | Within 3 hours of the start of a rainfall event during work hours if rainfall is expected to exceed 10mm in a 24-hour period Within 24 hours of the start of a rainfall event or on the following day | Project Site | Principal Contractor | Site inspection checklist |
| Environmental Representative (ER, as nominated on the Condition of Approval) inspections | As required based on environmental management performance | Project Site | SHL HPP Environment Manager | ER environmental inspection Report |

Actions from all inspections are to be recorded and closed out within agreed to timeframes. Copies of all environmental inspection reports, logs, and notes will be prepared, and records are to be kept on-site.

7.5.2 Monitoring program

Monitoring will be conducted throughout construction to measure the effectiveness of environmental controls and their implementation. The monitoring requirements are included in the relevant environmental management plans and summarised in the Construction Monitoring Program in Appendix L.

The monitoring aspects identified in the Construction Monitoring Program are taken to be the performance criteria for the construction phase of the Project. It is noted, these may be amended as the Project progresses.

Each monitoring program will include:

- Details of baseline data where available
- Parameters of the Project to be monitored
- Frequency of monitoring
- Location of monitoring
- Monitoring reporting requirements
- Procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory
- Any consultation to be undertaken in relation to the monitoring program.

The Principal Contractor is responsible for carrying out the monitoring program including ensuring that environmental monitoring equipment is maintained and calibrated according to the manufacturer’s specifications, and appropriate records are kept.

7.5.3 Independent audits

Independent audits during construction and commissioning are required to obtain an independent and objective assessment of the environmental performance and compliance status of the Project. Independent audits will be conducted by a qualified, experienced, and independent auditor, in accordance with *Independent Audit Post Approval*

Requirements (2020), and the qualifications of the person conducting the audit must be agreed to in writing by the Secretary prior to the commencement of the audit.

The first audit must occur within 12 weeks from the start of construction, and no less than every 26 weeks from the date of the initial audit, or as otherwise agreed by the Secretary.

Audit reports and Snowy Hydro's response (as the Proponent on the Infrastructure Approval) must be submitted to the Department within two months of the audit site inspection and be made publicly available. The Principal Contractor must do all that is reasonable and feasible to address audit observations, recommend mitigations measures, and implement those measures that are agreed.

7.5.4 Internal audits

The Principal Contractor will conduct internal environmental audits monthly (at minimum) throughout construction and commissioning to ensure the ongoing adequacy and effectiveness of the CEMS. Internal audits will verify compliance with:

- The Infrastructure Approval requirements
- Other relevant requirements (licences, permits, regulations).

Audit reports identifying observations and actions will be provided to Snowy Hydro by the Principal Contractor and follow up reports will demonstrate how observations have been addressed.

Snowy Hydro will conduct internal audits of the Project at a system level, with the primary objective of ensuring that the Principal Contractor has systems and process in place to manage the requirements under this CEMS, other approval requirements, and are implementing robust environmental management of the Project Site. Snowy Hydro will conduct internal audits on a quarterly basis.

7.5.5 Compliance register

A Compliance Register has been developed for the Project that includes the conditions set out in the Infrastructure Approval, EPL and the EPBC Approval. The register will be maintained and updated throughout the course of the Project and will:

- Identify the requirements in the Infrastructure Approval conditions that must be complied with during the construction and commissioning works including environmental mitigation measures
- Detail the compliance monitoring methods to be used to assess compliance with each compliance requirement
- Detail the type of data or evidence that is to be collected to assess whether compliance has been achieved.

7.5.6 Non-conformance and non-compliance

Environmental non-conformance is a failure to comply with a requirement, standard, or procedure that is part of this CEMS. Non-conformances may be identified through audits, inspections, monitoring, improvement opportunities, community consultation, complaints, incident management, or through any personnel working on the Project.

A non-compliance is an occurrence that is a breach of an approval condition or legislative or regulatory requirement. Non-compliances are also recorded as incidents as per the incident management process.

A non-conformance can generally be managed within the Project systems and processes, whereas a non-compliance will involve reporting and additional requirements from external agencies, typically the Department and/or the NSW EPA. Refer to Section 7.4.

Construction activities associated with non-conformance or non-compliance may be stopped by the Principal Contractor or other Project personnel, until a corrective or preventive action has been put in place to resolve the non-conformance or non-compliance and ensure it will not continue or be repeated.

7.5.7 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 Snowy Hydro becomes aware of any non-compliance. Snowy Hydro will lodge the notification.

The Principal Contractor must notify Snowy Hydro as soon as it becomes 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 non-compliance to the Major Projects website.

7.5.8 Corrective and preventative actions

A corrective and preventative action process will be initiated following the identification of a non-conformance and/or non-compliance and be proportionate to the nature of the non-conformance and/or non-compliance. This process will follow the Principal Contractor’s procedures and be communicated to staff through training and induction activities.

7.6 Documents and records management

7.6.1 Documents and records

The Principal Contractor’s records management procedure will detail the requirements for the retention and management of records. All records are to remain legible and be available to the relevant authorities when requested.

Snowy Hydro will maintain a public Project webpage and make information required in condition C20 available. Refer to Table 6-1 for the communication tools that will be used to do this.

Documents and records in relation to environmental management, monitoring, and reporting must be retained for the duration identified in the Infrastructure Approval, EPL, and as per applicable regulations. The Principal Contractor’s EMS Document Control procedure is to outline retention durations.

All records are to be accessible onsite in electronic or hard copy, with the records expected to be required during the Project outlined in Table 7-6.

Table 7-6 Records management summary

| Data type | Owner |
|--|----------------------|
| Infrastructure Approval (EP&A Act) | Snowy Hydro |
| EPBC Controlled Action Approval | Snowy Hydro |
| EPL for Scheduled Development Work | Snowy Hydro |
| Other approvals, licences, and permits | Principal Contractor |
| Induction and training records | Principal Contractor |
| Toolbox talk attendance | Principal Contractor |

| Data type | Owner |
|---|--------------------------------------|
| Contractor induction and training records | Principal Contractor |
| Risk assessments | Principal Contractor & Snowy Hydro |
| Incident reporting and investigation | Principal Contractor & Snowy Hydro |
| Community engagement and Complaints register | Snowy Hydro |
| Incident reports | Principal Contractor |
| Waste receipts | Principal Contractor |
| Monitoring, inspection, and compliance reports/records | Principal Contractor |
| Minutes of CEMS review meetings | Principal Contractor |
| CEMS and associated management plans | Snowy Hydro |
| Contractor management plans addressing the CEMS and associated management plans | Principal Contractor |
| Audit reports | Principal Contractor and Snowy Hydro |

7.7 Continual improvement and CEMS review

7.7.1 Improvement and review

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 the Department, prior to the work that it relates to being conducted. The exact wording of condition of approval C5 is used below under 'Trigger events and CEMS review'.

Throughout the construction and commissioning phases 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 ER will also be consulted regarding the potential change.

It is a requirement that 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 staged 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 condition in this approval. The management plans under the Approval will be updated for operations which will commence after the successful completion of 'hot commissioning' of a turbine.

Prior to the commencement of commissioning, the revised CEMS and relevant sub plans will be submitted to the Department for review and approval.

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.

Trigger events and CEMS review

A summary table setting out the trigger events as identified in condition of approval C5 is included in Table 7-7, with the associated sections of this CEMS that have been updated. This table would be updated as and when these events occur and there is a revision of a document under this approval identified in condition of approval C5.

Within 3 months of any of these events (unless the Secretary agrees otherwise) Snowy Hydro 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.

Table 7-7 Summary of trigger events under Condition C5

| Condition C5 trigger event | Section of this CEMS that has been amended, or associated study, strategy or plan |
|--|---|
| (a) the submission of an incident report under condition C6 below; | There have not been any incident reports triggers |
| (b) the submission of an audit report under conditions C15 to C19 below; and | Various updates to the CEMS and management plans |
| (c) the approval of any modification to the conditions of this approval; or | Various minor updates were made following approval of MOD1 and MOD2 as shown in the Approved management plan version history at the beginning of this document, and in the various management plans |
| (d) a direction of the Secretary under condition A2 of Schedule 2; | No directions have been received from the Secretary. |

7.7.2 Change management

The ER will be independent of Snowy Hydro and approved by the Secretary. The ER will be suitably qualified and highly experienced in site work and will act as an advisor, provide document reviews and review the Project’s compliance against the Project approval conditions. The ER will assess whether Department review is required for any changes made to management plans and will review Principal Contactor management plans/ subplans for consistency with this CEMS and management plans, and for adequacy in general, ensuring the management plans adequately address environmental risks from Project activities.

7.7.3 Staging of plans

Snowy Hydro will resubmit this CEMS and applicable management plans identified in the conditions of approval for the following stages:

- prior to commissioning activities being undertaken (November 2024 review), and
- prior to operations commencing (noting that this is likely to take the form of an Operational Environmental Management Strategy).

The submissions will be made with sufficient time for the Department to review and approve those plans before the commencement of the stage to which they apply.

8. Environmental management

The following environmental targets have been established for the Project:

- Full compliance with statutory approvals
- No regulatory infringements, notices, or prosecutions
- Address non-conformances and corrective actions within timeframes specified in the CEMS
- Communicate regular Project updates and other information through the Project webpage
- Record and respond to complaints within timeframes specified in the CEMS
- Develop and maintain a program of ongoing environmental monitoring
- Capture lessons learned from environmental incidents and implement corrective measures to avoid repeating issues
- Minimise all impacts to human health and the environment through the life of the Project.

These targets are measured and reported on in accordance with this document as well as the individual detailed Management Plans which are appended to this CEMS for environmental aspects where a higher level of detail is warranted. Appendix D contains a summary of the mitigation measures contained in the Project EIS. The mitigation measures from the EIS or where applicable Response to Submissions specialist studies are repeated in this section, or incorporated into the relevant individual Management Plans.

For environmental aspects where an individual Management Plan is not warranted, the environmental management and controls for that aspect are outlined in the following sections.

Snowy Hydro commits to minimising any material harm to the environment that may result from construction and commissioning of the project.

8.1 Water

A Water Management Plan, has been developed to manage risks associated with stormwater, groundwater, soil erosion and impacts to surface water. The Water Management Plan has been developed in accordance with the Infrastructure Approval Conditions B35 to B38 in consultation with NSW EPA, NSW DCCEEW, Hunter Water Corporation and Cessnock City Council, and is provided in Appendix E.

8.2 Contaminated land

The Project Site includes land that has been remediated from the contamination caused by its previous use as a smelter and has been validated by an accredited NSW EPA site auditor. A Site Audit Statement that covers the Project Site was provided to the Secretary by Snowy Hydro prior to construction commencing as per Condition B46.

An unexpected finds (contamination) is provided in Appendix M.

8.3 Acid sulfate soils and rock

A separate management plan is not provided for acid sulfate soils (ASS), with the management requirements set out in this section.

The types of acid sulfate material which may be present at the Project Site are:

- Potential ASS: Soils containing iron sulfides (commonly pyrite) or sulfidic material which have the potential to produce sulfuric acid if they are drained or excavated.
- Actual ASS: Soils that have already undergone oxidation to produce acid, resulting in a soil pH of less than 4. These soils are typically characterised as possessing pale yellow mottling.

Left undisturbed, acid sulfate materials do not present any risk. But when they are exposed to air, the iron sulfides they contain react with oxygen to create sulfuric acid.

ASS risk was considered in the EIS, and potential and actual ASS are considered unlikely to be present at the Project Site according to the Department's planning maps (2019). Soils approximately 500 metres north and east of the Project Site, surrounding and within Black Waterholes Creek and Swamp Creek, are respectively classified as:

- 'Class 2 - high probability of ASS greater than one metre below ground surface' and
- 'Class 4 - low probability of ASS greater than three metres below ground surface'.

8.3.1 Site ASS assessment results

Laboratory testing results from geotechnical investigations for the EIS indicated a possible risk of ASS in the alluvial soils at depth. However, given the relatively shallow excavation proposed for construction of the Project (refer to Table 8-1), and limited dewatering, ASS disturbance is considered unlikely, or limited to specific locations that are identifiable and able to be managed.

Further laboratory testing for ASS was carried out prior to construction in coordination with geotechnical investigations at the site. These results were integrated into site management and informed the management of any potential ASS. Table 8-1 summarises the expected excavations during construction that may interact with the water table.

Table 8-1 Indicative excavation depths compared to inferred water table (Groundwater Impact Assessment Addendum, (Jacobs, 2021))

| Excavation type | Excavation depth | Intersection with water table |
|---|---|---|
| Trench excavation for services installation | Nominally 0.8 m depth below final surface | Some intersection of water table is anticipated |
| Trench excavation for high voltage cabling | Nominally 1.2 m depth below final surface | Some intersection of water table is anticipated |
| Excavation for fuel oil storage tank and water storage tank foundations – Large Tanks | Up to 0.8 m depth below final surface | Some minor intersection of water table possible |
| Deep excavations for oil-water separator tank and neutralising tank | Up to 2.0 m depth below final surface | Intersection of water table is anticipated |
| Deep excavations for provisional stormwater basin | To 9 m AHD invert | Intersection of water table is anticipated; however, it is not anticipated that dewatering will be required, the basin excavation will be wet |
| Pile footings for turbine foundations (from base of shallow excavation) | To approximately 20 m below final surface | Pile footings will intersect with groundwater. |

Although impacts due to ASS are not expected to occur, the risk of disturbing ASS may need to be managed during construction. The identified activities, aspects and potential impacts relevant to acid sulfate materials are summarised below.

| Activity | Aspect | Potential impact |
|----------------------------------|--------------------------------------|---|
| Bulk earthworks and piling works | Disturbance of acid sulfate material | Surface water or groundwater contamination via the release of acid into the environment. |
| | | Increased acidity of downstream receiving environment potentially impacting aquatic life. |

| Activity | Aspect | Potential impact |
|---|--|---|
| Stockpiling, handling and treatment of acid sulfate materials | Release of ASS material to the environment | Surface water contamination via the release of acidic run-off into the environment. |

8.3.2 Management and mitigation measures

The implementation of the management and mitigation procedures will assist to mitigate potential risks associated with the disturbance and management of ASS and meet the requirements for ASS identified in the associated environmental documents, including legislation, the EIS and the Infrastructure Approval conditions.

The following measures align with the ASS management process and will be implemented in the event earthworks have the potential to disturb confirmed or suspected acid sulfate material.

| Mitigation reference | Action / requirement | Responsibility |
|----------------------|--|----------------------|
| ASS1 | Should future targeted investigation confirm the presence of acid sulfate material, any ground disturbing activity in that area will include a review to determine the most suitable ASS management measures (including whether excavation into acid sulfate material can be avoided). The review will consider the extent of any excavation required and the results of targeted investigations. | Principal Contractor |
| ASS2 | Visual monitoring is to be undertaken during all ground disturbing works to identify suspected ASS. Preliminary visual checking will be based on material type, colour and consistency. Dark grey and black clays, silts and sands or butter-coloured jarosite present in surface spoil or any excavated material will be classified as suspected acid sulfate soils. | Principal Contractor |
| ASS3 | Where ASS requires containment and treatment on site, an activity specific work method statement will be developed or modified which incorporates controls (where applicable) for: <ul style="list-style-type: none"> ▪ Management of excavation works ▪ Management of piling spoil ▪ Stockpile management ▪ Dewatering ▪ Off-site transport of acid sulfate materials ▪ On-site treatment of acid sulfate materials. | Principal Contractor |
| ASS4 | Site crews involved in activities where ASS management is required will be briefed on the specific environmental controls incorporated into the work method statement prior to commencing. Relevant information to be communicated includes: <ul style="list-style-type: none"> ▪ Identification and delineation of confirmed areas of acid sulfate material. ▪ Excavation methods and monitoring requirements. ▪ Construction and location of ASS treatment pads, haul routes and spoil containment during transport. ▪ ASS treatment pads to be used for confirmed ASS or suspected ASS which has been field-tested and is pending laboratory confirmation. ▪ Lime treatment methods of PASS including plant, materials and liming rates. | Principal Contractor |

| Mitigation reference | Action / requirement | Responsibility |
|----------------------|---|----------------|
| | <ul style="list-style-type: none"> ▪ Methods and frequency of verification testing to confirm neutralisation. ▪ Re-use or disposal location for treated ASS and records to be maintained. | |

8.3.3 Excavation of acid sulfate material

Excavation of acid sulfate material will be undertaken in a manner that minimises disturbance. Work crews should be briefed on specific requirements for excavation and will seek further advice from the Principal Contractor's Environmental Manager if unsure. The measures in Table 8-2 will apply if acid sulfate materials are likely to be disturbed by excavation.

Table 8-2 Mitigation measures for managing acid sulfate soils

| Mitigation reference | Action / requirement | Responsibility |
|----------------------|---|----------------------|
| ASS5 | Excavation to occur progressively, so that any rectification works can be quickly identified and implemented. | Principal Contractor |
| ASS6 | Daily pH monitoring of excavation faces is to occur in any known areas of ASS, especially any below the natural water table if dewatering is occurring. | Principal Contractor |
| ASS7 | Lime will be stored on-site and spread over affected areas if pH is shown to be declining. | Principal Contractor |

8.3.4 Stockpile management

Stockpiling of acid sulfate material is to be minimised in terms of volume and time stored on site. The mitigations and controls outlined in Table 8-3 will be implemented where stockpiling is required.

Table 8-3 Mitigation measures for managing stockpiles of acid sulfate material

| Mitigation reference | Action / requirement | Responsibility |
|----------------------|--|----------------------|
| ASS8 | Stockpiling is only to occur in the designated treatment and stockpile area of the site within a purpose-built earth bund with a sealed base and appropriately sized leachate collection sump(s). | Principal Contractor |
| ASS9 | Design of stockpiles should minimise the surface area exposed to oxidation, with capping to be considered if storage is for longer than a few weeks. | Principal Contractor |
| ASS10 | Establish diversion banks up-slope of stockpile and treatment areas (if necessary) to prevent run-on water. | Principal Contractor |
| ASS11 | If treatment of potential acid sulfate soils is not proposed, daily pH monitoring is to occur on these stockpiles. If pH levels in the soil or leachate water declines, then the material will require treatment prior to reuse or disposal. | Principal Contractor |

8.3.5 Treatment of excavated acid sulfate material

Where ASS is to be treated on-site, lime neutralisation will be carried out in accordance with a work method statement and the liming rates provided by laboratory analysis. The mitigations and controls in Table 8-4 apply to the treatment of excavated acid sulfate material.

Table 8-4 Mitigation measures for treatment of acid sulfate material

| Mitigation reference | Action / requirement | Responsibility |
|--|---|----------------------|
| Treatment pad siting and design | | |
| ASS12 | A treatment pad area is required which includes sealed base layer, leachate collection system and exterior bund to prevent impacts to soil and groundwater. | Principal Contractor |
| ASS13 | Treatment pad areas will be located within the site boundary, at least 50 metres from any waterway and will be sited on an elevated area, noting that the Project Site is at low risk from flooding. | Principal Contractor |
| ASS14 | Stormwater and sediment retention features are to be established during set-up and use of the treatment areas to prevent contamination runoff to the environment, and regularly monitored to verify and maintain effectiveness. | Principal Contractor |
| Treatment process | | |
| ASS15 | Each delivery of potential or actual ASS to the treatment pad area must be accompanied by or awaiting the results of laboratory confirmation testing and the recommended liming rate. | Principal Contractor |
| ASS16 | Soils identified as requiring treatment will be spread in layers on the impervious bund. | Principal Contractor |
| ASS17 | Lime application and mixing methods will be dependent on the quantities of acid sulfate material to be treated. Lime must be thoroughly mixed with the soil if all of the acid generated by oxidation of the iron sulfides is to be neutralised. | Principal Contractor |
| ASS18 | Lime will generally be applied at the rate recommended. If the recommended rate is over 20kg/tonne, lime will be placed in stages with field screening carried out between mixing events to avoid over liming. | Principal Contractor |
| Post-treatment verification | | |
| ASS19 | Post-treatment field screening will be carried out at a rate of 1 sample per 200m ³ of treated acid sulfate material. | Principal Contractor |
| ASS20 | If post-treatment field screening results fail, additional lime is to be added at no more than 10kg per tonne at a time. The mixing and validation process is to be repeated. | Principal Contractor |
| ASS21 | Once validation targets have been achieved, material may be disposed of on site or disposed of using the appropriate waste classification. Re-use on site is preferred. | Principal Contractor |
| Records | | |
| ASS22 | Records of ASS stockpiling and treatment will be maintained as part of a stockpile/ASS treatment register. The following information will be recorded: <ul style="list-style-type: none"> ▪ Date stockpile formed ▪ Date disposed ▪ Treatment or monitoring results (including pH results of untreated stockpiles) ▪ Reuse or disposal location and classification. | Principal Contractor |

8.3.6 Dewatering

Dewatering can lead to in-situ development of ASS caused by oxidation because of groundwater changes. Dewatering is not considered a significant risk for the Project given the relatively shallow excavation proposed for construction of the Project, minimal dewatering requirements identified, short duration and the unlikely presence of ASS.

However, if future investigations or detailed design identifies a significant risk of in-situ ASS development from dewatering, the mitigation measures in Table 8-5 will apply and will be incorporated into the Work Method Statement. If actual or potential ASS are encountered, additional dewatering controls will be required.

Table 8-5 Mitigation measures for managing ASS material during dewatering

| Mitigation reference | Action / requirement | Responsibility |
|----------------------|---|----------------------|
| ASS23 | Monitoring for dewatering will include Groundwater levels and pH levels around dewatering zone commencing prior to dewatering, continuing throughout the activity and until water levels recover post dewatering. | Principal Contractor |
| ASS24 | Water quality testing of discharge water is to occur in compliance with any licensing obligations. Any pH correction of acidic groundwater is to occur via approved methods. | Principal Contractor |

8.3.7 Offsite transport and disposal of acid sulfate soil materials

Where potential acid sulfate materials are unable to be managed on-site the requirements of the Waste Classification Guidelines Part 4: Acid Sulfate Soils (NSW EPA, 2014) will be applied for off-site disposal.

8.4 Air quality

An Air Quality Management Plan is required for construction of the Project in accordance with Infrastructure Approval condition C1 and is provided in Appendix F. This has been updated to cover the commissioning phase.

8.5 Noise and vibration

Noise and vibration impacts associated with construction were modelled in the Noise and Vibration Impact Assessment as part of the EIS and Response to Submissions. Construction activities that could result in an increase to noise or vibration include:

- Cumulative impacts from all plant and equipment operating concurrently
- Increase in traffic volumes from both light and heavy-duty vehicles.

It is noted that there is a 1 dB exceedance predicted at NCA2 for phase 1 of construction and additional potential cumulative impacts with respect to the Noise Management Levels identified. These are predictions based on sound power levels assumed at the time of assessment. With this information there is guidance to the Principal Contractor that the noise mitigation measures already identified in the Construction Noise and Vibration Management Plan are required.

The suite of mitigation measures are identified in Table 6-1 of that Plan. As such, no residential or non-residential exceedances are expected to occur as a result of either construction activity; however, a Construction Noise and Vibration Management Plan (CNVMP) has been developed to manage the noise and vibration risks associated with construction in accordance with Infrastructure Approval condition C1. The CNVMP has been developed in accordance with Infrastructure Approval Conditions B21 through B25 and is provided in Appendix G. The Plan has been updated to include the noise and vibration impacts associated with cold and hot commissioning.

8.6 Waste

A Construction Waste Management Plan (CWMP) has been developed to manage the risks associated with waste generation and disposal during construction in accordance with Infrastructure Approval condition C1. The CWMP has been developed in accordance with Infrastructure Approval Conditions B44 and B45 and is provided in Appendix H. This Plan has been updated to include commissioning.

8.7 Biodiversity

A Biodiversity Management Plan (BMP) has been developed to manage the risks to flora and fauna associated with construction. The BMP has been developed in accordance with Infrastructure Approval Condition B33 in consultation with BCS and is provided in Appendix I. Impacts to flora and fauna due to dust will be mitigated through measures outlined in the Dust Management Plan Appendix F.

A Biodiversity Offset Plan has been prepared in accordance with the Infrastructure Approval Condition B34, which requires written evidence of the retirement of biodiversity credits for the respective ecosystem and species credit requirements.

8.8 Aboriginal heritage

A Cultural Heritage Management Plan (CHMP) has been developed to manage the risks to Aboriginal heritage associated with construction. The CHMP has been developed in accordance with Infrastructure Approval Conditions B43 in consultation with relevant RAPs and Heritage NSW – ACH, and is provided in Appendix J.

8.9 Non-Aboriginal heritage

No registered heritage items are located in, or within a one-kilometre radius of the Project Site. Construction is not expected to have a direct physical or visual impact on any nearby listed heritage items. Impacts as a result of construction are limited to unexpected finds.

The site boundary will be demarcated, to ensure that no works with the potential to impact on heritage items will take place outside the development footprint. Measures that will be taken during the construction stage relating to non-Aboriginal heritage are listed in Table 8-6.

Table 8-6 Non-Aboriginal heritage mitigation measures

| EIS mitigation ref | Mitigation measure | Construction stage |
|---|--|---|
| NAH1 | All contractors will be made aware of their obligations under the Heritage act 1977 | <ul style="list-style-type: none"> ▪ Installation of environmental controls ▪ Switchyard preparation ▪ Earthworks ▪ Any activity that has the potential to uncover items of heritage significance |
| NAH2, and Infrastructure Approval Condition B48 | Should any unexpected non-Aboriginal heritage, including archaeological relics, be uncovered during construction, work will stop, and the area be cordoned off. A qualified archaeologist and if necessary, Heritage NSW will be contacted to assess the significance and advise on further requirements before work can recommence. | <ul style="list-style-type: none"> ▪ Installation of environmental controls ▪ Switchyard preparation ▪ Earthworks ▪ Any activity that has the potential to uncover items of heritage significance |

8.10 Traffic

A Traffic Management Plan (TMP) has been developed to manage the risks associated with the increase in traffic due to construction. The TMP has been developed in accordance with Infrastructure Approval Conditions B47 and B48, as modified on 1 March 2023, in consultation with Cessnock City Council and TfNSW and is provided in Appendix K.

8.11 Hazardous materials

The key impacts associated with hazardous materials during construction are risks associated with the transport and use of chemicals and diesel fuels on the construction site. Measures to manage hazardous materials are details in Table 8-7.

Table 8-7 Hazardous materials management

| Measure / requirement | Stage | Responsibility |
|--|---|--------------------------------------|
| Consideration of hazards, risks and safety will be prioritised in the selection and design processes and equipment specifications, construction (as well as commissioning, and operation) (PHA1) | <ul style="list-style-type: none"> ▪ Detailed design ▪ All construction | Snowy Hydro and Principal Contractor |
| The findings of the PHA and hazard table compiled during the risk workshop will be considered in future design stages and HAZOP workshops to minimise hazards and risks (PHA2) | <ul style="list-style-type: none"> ▪ Detailed design ▪ All construction | Snowy Hydro and Principal Contractor |
| Minimise dangerous goods and hazardous chemical transport, storage, and handling at the Project Site | <ul style="list-style-type: none"> ▪ Detailed design ▪ All construction | Principal Contractor |
| Hazardous materials surveys will be undertaken to inform construction planning | <ul style="list-style-type: none"> ▪ Pre-construction | Principal Contractor |
| A spill response procedure will be developed as part of the Project's incident management protocols. The procedure and incident management protocols will detail processes, responsibilities and measures to manage hazardous substances and dangerous goods | <ul style="list-style-type: none"> ▪ Pre-construction | Principal Contractor |
| An emergency response plan will be prepared and will include measures to manage emergency situations during construction | <ul style="list-style-type: none"> ▪ Pre-construction | Principal Contractor |
| Compliance with AS 1940 for the storage and handling of all flammable and combustible liquids, including diesel fuel, including storage and handling of all chemicals, fuels and oils in accordance within a bunded area with a minimum bund capacity of 110% of the volume of the largest single stored vessel within the bund. | <ul style="list-style-type: none"> ▪ All stages | Snowy Hydro and Principal Contractor |
| Ensure all chemicals, fuels and oils associated with construction (including during commissioning) are handled and stored in accordance with all relevant Australian Standards. | <ul style="list-style-type: none"> ▪ All stages | Snowy Hydro and Principal Contractor |
| Handling and storage of hazardous liquids will be carried out in accordance with the NSW EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook | <ul style="list-style-type: none"> ▪ All stages | Snowy Hydro and Principal Contractor |
| In the event of any inconsistency with the requirements above, the most stringent requirement shall prevail. | <ul style="list-style-type: none"> ▪ All stages | Snowy Hydro and Principal Contractor |
| For the purpose of condition B17 (storage and handling of chemicals fuels and oils), any tanks or other storage vessels that are interconnected and may distribute their contents either by gravity or automated pumps must be considered a single vessel. | <ul style="list-style-type: none"> ▪ All stages | Snowy Hydro and Principal Contractor |

8.12 Landscape and visual

The overall visual impact of the Project is low due to the existing landscape character and sensitivity surrounding the Project Site, and limited visibility from sensitive viewing locations.

Construction activities will be visible from a section of Hart Road and Dickson Road as well as a limited number of other elevated locations. Visual impacts of construction activities will be temporary, short in duration, and limited to low viewer numbers.

Measures to reduce potential impact to visual amenity are included in Table 8-8. These measures will be regularly inspected and audited.

Table 8-8 Landscape and visual amenity management controls

| Measure / requirement | Construction stage | Responsibility |
|---|--|---|
| <p>Off-site visual impacts of the development, including the potential for any glare or reflection must be minimised (Infrastructure Approval Condition B49(a))</p> <ul style="list-style-type: none"> ▪ Lights will be turned off when not needed, including security lights. ▪ Sensor switches will be installed for permanent lighting on outside lights. ▪ Lights will be located as far as possible from neighbours and away from sensitive areas. ▪ Existing features surrounding the site will be used to hide the light source from view. ▪ Wherever possible, direct light downwards to illuminate the target area, and if there is no alternative to up-lighting, fit shields and baffles to help keep spill light to a minimum. | <ul style="list-style-type: none"> ▪ All stages | <p>Snowy Hydro Principal Contractor</p> |
| <p>Surfaces and finishes for the Project and associated infrastructure will be designed to reduce visual bulk and contrast of large surfaces and elements and allow them to blend into the context of the surrounding area (LV1 and Infrastructure Approval Condition B49(b))</p> | <ul style="list-style-type: none"> ▪ Design | <p>Snowy Hydro</p> |
| <p>Offsite impacts due to light spill from security lighting will be minimised by adhering to Australian Standards (AS/NZ 4282:2019 Control of the obtrusive effects of outdoor lighting) (LV2 and Infrastructure Approval Condition B50(a,b))</p> | <ul style="list-style-type: none"> ▪ All stages | <p>Snowy Hydro Principal Contractor</p> |
| <p>No commercial advertising signs or logos to be placed on site except for safety purposes (Infrastructure Approval Condition B49(c))</p> | <ul style="list-style-type: none"> ▪ All stages | <p>Snowy Hydro Principal Contractor</p> |
| <p>Any external lighting associated with the development will be installed as low intensity lighting (except where required for safety or emergency purposes)</p> | <ul style="list-style-type: none"> ▪ All stages | <p>Snowy Hydro Principal Contractor</p> |

8.13 Bushfire risk

8.13.1 Bushfire risk management

The Project Site is flat and mostly cleared of vegetation and is adjacent to bushfire-prone vegetation to the north and west. An allowance for a 10 m asset protection zone as part of the bushfire hazard reduction is to be put in place, as well as controls for bushfire fuel reduction and restrictions on high-risk construction activities identified in the Hazard Analysis taking place on total fire ban days.

Bushfire protection during construction will be covered as part of the Project/Site Induction and includes the following information:

- *Site Asset Protection Zone (APZ)* - An APZ will be established to the northwest and northeast of the site as site early works as per the Biodiversity Management Plan to ensure access for emergency vehicles and to provide separation for the Project Site from the surrounding bushfire hazard.
- *Site clearance*: the Project Site is a brownfield site that is largely devoid of bushfire prone vegetation. Most of the site would have low radiant heat exposure to any fire in nearby vegetation and any embers entering the site are unlikely to find sufficient fuel for a spot fire to establish. In case of an approaching fire in the vegetation to the north and west of the Project Site, workers could safely retreat towards the south-east, without necessarily needing to evacuate.
- *Strategic Fire Advantage Zone (SFAZ)*: management of bushfire fuel hazard in the surrounding landscape by NSW Rural Fire Service (RFS) should moderate the behaviour of a fire, should one ignite, and reduce the threat it poses to construction personnel. The Hunter BFRMP (Hunter BFMC, 2009) identifies a SFAZ around the former Hydro Aluminium facility. The SFAZ includes areas of native vegetation and cleared land that surround the Project Site. Bushfire fuel hazard in these areas is actively maintained (by RFS) by periodic hazard reduction burning in the larger blocks of native vegetation. This is designed to moderate fire behaviour and reduce the risks posed to people and infrastructure by radiant heat and embers.
- *Access*: in the event of a fire, emergency services would access the site via Hart Road. External access (prior to construction of the proposed APZ access track) would be via the existing formal and informal track network.
- *Fire water supply*: the Project Site would have access to potable water from Hunter Water. A standpipe or connection point would be provided to enable fire response vehicles to refill in case of fire.
- *Hot works controls*: works that have potential to generate sparks and ignite fires would be subject to the contractor's hot works safety management procedures and could only be undertaken on TOBAN days if a permit is obtained from the RFS.

Bushfire management will be considered and addressed in the Principal Contractor's Emergency Response Plan.

Modification 2 added additional bushfire management requirements as per condition B18A, B18B and B18C. As per these requirements, the Temporary Workforce Accommodation Facility Bush Fire Emergency Management and Evacuation Plan was compiled, and provided to the Secretary and the Local Emergency Management Committee.

Appendix A. Infrastructure Approval – consolidated approval (MOD 1 and MOD 2)

Appendix B. Legislative Obligation Summary

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|--|----------------------|---|---|-----------------------|--------------------|--------------------|
| <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) | All | Establishes the planning and approvals process in NSW and provides for the making of Environmental Planning Instruments. The Project was declared by the Minister for Planning and Public Spaces to be Critical State Significant Infrastructure (CSSI) on 12 December 2020 and requires approval from the Minister for Planning (formerly Planning and Public Spaces) before it may proceed. | Overarching legislation for EIS process, including all relevant environmental impact assessments, identification of environmental risk and risk mitigation measures, which form components of the CEMS and all associated management plans. | Yes | Yes | Yes |
| <i>Environmental Planning and Assessment Regulation 2021</i> (EP&A Regulation) | All | Provides the form and content requirements for the EIS, which is reflected in the SEARs | Overarching regulations for EIS process, including all relevant environmental impact assessments, identification of environmental risk and risk mitigation measures which form components of the CEMS and all associated management plans. | Yes | Yes | Yes |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|---|----------------------|--|--|-----------------------|--------------------|--------------------|
| <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) | All | <p>The Project has the potential to impact Matters of National Significance related to biodiversity, and because Snowy Hydro is a Commonwealth Agency, this Project is deemed a controlled action. Key actions that may result in a significant impact to the environment include:</p> <p>1) Generation of emissions and pollutants that would impact air quality</p> <p>Potentially disturbing contaminated and or/acid-sulfate soils with potential flow on impacts to surface or groundwater</p> | <p>Potential impacts to biodiversity, contaminated land, and air quality were assessed in the EIS, and fulfill the requirements under the EPBC Act through a Bilateral Agreement.</p> <p>Mitigation measures defined in the EIS are incorporated into the CEMS in Sections 8.2 through 8.13, and in the associated CEMS plans.</p> | Yes | Yes | Yes |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|---|----------------------|---|---|-----------------------|--------------------|--------------------|
| <i>Protection of the Environment Operations Act 1997</i> | Pollution and waste | All scheduled activities within Schedule 1 of the POEO Act require an Environment Protection Licence (EPL). This project qualifies under two categories: 1) General Electricity Works 2) Metropolitan electricity works (gas turbines) An EPL cannot be issued until a Planning Approval is secured. | EPL conditions are outlined in Section 4.4 of the CEMS and are included in associated management plans where required. A Pollution and Incident Response Management Plan has been prepared by the holder of the EPL. | Yes | Yes | Yes |
| <i>Airports Act 1996 & Airports (Protection of Airspace) Regulations 1996</i> | Air quality Hazards | Airspace at and around airports are protected under this Act and Regulations; none of the three airports in the vicinity of the Project meet the criteria required for additional assessment, but the Project's exhaust stacks have been assessed for any potential intrusions on the airport's airspace. | No construction obligations required, but stakeholder consultation will continue through the operational stage of the Project. Inclusion in OEMP will be considered. | Yes | No | Consider |
| Aviation hazard – Civil Aviation Safety Regulation 1998 | Air quality Hazards | Duty to assess potential hazards and dangers to aviation where vertical exit velocity from gas efflux or exhaust plum exceeds 6.1m/s. An Aeronautical Impact and Risk Assessment of the Plume Rise was conducted for the EIS. Not applicable to construction stage of Project. | | Yes | No | Consider |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|--|----------------------|---|---|-----------------------|--------------------|--------------------|
| <i>Native Title Act 1993</i> | Cultural Heritage | Recognizes and protects native title rights that may allow Indigenous people to continue to hold rights to land and water. No Native Title applications were identified that affect the Project area. | | No | No | No |
| State Environmental Planning Policy (State and Regional Development) 2011 | All | Clause 24 of Schedule 5 refers to the “development for the purposes of Kurri Kurri Gas Fired Power Station Project’ as being Critical State Significant Infrastructure (CSSI) and will require approval under Division 5.2 of the EP&A Act. Planning instruments do not apply to the Project, but supplemental instruments are to be considered in the environmental assessments in conjunction with SEARs. | | Yes | No | No |
| State Environmental Planning Policy (Transport and Infrastructure) 2021 | Land planning | Section 2.36(1)(b) states development for the purpose of electricity generating works may be carried with consent on any land in a prescribed non-residential zone. The Project Site is zoned IN3-Heavy Industrial under the Cessnock Local Environmental Plan 2011. The Project was therefore permissible with consent. | | Yes | No | No |
| State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) <i>Section 5.22</i> | | Developers are required to assess the hazards and risks associated with a proposed development before approval is given for construction and operations. While s5.22 of the EP&A Act, SEPP 33 does not formally apply to the Project, a Preliminary Hazard Analysis (PHA) was prepared as part of the EIS. | Recommendations and mitigations measures to minimize or eliminate hazards during construction and operation will be taken into consideration for the CEMS and OEMP. | No | Yes | Yes |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|---|--------------------------|--|---|-----------------------|--------------------|--------------------|
| State Environmental Planning Policy (Koala Habitat Protection) 2019 | Flora and fauna (koalas) | The Koala Habitat SEPP applies to all local government areas in Schedule 1, which includes the City of Cessnock. A biodiversity study was conducted and included in the biodiversity impact assessment as part of the EIS. | Recommendations and mitigations measures to minimize or eliminate risks to the koala population during construction and operation will be taken into consideration for the CEMS and OEMP. | Yes | Yes | Yes |
| State Environmental Planning Policy No. 55 – Remediation of Land | | SEPP 55 provides an approach to the remediation of contaminated land, to reduce the risk of harm to human health and the environment. While s5.22 of the EP&A Act, SEPP 55 does not formally apply to the Project, a contamination assessment was prepared as part of the EIS. | Recommendations and mitigations measures to minimize or eliminate hazards during construction and operation will be taken into consideration for the CEMS and OEMP. | No | Yes | Yes |
| Cessnock Local Environmental Plan 2011 | Land planning | The Project Site is zone IN3 Heavy Industrial under the Cessnock Local Environmental Plan 2011. As the Project is classified as CSSI, land use and permissibility requirements under the local environmental plan do not apply. | | No | No | No |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|---|--|--|--|----------------------------------|--------------------|--------------------|
| <i>Biodiversity Conservation Act 2016</i> | Flora and fauna | Part 7 of the BC Act requires an application for CSSI approval under the EP&A Act is accompanied by a Biodiversity Development Assessment Report (BDAR). | A BDAR was prepared as part of the EIS process that determined potential biodiversity values that have the potential to be impacted by the Project. Mitigation measures to address potential impacts during construction are to be included in the Biodiversity Management Plan as part of the CEMS. | Yes | Yes | Yes |
| <i>Heritage Act 1977</i> | Cultural heritage Historical heritage | An approval or excavation permit is not required for approved SSI. | A Cultural Heritage assessment was conducted for the EIS. Mitigation measures to address potential impacts during construction are to be included in the CHMP as part of the CEMS. | Yes (assessment only, no permit) | Yes | No |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|--|----------------------|---|--|-----------------------|--------------------|--------------------|
| <i>Aboriginal Land Rights Act 1983</i> | Cultural heritage | Act established Aboriginal Land Councils at the State and local levels and have a statutory obligation to both take action to protect culture and heritage of Aboriginal people, and to promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area. The project site is within the boundary of the Awabakal Local Aboriginal Land Council. | The Project Site is not subject to a claim under the Aboriginal Land Rights Act. | No | No | No |
| <i>National Parks and Wildlife Act 1974</i> | Cultural heritage | Section 86 states it is an offence to harm or desecrate an Aboriginal object or place. | A Cultural Heritage assessment was conducted for the EIS. Mitigation measures to address potential impacts during construction are to be included in the CHMP as part of the CEMS. | Yes | Yes | No |
| <i>Protection of the Environment Operations Act 1997</i> | All | Schedule 1 require an environment protection licence (EPL). This project qualifies under: 1) General electricity works 2) Metropolitan electricity works (gas turbines) An EPL is required for the operational stage of the Project. | | Yes | No | Yes |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|---|----------------------|--|--|-----------------------|--------------------|--------------------|
| <i>Protection of the Environment Operations (Clean Air) Regulation 2010</i> | Air quality | Air emissions limits for solid airborne particles, Nitrous dioxide, and Sulphur dioxide, and fuel Sulphur content. | An Air Quality Impact Assessment was conducted for the EIS. Mitigation measures to address impacts to air quality are to be included in the Air Quality Management Plan as part of the CEMS, which includes management of dust and vehicle emissions | Yes | Yes | Yes |
| <i>NSW EPA policy – air quality assessments</i> | Air Quality | Approved methods for Air Quality modelling and assessing emissions of air pollutants for NSW. | These standards were incorporated in the Air Quality Impact Assessment as part of the EIS. Mitigation measures to address impacts to air quality are to be included in the Air Quality Management Plan as part of the OEMP, and will include requirements for air quality monitoring and modelling | Yes | No | Yes |

| Legislation | Environmental Aspect | Description of relevance to Hunter Power Project | Implication for CEMS | Applicable to Project | Applicable to CEMS | Applicable to OEMP |
|--|----------------------|---|--|-----------------------|--------------------|--------------------|
| <i>NSW EPA Policy - Noise</i> | Noise | Noise management levels (NMLs) are recommended for standard and non-standard construction hours. Construction considered to cause a noise impact if the predicted noise exceeds the applicable NML. Requirement for increase in total traffic noise from construction limited to 2dB above background noise levels. | A Noise and Vibration assessment was conducted for the EIS. Mitigation measures to address potential impacts during construction are to be included as part of the CEMS. Mitigation measures to address potential impacts during operation are to be included as part of the OEMP. | Yes | Yes | Yes |
| <i>Pipelines Act 1967 (NSW) Part 3</i> | Land planning | Not applicable; gas lateral pipeline not within construction scope of this project | | No | No | No |
| <i>Roads Act 1993 Section 138</i> | Traffic | Not applicable, as Project is classified a Critical State Significant Infrastructure Project (CSSI) | | No | No | No |
| <i>Rural Fires Act 1997</i> | Bushfire Risk | Projects located on bushfire prone land that are a CSSI do not require a bush fire safety authority to authorize the Project under s100B. | | No | No | No |
| <i>Water Act 1912 Water Management Act 2000</i> | Water | The Water Act 1912 is limited to where the Water Management Act 2000 applies. This Project will use potable water mains for construction and operation; therefore, no approvals or licences are required under this legislation. | | No | No | No |
| <i>Environment and Protection Act Section 5.23(1)(g)</i> | Water | A water management work approval is not required for approved SSI, including CSSI. | | No | No | No |
| <i>Hunter Water Regulations 2015</i> | Water | Division 2 of the Regulations requires regulation of activities within certain areas of the Hunter Region ('special areas'). This Project is not within a special area, and will require an EPL; therefore, Division 2 of the Regulations do not apply. | | No | No | No |

Appendix C. Standards and Guidelines

| Environmental Aspect | Guideline/Standard |
|----------------------|---|
| Biodiversity | <ul style="list-style-type: none"> ▪ <i>Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method</i> (Department of Planning, Industry and Environment, 2020c) ▪ <i>Threatened species survey and assessment guidelines: field survey methods for fauna – Amphibians</i> (Department of Environment and Climate Change, 2009) ▪ <i>NSW Surveys Guide for Threatened Frogs - A guide for the survey of threatened frogs and their habitats for the Biodiversity Assessment Method</i> (Department of Planning, Industry and Environment, 2020a) ▪ <i>'Species-credit' threatened bats and their habitats NSW survey guide for the Biodiversity Assessment Method</i> (State of NSW and Office of Environment and Heritage, 2018) ▪ <i>Policy and guidelines for fish habitat conservation and management – Update 2013</i> (NSW Department of Primary Industries, 2013) ▪ <i>Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings</i> (Fairfull and Witheridge, 2003) ▪ <i>EPBC Act Policy Statement 1.1 Significant Impact Guidelines</i> (Department of Environment, 2013) ▪ <i>EPBC Act Policy Statement 3.21-Industry guidelines for avoiding, assessing, and mitigating impacts on EPBC Act listed migratory shorebird species</i> (Department of the Environment, 2015) ▪ <i>Saving our Species Hygiene Guidelines</i> (State of New South Wales and Department of Planning, Industry and Environment, 2020b) ▪ <i>Ecology and Management of Vertebrate Pests in NSW</i>, (NSW Department of Primary Industries, 2018) ▪ <i>Saving our Species Monitoring, Evaluation and Reporting Guidelines for conservation projects</i> (Office of Environment and Heritage NSW 2018b) |
| Cultural Heritage | <ul style="list-style-type: none"> ▪ <i>Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales</i> (Department of Environment, Climate Change and Water (DECCW, 2010a) ▪ <i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> (DECCW, 2010b) ▪ <i>Guide to investigating, assessing, and reporting on Aboriginal cultural heritage in NSW</i> (Office of Environmental and Heritage (OEH, 2011) ▪ <i>NSW Heritage Manual</i> (Heritage Office and department of Urban Affairs and Planning, 1994) ▪ <i>Statements of Heritage Impact</i> (Heritage Office and department of Urban Affairs and Planning, 2002) ▪ <i>Assessing Heritage Significance</i> (NSW Heritage Office, 2001) ▪ <i>The Burra Charter</i> (The Australia ICOMOS charter for places of cultural significance) |
| Air Quality | <ul style="list-style-type: none"> ▪ <i>NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i> (2016) ▪ <i>Approved Methods for the Sampling and Analysis of Air Pollutants in NSW</i> (DEC, 2005) ▪ <i>Technical Framework – Assessment and Management of Odour from Stationary Sources in NSW</i> (DEC, 2006) ▪ <i>National Greenhouse Accounts Factors</i> (Commonwealth) |

| Environmental Aspect | Guideline/Standard |
|----------------------|--|
| Groundwater | <ul style="list-style-type: none"> ▪ NSW State Groundwater Policy Framework Document and component policies (DPI) ▪ NSW Aquifer Interference Policy 2012 (DPI) ▪ National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC) ▪ Guidelines for Development in the Drinking Water catchments (Hunter Water, 2017) |
| Surface Water | <ul style="list-style-type: none"> ▪ NSW State Rivers and Estuary Policy (DPI Water) ▪ NSW Government Water Quality and River Flow Objectives ▪ ANZECC Guideline and Water Quality Objectives in NSW (Dec, 2006) ▪ Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) ▪ Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECC, 2008) ▪ Managing Urban Stormwater: Soils and Construction (Landcom) ▪ Technical Guidelines: Bunding and Spill Management (EPA) ▪ NSW Guidelines for Controlled Activities (various) (DPI) |
| Contamination | <ul style="list-style-type: none"> ▪ State Environmental Planning Policy NO. 55 – Remediation of Land ▪ Managing Land Contamination – Planning Guidelines SEPP 55- Remediation of Land (EPA) ▪ Guidelines for Consultants Reporting on Contaminated Sites (EPA) ▪ Contaminated Sites Sampling Design Guidelines 1995 (EPA) ▪ Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC) ▪ National environment Protection (Assessment of Site Contamination) Measure 1999 (with amendment April 2013) ▪ Acid Sulfate Soils Manual (OEH) ▪ Australian and New Zealand Guidelines for Fresh and Marine Water Quality (EPA) |
| Land and Soils | <ul style="list-style-type: none"> ▪ Managing Urban Stormwater: Soils & Construction (Landcom) ▪ Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010) ▪ The land and soil capability assessment scheme: Second approximation (OEH) ▪ Guidelines for Surveying Soil and Land Resources (CSIRO) ▪ Australian Soil and Land Survey Handbook (SCIRO) ▪ Soil and Landscape Issues in Environmental Impact Assessment (DPI) ▪ Acid Sulfate Soil Manual, NSW Acid Sulfate Soil Management Advisory Committee, 1998 ▪ Waste Classification Guidelines Part 4: Acid Sulfate Soils (NSW EPA, 2014). This part of the EPA Waste Classification Guidelines applies to acid sulfate soils which are unable to be managed on-site ▪ National Environment Protection (Assessment of Site Contamination) Measure 1999. |
| Noise and Vibration | <ul style="list-style-type: none"> ▪ NSW Noise Policy for Industry (EPA) ▪ NSW Road Noise Policy and associated Application Notes (EPA) ▪ Interim Construction Noise Guideline (DECCW, 2009) ▪ Assessing Vibration: a Technical Guideline (DEC, 2006) ▪ German Standard DIN 4150-3: Structural Vibration – effects of vibration on structures ▪ Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZECC, 1990) |

| Environmental Aspect | Guideline/Standard |
|----------------------|---|
| Transport | <ul style="list-style-type: none"> ▪ Road and Related Facilities within the Department of Planning EIS Guidelines ▪ Guide to Traffic Generating Projects (RMS) ▪ Road Design Guide (RMS) and relevant Austroads Standards ▪ Austroads Guide to Traffic Management Part 12: Traffic Impacts of Project |
| Visual | <ul style="list-style-type: none"> ▪ AS4282-1997 Control of the obtrusive effects of outdoor lighting |
| Hazards and Risks | <ul style="list-style-type: none"> ▪ State Environmental Planning Policy No. 33 – Hazardous and Offensive Project ▪ Hazardous and Offensive Project Application Guidelines – Applying SEPP 33 ▪ Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning ▪ Hazardous Industry Planning Advisory Paper no. 6 – Guidelines for Hazard Analysis ▪ Hazardous Industry Planning Advisory Paper NO. 11 – Route Selection ▪ AS2885 Pipelines – Gas and Liquid Petroleum, Operation and Maintenance ▪ Planning for Bushfire Protection (NSW RFS) ▪ Advisory Circular AC 139-05 v3.0 Plum Rise Assessments (CASA) |
| Waste | <ul style="list-style-type: none"> ▪ Waste Classification Guidelines (EPA) |

Appendix D. Environment Mitigation Measures

The follow table contains the mitigation measures contained in the Environmental Impact Statement report for the Project. This appendix only includes those mitigation measures relevant to construction.

| Environmental aspect | EIS reference | Mitigation measures | Relevant management plan |
|----------------------|---------------|--|-----------------------------------|
| Biodiversity | B1 | The Construction Environmental Management Plan for the Project will include procedures for the demarcation and protection of retained vegetation, including all vegetation outside and adjacent to the construction footprint. | Biodiversity Management Plan |
| | B2 | A pre-clearing inspection will be conducted by a suitably qualified ecologist to confirm the demarcation of limits of clearing are in place, and procedures for the clearing of vegetation and the relocation of flora and fauna. | Biodiversity Management Plan |
| | B3 | A post clearance report, including any relevant Geographical Information System files, will be produced that validates the area of vegetation cleared. | Biodiversity Management Plan |
| | B4 | The Construction Environmental Management Plan for the Project will include weed management and control measures in accordance with the <i>Biosecurity Act 2015</i> . | Biodiversity Management Plan |
| | B5 | The Construction Environmental Management Plan for the Project will include pathogen management measures to prevent introduction and spread of amphibian chytrid fungus, <i>Phytophthora cinnamomi</i> and Exotic Rust Fungi. | Biodiversity Management Plan |
| Aboriginal Heritage | AH1 | During site inductions for the Project's construction, all members of the construction workforce will undergo cultural awareness training. The training, to be coordinated by the Contractor's Environmental Manager, will incorporate material provided by the RAPs, with the specific aim of raising awareness of the cultural heritage values held by the local Aboriginal community, in respect of the Project Site and surrounding land. | Cultural Heritage Management Plan |
| | AH2 | In the areas where the deep alluvium will be impacted through piling or bulk excavation works for the Project, this will be monitored by an archaeologist and a representative of the Registered Aboriginal Parties (RAPs). Any Aboriginal objects uncovered during these activities will be collected and their location recorded on AHIMS, in accordance with s89a of the <i>National Parks and Wildlife Act 1974</i> . The artefact assemblage would be temporarily stored and analysed. Long term management of those objects will be determined by the RAPs. | Cultural Heritage Management Plan |

| Environmental aspect | EIS reference | Mitigation measures | Relevant management plan |
|-------------------------|---------------|---|-----------------------------------|
| | AH3 | <p>If skeletal remains are uncovered during the course of works, all work must stop immediately in the vicinity of the remains and the area secured, so that no further harm occurs.</p> <ul style="list-style-type: none"> ▪ If it is identified that the skeletal remains are likely to be human and are likely to represent a crime scene, the NSW Police must be called in the first instance. The NSW Police will determine the appropriate course of action. ▪ If it is identified that the skeletal remains are likely to be human and are likely to represent Aboriginal ancestral remains, or human remains that would require consideration under the <i>Heritage Act 1977</i> (both Aboriginal and non-Aboriginal), both the NSW Police and Heritage NSW must be called. Heritage NSW will determine the appropriate course of action. | Cultural Heritage Management Plan |
| | AH3 (cont) | <ul style="list-style-type: none"> ▪ Work may not recommence in this area until either NSW Police or Heritage NSW provide authorisation. ▪ If the remains are identified as Aboriginal, discussions and negotiations would need to occur with the relevant Aboriginal communities and Heritage NSW to determine the most appropriate course of action. These discussions would be led by Heritage NSW. ▪ If it is identified that the skeletal remains are not human, appropriate recording must take place and works can continue. | Cultural Heritage Management Plan |
| Non-Aboriginal Heritage | NAH1 | All contractors and subcontractors will be made aware of their obligations under the <i>Heritage Act 1977</i> . | CEMS Section 8.8 |
| | NAH2 | Should any unexpected non-Aboriginal heritage items be uncovered and identified during the proposed works, works will cease, and the project area be cordoned off. A qualified archaeologist and, if necessary, Heritage NSW (in accordance with s146 of the <i>Heritage Act 1977</i>) would be contacted to assess significance and advise on further requirements before work can recommence. | CEMS Section 8.8 |
| Hazard and Risk | PHA1 | Consideration of hazards, risks and safety will be prioritised in the selection and design processes and equipment specifications, construction, commissioning, and operation | CEMS Section 8.10 |
| | PHA2 | The findings of the PHA and hazard table compiled during the risk workshop will be considered in future design stages and HAZOP workshops to minimise hazards and risks. | CEMS Section 8.10 |

| Environmental aspect | EIS reference | Mitigation measures | Relevant management plan |
|----------------------|---------------|---|--------------------------|
| Bushfire | BF1 | Bushfire risk during construction will be managed in accordance with the Hunter Bush Fire Management Committee’s (BFMC) Bush Fire Risk Management Plan (BFRMP; Hunter BFMC, 2009). Site bushfire emergency management arrangements will be addressed through the Principal Contractor’s site emergency management plan detailing site evacuation protocols, emergency vehicle access, and water supply for fire fighting | CEMS Section 8.12 |
| | BF2 | Hot works controls: the Contractor will prepare and implement hot works safety management procedures. Works having the potential to generate sparks or ignite fires will be undertaken on total fire ban days only in accordance with a permit from the NSW Rural Fire Service. | CEMS Section 8.12 |
| | BF3 | Bushfire fuel hazard in the surrounding landscape will be managed in accordance with the Hunter Bush Fire Risk Management Plan. A 10 metre Asset Protection Zone will be established for the Project Site, consistent with: <ul style="list-style-type: none"> ▪ <i>ISSC3 Guide for the management of vegetation in the vicinity of electricity assets</i> (Industry Safety Steering Committee [ISSC], 2016, specifications for APZ for substations/switchyards) ▪ <i>Planning for Bushfire Protection</i> (NSW RFS, 2019) specifications for renewable energy generation facilities. | CEMS Section 8.12 |
| Contaminated Land | CLM1 | A hazardous materials and spill management plan will be prepared as a sub-plan of the CEMS. It will outline requirements relating to the storage of fuels and chemicals, waste management, as well as training and procedures for incident and spill response. | Water Management Plan |
| Groundwater | GW1 | The Construction Environmental Management Plan for the Project will address temporary storage and handling of fuels, oils, and chemicals, including a Spill Response Plan. | Water Management Plan |
| | GW2 | Subject to the outcomes of further geotechnical and groundwater investigations across the site to during detailed design, a dewatering procedure is to be prepared and implemented in the event of excavations encountering perched or shallow groundwater. These detailed design investigations are to also inform the need for excavation methods to address groundwater inflows, if necessary. | Water Management Plan |
| | GW3 | Excavation activities will implement testing and management procedures for potential ASS. The procedures will be set out in an ASS management plan, which will be prepared during detailed design. | CMS Section 8.3 |

| Environmental aspect | EIS reference | Mitigation measures | Relevant management plan |
|------------------------|---------------|---|-------------------------------------|
| Surface Water | SW1 | A construction erosion and stormwater management plan will be prepared as a sub-plan of the CEMS in accordance with the principles and requirements of <i>Managing Urban Stormwater – Soils and Construction, Volume 1</i> (Landcom, 2004), commonly referred to as the “Blue Book”. It will outline measures to manage soil and water impacts including measures to minimise/manage erosion and sediment transport, dust control, design, and maintenance of sediment basin/s, dewatering of construction sediment basins and discharge criteria, and management of accidental spills. | Water Management Plan |
| | SW2 | A construction surface water monitoring program will be developed and implemented during construction in accordance with the ANZG (2018) water quality guidelines. | Water Management Plan |
| Hydrology and flooding | HF1 | The construction erosion and stormwater management plan will incorporate procedures and schedule for monitoring of the receiving waterway (tributary of Black Waterholes Creek) downstream of the discharge location(s) to identify any evidence of channel erosion and scour | Water Management Plan |
| Air Quality | AQ1 | A dust management plan will be developed by the nominated Principal Contractor and included with the construction environmental management plan for the project. | Air Quality Management Plan |
| | AQ2 | Construction plant and equipment will be well maintained and regularly serviced so that vehicular emissions remain within relevant air quality guidelines and standards. | Air Quality Management Plan |
| Noise and Vibration | NV1 | A Construction Noise and Vibration Management Plan (CNVMP) will be developed to manage noise during construction. This will include consideration of plant selection, construction hours, plant maintenance, construction traffic and transport, staff awareness, construction staging and monitoring. | Noise and Vibration Management Plan |

| Environmental aspect | EIS reference | Mitigation measures | Relevant management plan |
|----------------------|---------------|--|--------------------------|
| Traffic and access | TT1 | <p>A Construction Traffic Management Plan will be prepared and implemented by the Principal Contractor. The CTMP will include:</p> <ul style="list-style-type: none"> ▪ Confirmation of haulage routes ▪ Access to construction sites including entry and exit locations ▪ Times of transporting to minimise impacts on the road network ▪ Measures to minimise the number of workers using private vehicles ▪ Employment of standard traffic management measures to minimise short-term traffic impacts expected during construction ▪ Management of oversized vehicles ▪ Site specific traffic control measures (including signage) to manage and regulate traffic movement ▪ Relevant traffic safety measures including driver induction, training, safety measures and protocols ▪ Identify requirements for, and placement of, traffic barriers. ▪ Requirements and methods to consult and inform the local community of impacts on the local road network due to the development-related activities ▪ Consultation with Transport for NSW and Council ▪ Consultation with the emergency services to ensure that procedures are in place to maintain safe, priority access for emergency vehicles ▪ A response plan for any construction related traffic incident ▪ Monitoring, review, and amendment mechanisms. | Traffic Management Plan |
| | TT2 | <p>To manage oversize overmass (OSOM) vehicle movements, a permit will be sought from the NHVR and a separate OSOM Transport Management Plan will be prepared and will include:</p> <ul style="list-style-type: none"> ▪ Identification of route ▪ Measures to provide an escort for the loads ▪ Times of transporting to minimise impacts on the road network ▪ Communication strategy and liaising with emergency services and police. | Traffic Management Plan |
| | TT3 | <p>Affected parties including emergency services will be notified in advance of any disruptions to traffic and restriction of access impacted by the Project’s construction activities.</p> | Traffic Management Plan |

| Environmental aspect | EIS reference | Mitigation measures | Relevant management plan |
|---------------------------------------|---------------|---|--------------------------|
| Landscape character and visual impact | LV1 | Surfaces and finishes for the Project and associated infrastructure will be designed to reduce visual bulk and contrast of large surfaces and elements and allow them to blend into the context of the surrounding area. This may include incorporating contemporary finishes, articulation in long elevations or large facades, alternating colours, or use of contrasting materials. | CEMS Section 8.11 |
| | LV2 | Offsite impacts due to light spill from security lighting will be minimised by adhering to Australian Standards (AS/NZ 4282:2019 Control of the obtrusive effects of outdoor lighting), implementing measures such as baffling, downward direction of lighting and sensor-triggering lighting to minimise lighting duration. | CEMS Section 8.11 |
| Waste | 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. | Waste Management Plan |
| | W3 | Any waste that cannot be recovered or recycled will be sorted and taken to a licenced treatment or disposal facility where it will be treated and disposed of according to its classification | Waste Management Plan |
| | 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. | Waste Management Plan |

Appendix E. Water Management Plan

Appendix F. Construction Air Quality Management Plan

Appendix G. Construction Noise and Vibration Management Plan

Appendix H. Construction Waste Management Plan

Appendix I. Biodiversity Management Plan

Appendix J. Cultural Heritage Management Plan

Appendix K. Construction Traffic Management Plan

Appendix L. Construction Monitoring Program

Appendix M. Unexpected finds (contamination) protocol

Introduction

The Former Hydro Aluminium Kurri Kurri Smelter site including the former switchyard and transformer yard have been remediated to a standard suitable to support the construction and operation of the Hunter Power Project. The remediation was undertaken to the satisfaction of the independent Site Auditor prior to Snowy Hydro acquiring the site.

However, there is a low risk that excavation/ earthworks may encounter unexpected contamination. This Unexpected Finds (Contamination) Protocol sets out the processes to be followed in the event that unexpected contamination is found during construction works.

Induction program

The Principal Contractor will initiate an induction program that will ensure that all site workers are familiar with the types of materials that could be encountered on site. The induction will ensure that workers are able to implement this protocol to protect people and the environment.

What is an unexpected find?

An unexpected find comprises any buried material which is not a typical soil material (i.e. fill, soil, rock) possibly to be present at the site. Unexpected materials that could be encountered during excavation works include:

- Buried wastes
- Buried containers/drums
- Discoloured and odorous soils and groundwater/seepage
- Asbestos.

These unexpected finds could be associated with legacy operations of the former Smelter site, historical fill material and waste disposal and/or construction activities undertaken historically at the site. Generalised descriptions of unexpected finds which maybe encountered at the site are provided below.

| Buried Wastes | |
|-----------------------------|---|
| Picture Examples |   |
| Descriptions | <ul style="list-style-type: none"> ● Buried demolition wastes (eg. concrete, tiles, bricks, pipes, asphalt, timber, metal, plastics) ● Buried domestic wastes (eg. plastics, cardboard, paper, glass, plastic) ● Buried industrial wastes (eg. chemical containers, ash/slag, paint, tar). |
| Buried Containers and Drums | |
| |   |
| | <ul style="list-style-type: none"> ● Metal or plastic drums, barrels and containers ● Chemicals / oils may or may not be present within containers |

| Buried Wastes | |
|--|---|
| | <ul style="list-style-type: none"> ● Strong chemical odour in surrounding soils. |
| Discoloured or Odorous Soils and Groundwater/Seepage | |
| | <ul style="list-style-type: none"> ● Discoloured soil (soil with non-natural colouring). More likely to be present close to surface or buried within fill material ● Acid sulfate soils (grey/black/green, sulphur odour, shell fragments) ● Pungent, petroleum, compost, putrefied, sulphurous, acidic, caustic, septic, sweet, aromatic odours ● Rainbow sheen on water surfaces. |
| Asbestos | |
| | <ul style="list-style-type: none"> ● Cement cladding shards or broken pipes, dumped waste or drainage pipes. ● Could be present close to the surface or at depth |
| <p>Descriptions</p> | <ul style="list-style-type: none"> ● Cement cladding shards or broken pipes, dumped waste or drainage pipes. ● Could be present close to the surface or at depth |

What to do if an unexpected find is encountered?

Field screening techniques will be based on the gathering of sensory information and experienced judgement and processing of this information to determine if potential contamination is present in excavated soils. Indicators of contamination in soil may potentially include the following:

- Unusual or distinctive colour (e.g. black, dark brown, green, blue);
- Staining or residues;
- Distinctive odour;
- Elevated levels of total organic vapours registered by vapour detection instrumentation;
- Flakes, fragments or pieces of foreign substances or debris such as asbestos, metal, paint brick or wood;
- Diesel, oil, tar or other hydrocarbon product present in pore spaces;
- Sheen on free water, if present;
- Relative proportions, quantity and size;
- Consistency (e.g. viscous, dry, powdery); and

- Particular characteristics (e.g. quality of odours, common characteristics of other material encountered on site).

If potentially contaminated or hazardous materials are encountered, works should be stopped immediately, the work area secured and the Principal Contractor should report to Snowy Hydro and then seek advice and direction on the most appropriate management of the find.

A flow chart demonstrating the requirements for managing unexpected finds is provided below.

Review

Undertake a review of any relevant information about the work area.
If there is a potential for encountering contamination or old infrastructure within the work area, to extra diligent.



Inspect

Prior to commencing works and during works regularly inspect the work area.
Is there evidence of staining or other visual or olfactory signs of contamination?
If any of the above are identified within or immediately adjacent to the work area, follow unexpected find.



Unexpected Find

Immediately stop work and secure the work area with tape/bunting/temporary fencing.
Any stockpiled material from the excavation should also be secured with tape/bunting/temporary fencing and covered with tarps or plastic sheeting.



Principal Contractor to Report, Evaluate and Mitigate

Once work areas are secured, the Principal Contractor will notify Snowy Hydro as soon as possible.
Principal Contractor to determine appropriate management and mitigation measures.



Recommence Work

Works can only recommence following instruction from Snowy Hydro.

Appendix N. Environment Representative Endorsement

Angela van der Kroft
Environmental Assurance Advisor
Hunter Power Project - Snowy Hydro Limited
Hart Road Loxford NSW 2326

18 December 2024

REF: CEMS AMENDED VER 4 FINAL

Dear Angela,

RE: Construction Environmental Management Strategy Approved Version 4 (27 November 2024)

I refer to Snowy Hydro Limited's (SHL) submission of the following revised document required by Condition C1 of the Hunter Power Project (Kurri Kurri Gas-Fired Power Station) Infrastructure Approval (SSI 12590060) for review and endorsement by the Environmental Representative:

- Hunter Power Project, Snowy Hydro Limited Construction Environmental Management Strategy Approved Version 4 (27 November 2024).

It is noted that:

- The CEMS has been developed by SHL for the works associated with the construction of the project and to address the relevant management requirements of the Infrastructure Approval.
- The CEMS was approved by the Department on 25 January 2022.
- The CEMS incorporates the Construction Air Quality (Version 4 13/12/24), Construction Noise and Vibration (Version 8 29/11/2024) and Construction Waste (Version 3 25/11/2024) Management Plans as required by C1(e)(i).
- This revised version of the CEMS has been amended to incorporate the requirements of the commissioning phase.

Following the review, the document is considered to contain information required by the Conditions of Approval (SSI 12590060) in relation to the CEMS (Condition C1). Noting the above, as the approved Environmental Representative for the Hunter Power Project (Kurri Kurri Gas-Fired Power Station) and as required by Conditions A23(c), the Construction Environmental Management Strategy Approved Version 4 (27 November 2024) and associated subplans is endorsed.

Snowy Hydro Limited and their contractors must continue to obtain and comply with any relevant approval, licence or permit required for the works; complying with relevant Conditions of Approval as they relate to the works; and appropriate notifications being issued prior to the works.

Yours sincerely



Alex Gale
Environmental Representative – Hunter Power Project (Kurri Kurri Gas-Fired Power Station)