Prepared for
AGL Macquarie Pty Ltd
ABN: 18 167 859 494

Liddell Power Station Battery Energy Storage System Biodiversity Management Plan

Environmental Management Strategy

05-May-2025

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Client: AGL Macquarie Pty Ltd

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Prepared by

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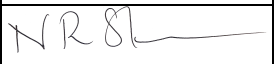
6	05-May-2025	MOD 2 - Transmission Line Easement	Neil Standen Project Manager	

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Glossary and terms

Term	Description
AECOM	AECOM Australia Pty Ltd
AGLM	AGL Macquarie Pty Ltd
BAM	Biodiversity Assessment Method 2020
BAW	Bayswater Ancillary Works
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BC Regulation	Biodiversity Conservation Regulation 2017 (NSW)
BCS	Biodiversity, Conservation and Science Directorate within the Department of Planning, Housing and Infrastructure
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BESS Project (the)	Stage 2 of the Liddell Battery and Bayswater Ancillary Works Project consisting of the construction of a BESS with the storage capacity to facilitate a maximum discharge of up to 500 MW for a four-hour period, or up to 2 GWh
BMP	Biodiversity Management Plan
CCTV	Closed-circuit television
DPE	Department of Planning and Environment (now DPHI)
DPHI	Department of Planning, Housing and Infrastructure (formerly DPE)
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
EPL	Environment Protection Licence
GWh	Gigawatt hours
ha	hectares
km	kilometre
Koala SEPP	*State Environmental Planning Policy (Koala Habitat Protection) 2019* (NSW)
kV	Kilovolt
LBBAWP	Liddell Battery and Bayswater Ancillary Works Project, consisting of a battery energy storage system at Liddell, decoupling works, and works associated with the ongoing operation of Bayswater
LLS Act	*Local Land Services Act 2013* (NSW)
MNES	Matters of National Environmental Significance
MW	Megawatt
NEM	National Energy Market
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)

Term	Description
RTS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
Site (the)	Location of the existing solar array area to be used for the BESS
SSD	State Significant Development
V	Volt
WM Act	*Water Management Act 2000* (NSW)

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned by AGL Macquarie Pty Ltd (AGLM) to prepare a Biodiversity Management Plan (BMP) for a Battery Energy Storage System (BESS) to be constructed as part of the Liddell Battery and Bayswater Ancillary Works Project (LBBAWP) at Liddell, NSW.

The LBBAWP is a state significant development (SSD) under the *State Environmental Planning Policy (State and Regional Development) 2011*[1]*,* and is subject to Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

An environmental impact statement (EIS) was prepared in March 2021 in accordance with the secretary's environmental assessment requirements (SEARs). Development consent (SSD-8889679) was issued by the Department of Planning and Environment (DPE) (now Department of Planning, Housing and Infrastructure (DPHI)) on 8 March 2022.

1.1 Background

AGLM is progressing with plans to facilitate the efficient, safe and reliable continuation of electricity-generating works from the Bayswater and Liddell sites. The LBBAWP contributes to this goal and will be carried out in the following stages:

- **Stage 1 - Decoupling Works:** Provision of alternative network connection arrangements between the Liddell 33 kilovolt (kV) switching station and associated ancillary infrastructure and potential third-party industrial energy users. The switching station also powers the ongoing operation of Bayswater power station, which remains in operation
- **Stage 2 - BESS**: Construction of a BESS to replace a portion of Liddell's dispatchable electricity supply into the National Energy Market (NEM). The BESS will have a capacity of up to 500 megawatts (MW) and 2 gigawatt hours (GWh)
- **Stage 3 - Bayswater Ancillary Works (BAW)**: Works associated with facilitating the ongoing operation of Bayswater power station, including maintenance, repair, replacement or expansion of ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and other infrastructure
- **Consolidated consents:** The surrender and consolidation of various existing development consents for the current operations so as to simplify the operation of the remaining infrastructure.

This management plan has been developed for Stage 2 only (i.e. the BESS), which is hereinafter referred to as 'the BESS Project'.

1.2 Relevant approvals and conditions

1.2.1 Project approvals

Liddell power station was commissioned in 1971 and formed part of AGLM's integrated power generation complex. This complex also incorporates Bayswater power station (commissioned in 1985) and a range of supporting water management, coal supply, power supply and control system infrastructure.

Bayswater and Liddell power stations are regulated under several planning approvals. Most development at the Liddell site pre-dates current planning requirements enforced through the EP&A Act. However, alterations and additions after 1 September 1980 were subject to the provisions of the Act.

Development consent (SSD-8889679) was granted for the LBBAWP on 8 March 2022. This includes the voluntary surrender of some existing development consents and the consolidation of others into SSD-8889679.

In accordance with Section 55 of the *Protection of the Environment Operations Act 1997* (POEO Act), Liddell operated under Environment Protection Licence (EPL) 2122, which is still active for the site even

[1] Now State Environmental Planning Policy (Planning Systems) 2021

though power generation operations have ceased for the power station. Bayswater is operated under EPL 779.

1.2.2 Development consent conditions

In accordance with SSD-8889679 development consent condition C1, an Environmental Management Strategy (EMS) has been prepared for the BESS Project to provide a strategic framework for the environmental management of the development. A range of subplans have been developed to support the EMS and address development consent condition C1(e)(i).

This BMP sets out the procedures for the management of potential biodiversity impacts arising from the BESS Project, thereby satisfying the relevant consent condition of SSD-8889679. These conditions, and where they have been addressed, are outlined in Table 1 below.

Table 1 Development consent conditions – biodiversity management

Condition	Requirement	Response or reference
Schedule 2, condition B7	The Applicant must not clear any native vegetation or fauna habitat located outside the approved disturbance areas described in the EIS.	Table 3. Management Measures BO6
Schedule 2, condition B8	Prior to commencement of native vegetation clearance, unless otherwise agreed by the Secretary, the Applicant must prepare a Biodiversity Management Plan to the satisfaction of the Secretary. This plan must:	
	(a) be prepared by a suitably qualified and experienced biodiversity expert/s	Section 1.5
	(b) be prepared in consultation with the BCS	Section 6.0
	(c) describe the short, medium and long-term measures to be undertaken to manage vegetation and fauna habitat on the site	Section 5.0
	(d) describe measures to be implemented within the site to minimise:	
	(i) the amount of clearing, including investigation of design options to minimise disturbance of native vegetation for the battery energy storage system and decoupling works	Table 3. Management Measures BO1, BO2 and BO16
	(ii) impacts on fauna, including undertaking pre-clearance surveys and maximising the salvage of resources for habitat enhancement	Table 3. Management Measures BO3 and BO4
	(iii) impacts on threatened flora and fauna species or ecological communities within the development footprint and its surrounds	Table 3. All Management Measures

Condition	Requirement	Response or reference
	(iv) the spread of weeds and fungal pathogens	Table 3. Management Measures BO8 to BO12
	(v) the generation and dispersion of sediment to watercourses, and	Table 3. Management Measures BO14 and BO15
	(vi) light spill from night works	Table 3. Management Measure BO13
	(e) include a program to monitor, evaluate and report on the effectiveness of the measures	See Section 7.1
Schedule 2, condition B8 (a)	The Applicant must implement the Biodiversity Management Plan approved by the Planning Secretary.	This BMP will be provided to DPHI for approval by the Planning Secretary and will be implemented as outlined herein.

1.3 Scope, purpose and objectives

The objective of this BMP is to outline the specific actions, management systems, and procedures to be put in place in order to realise the conditions of consent relevant to the protection of biodiversity matters. This BMP has also been prepared to address the relevant requirements associated with the EIS management measures, which were further updated in the RTS (Jacobs 2021b).

The implementation of this plan is intended to manage the compliance of the project during construction, with a view to avoiding unnecessary or unauthorised impacts to biodiversity, including direct impacts to flora and fauna, clearing of vegetation, damage or alteration to fauna habitat.

The BMP applies to all work activities associated with the construction of the BESS Project.

1.4 Related reports and plans

There are environmental assessments, management plans and monitoring programs for existing and proposed operations within the AGLM landholdings. The following documents are considered related and may need to be read in conjunction with this BMP.

- Liddell Battery and Bayswater Ancillary Works Project Biodiversity Development Assessment Report (BDAR)[2] (Jacobs, 2021b)
- Land Management Plan (AGLM-HSE-PLN-009.01) (AGLM, 2021).

1.5 Authorship

Jamie McMahon (Associate Director, AECOM) was the primary author of this BMP. Jamie holds a Bachelor of Environmental Science (Honours) degree and is a certified environmental practitioner in impact assessment. Jamie has over 20 years of experience in ecological impact assessment ranging from minor private development through to large infrastructure.

[2] A BDAR was prepared for the EIS (Jacobs 2021c). A revised BDAR was then prepared as part of the RTS (Jacobs 2021d). Both documents were reviewed in the development of this BMP, however the BDAR prepared as part of the RTS supersedes the EIS BDAR and is therefore reference throughout this plan

2.0 The project

2.1 Site details

The AGLM landholding at Liddell is located approximately 15 kilometres (km) southeast of Muswellbrook, 25 km northwest of Singleton, and approximately 165 km west-northwest of Sydney. The total area of the AGLM landholding is approximately 10,000 ha, including the Bayswater and Liddell power station operational areas, the Ravensworth rehabilitation area, Lake Liddell and surrounding buffer lands.

Elevations within the area surrounding the AGLM landholding range from around 100 to 500 metres above sea level. The AGLM landholding is predominantly surrounded by heavy industrial land uses. The landholding itself is dominated by large-scale infrastructure associated with the Bayswater and Liddell power stations, as well as open-cut mining activities. Agricultural grazing land is also present within and surrounding the AGLM landholding. The majority of the AGLM landholding has been previously disturbed during the construction and operation of Liddell and Bayswater power stations, as well as by historic and ongoing agricultural activity.

The BESS Project is proposed to be constructed within the location of the existing solar array area (the site), shown as 'Area 2' in Figure 2-1. This location was selected as it is in close proximity to Liddell Power Station, is no longer required of the power station operations, and has been previously disturbed. Stockpiling for the BESS Project will be located within the former coal yards area and the existing solar array area, respectively during Stage 2 (Figure 2-4).

The existing solar array area consists of approximately 5 ha of solar thermal equipment, which will be removed as part of this project. This equipment consists predominantly of steel pipes used for heat absorption and water and steam transfer, mirror reflectors and steel mounting structures, as shown in Figure 2-2. The former coal yard covers an area of about 20 ha and consists of approximately 5 km of conveyor and associated stacker / reclaimer equipment.

2.2 Project description

The BESS Project involves the construction, operation and decommissioning of a BESS with the storage capacity to facilitate a maximum discharge of up to 500 MW for up to a four-hour period i.e. up to 2 GWh. The BESS will be located within 'Area 2' (the existing solar array area) and will be connected to the existing Transgrid 330 kV substation via a new 330 kV transmission line (refer to Figure 2-1**)**. The BESS Project includes the demolition of the existing solar array for construction of the BESS and the former coal yard infrastructure for stockpiling purposes. Other redundant equipment may also require demolition and deconstruction to support construction of the BESS Project. The disturbance area for the BESS Project is expected to be around 20 ha. The BESS will be mounted on slab footings and will be containerised or otherwise enclosed in a regular layout. The BESS Project will generally comprise the following elements:

- Approximately 900 pre-assembled battery enclosures containing lithium-ion batteries, internal cooling and fire suppression systems
- Approximately 148 medium voltage skids (inverter and transformers)
- Approximately 148 x 630 volt (V) to 33 kV step-up transformers
- One control room, two electrical rooms, one social facility room and four storage rooms
- 33 kV reticulation system and collector switchrooms
- 330 kV transmission line to connect the BESS Project to the existing Transgrid 330 kV substation. This line may be overhead, underground or a combination of both, subject to detailed design
- Two 33 kV/33 kV/330 kV three-winding transformers and 330 kV connection equipment
- Ancillary infrastructure, including water tanks for bushfire protection purposes, lightning protection, security fencing and closed-circuit television (CCTV).

An indicative layout of the BESS Project is shown in Figure 2-3.

Figure 2-1 Overview of Stage 1 and 2 of the LBBAWP

Figure 2-2 Existing solar array area

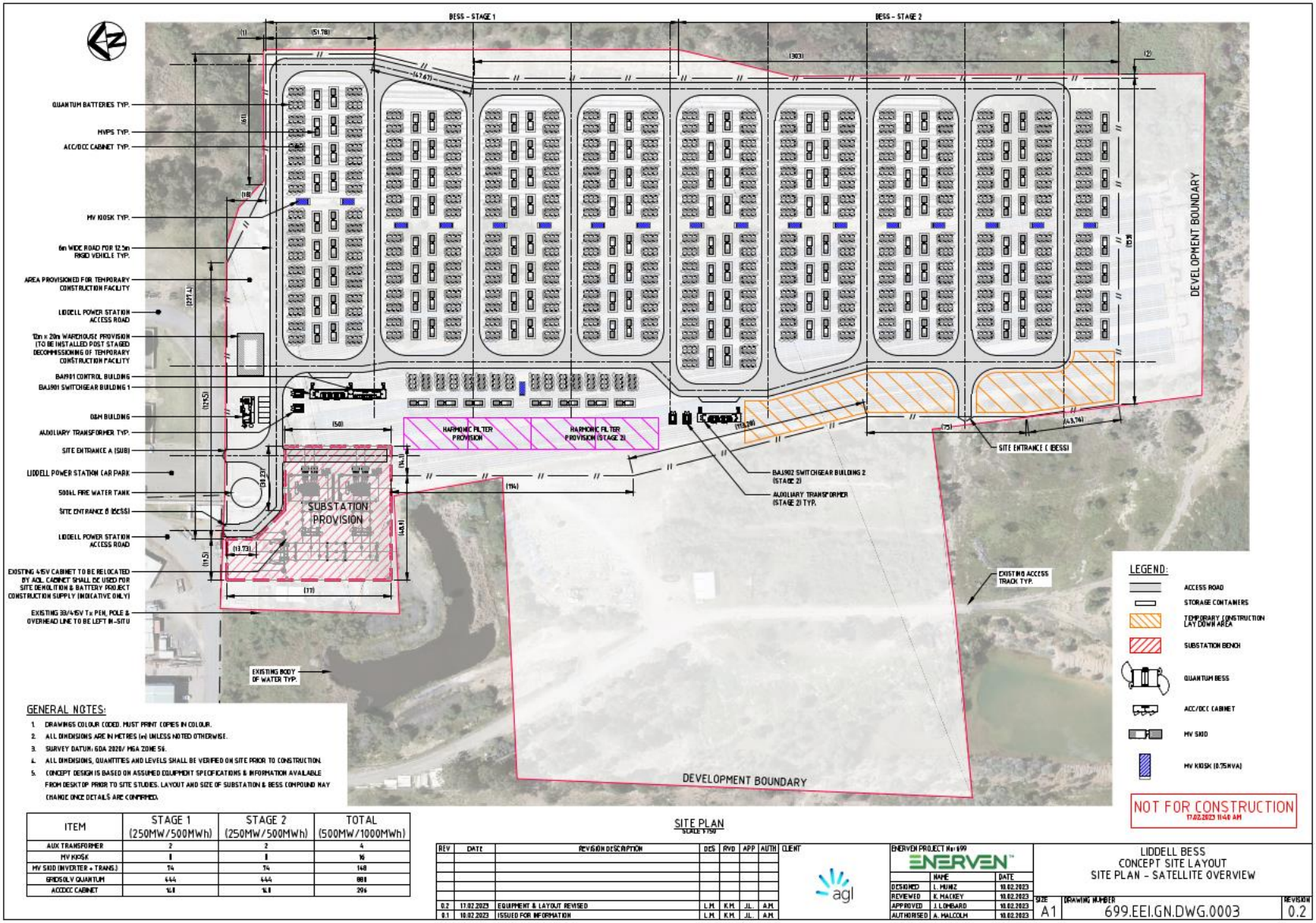

Figure 2-3 Preliminary site layout (indicative only)

Figure 2-4 Stage 1 and Stage 2 stockpiling locations

2.4 Construction activities

Construction works associated with the BESS Project will involve:

- Installation and maintenance of environmental controls, including temporary and permanent water management infrastructure
- Establishment of access from the Liddell access road
- Demolition or deconstruction of existing infrastructure as required, including the existing solar array area and former coal yard infrastructure
- Establishment of a hardstand pad and construction laydown areas, including dedicated stockpiling areas
- Cut and fill earthworks to provide a suitable base for the battery compound, transformer compound, footings and construction laydown area
- Trenching of 33 kV reticulation system
- Underground and/or overhead transmission line (OHL) installation to the existing Transgrid 330 kV substation
- Trimming of vegetation within the transmission line easement may be required to facilitate the installation of the OHL and provide overhead access
- Structural works to support enclosures, inverters, transformers, buildings and transformer compounds
- Electrical fit-out of all components
- Testing and commissioning activities
- Removal of construction equipment and reinstatement of construction areas.

3.0 Relevant legislation and guidelines

3.1 Environmental Planning and Assessment Act 1979

The EP&A Act sets out a framework for the assessment of development within NSW. This includes the assessment of development within NSW at all levels, depending on the nature of the proposed development and proponent.

As outlined in section 1.0, the LBBAWP is considered to be SSD by virtue of *State Environmental Planning Policy (State and Regional Development) 2011*[3]. As such, the LBBAWP is subject to Part 4, Division 4.7 of the EP&A Act. This includes the requirement to prepare a scoping report from which DPHI issues SEARs. An EIS is required to be prepared according to the SEARs.

The EIS for the LBBAWP was lodged in March 2021. Development consent (SSD-8889679) was issued by DPHI on 8 March 2022.

3.2 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) sets out requirements for the consideration of biodiversity matters relevant to development applications within NSW. In accordance with Part 7.9 of the BC Act, an application for development consent under Division 4.7 of the EP&A Act to carry out SSD must be accompanied by a BDAR unless the Planning Agency and the Environment Agency Heads determine that the project is not likely to result in a significant impact on biodiversity values.

The SEARs for the LBBAWP specified that a BDAR should be prepared in accordance with Section 4.12(8) of the EP&A Act and Schedule 2 of the *Environmental Planning and Assessment Regulations*

[3] Now State Environmental Planning Policy (Planning Systems) 2021

2000. A BDAR was prepared by Jacobs (2021a) in accordance with the Biodiversity Assessment Method 2020 (BAM). The BDAR also took into account requirements under the *Fisheries Management Act 1994*.

3.3 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is Commonwealth legislation that provides the framework for the consideration and assessment of impacts relevant to Matters of National Environmental Significance (MNES), as specified by the Act. These include:

- World Heritage properties
- National heritage places
- Wetlands of international importance (Ramsar Convention)
- Listed threatened species and communities
- Migratory species listed under international agreements
- Great Barrier Reef Marine Park
- Commonwealth marine areas
- Nuclear actions
- Water resources in respect to Coal Seam Gas and large coal mines.

The Act includes a process for referral of a project at the scoping stage for consideration by the Minister for the environment of the level of impact assessment required, known as a referral. A referral was made for the LBBAWP in 2020, resulting in the LBBAWP being deemed not to be a controlled action. As such, further assessment under the EPBC Act was not required, and the BDAR does not consider impacts upon matters listed in the EPBC Act.

3.4 Other legislation

The BDAR prepared for the LBBAWP's also considered the following legislation and policy:

- *Biodiversity Conservation Regulation 2017* (NSW) (BC Regulation)
- *Biosecurity Act 2015* (NSW)
- *Local Land Services Act 2013* (NSW) (LLS Act)
- *State Environmental Planning Policy (Koala Habitat Protection) 2019* (Koala SEPP)[4]
- *Water Management Act 2000 (NSW)* (WM Act).

4.0 Roles and responsibilities

Section 4.3 of the EMS outlines key roles and responsibilities for both AGLM and contractors working on the project. Roles and responsibilities specific to this BMP are provided in Table 2.

Table 2 Roles and responsibilities

Role	Responsibility
Project Manager	• Overall responsibility for the project • Provide adequate resources for the implementation of this BMP
Site Manager	• Overall responsibility for the Liddell Power Station site
Environment Manager	• Oversee the implementation of this BMP

[4] Now repealed with provisions transferred in part to *State Environmental Planning Policy (Biodiversity and Conservation) 2021*

Role	Responsibility
	• Notify regulatory authorities and affected stakeholders of incidents in accordance with this BMP • Coordinate periodic reviews of this BMP • Facilitate training of all relevant employees and contractors in accordance with this BMP
Environment Advisor	• Assist the Environment Manager as required in the implementation of this BMP • Coordinate investigations of biodiversity-related incidents or complaints • Coordinate the management of records required under this BMP • Provide training of all relevant employees and contractors in accordance with this BMP
Construction Supervisor(s)	• Participate in awareness training when working near areas of higher biodiversity value • Assist with investigations into non-compliances, incidents or complaints relating to biodiversity
All Personnel	• Undertake all works and activities in a manner that is compliant with the objectives and principles of this BMP • Prior to carrying out any activities which may cause impacts on biodiversity values, all relevant personnel must undergo suitable training in recognising and responding to biodiversity impacts and issues

5.0 Biodiversity management measures

5.1 Mitigation measures outlined in the BDAR

The BDAR prepared for the LBBAWP sets out potential impacts on biodiversity values in accordance with the requirements of the BAM. This includes the calculation of biodiversity offset credits required to be obtained and retired on behalf of the project. Despite these offsets, the LBBAWP also proposes a suite of mitigation measures to further avoid or reduce impacts on biodiversity values. These measures are provided in

Table 3, with the specific biodiversity management actions arising from them provided in Table 4.

Table 3 Biodiversity mitigation measures within the LBBAWP RTS (Jacobs 2021b)

Potential impact	Reference	Mitigation measure	Implemented by management action
Removal of vegetation and habitat for threatened species	N/A	The future detailed design phase will increase the retainment of native vegetation.	Table 4, ref V1
	BO1	Exclusion zones, or 'No-Go' zones, will be mapped in CEMP, and mapping will be made available to all construction personnel.	Table 4, ref V3 and H1
	BO2	Woody debris (logs and mulch) produced during vegetation clearing will be re-spread over any cleared areas to protect the soil surface from erosion and to aid habitat restoration where appropriate.	Table 4, ref R1
Injury or mortality to native fauna during vegetation clearing and construction	BO3	An inspection of native vegetation to be impacted (within the construction footprint) will be conducted by an ecologist immediately prior to vegetation clearing works (to confirm the absence of fauna species). A Spotter/Catcher ecologist must supervise vegetation clearing. In the unlikely event that fauna is present, works will cease until animals can be captured and removed from the construction footprint. Construction crews will be made aware that any native fauna species encountered must be allowed to leave site without being harassed. Trenches/holes will be inspected each morning, and any trapped fauna removed or provide a mechanism for fauna to escape, such as a soil or timber ramp.	Table 4, ref F1 and F2
	BO4	Vehicle movements on newly formed access tracks or construction zones will be limited to 20km/h speed limit implemented to reduce the risk of vehicle strike to fauna.	Table 4, ref F3
Impact to topsoil and soil seed bank	BO5	Where native vegetation is removed topsoil is to be retained from excavation areas within construction footprint (where possible). Topsoil stockpiles will be delineated and protected from machinery compaction and contamination during construction. Following construction and infill, topsoil will be re-spread over impacted native vegetation areas (to retain native	Table 4, ref E2 and R1

Potential impact	Reference	Mitigation measure	Implemented by management action
		seedbank and assist with natural revegetation). Avoid stockpiling in the vicinity of drainage lines.	
Impact to surrounding vegetation	BO6	Accurately and clearly mark out the limits of the construction footprint (only where native vegetation exists). No activities, including parking and turning of vehicles and plant/equipment, will occur beyond the construction footprint. The Construction footprint will be demarcated prior to the commencement of works in areas where native vegetation exists.	Table 4, ref V2 and V3
	BO7	Materials, plant, equipment, work vehicles and soil/rock stockpiles are to be placed to avoid damage to surrounding vegetation and will be outside tree drip-lines. Construction workers and vehicles will not access areas beyond delineated construction footprints.	Table 4, ref E1 and E2
Impacts from introduction and spread of weeds	BO8	Where possible, avoid entering areas of significant weed infestations with machinery or personnel. Weed infestations are predominantly located in the Exotic grassland areas or the PCT 1691 'regrowth' areas mapped within the development site.	Table 4, ref W1 and W2
	BO9	If required, weed control will be undertaken by suitably qualified and/or experienced personnel. This may include: • Manual weed removal in preference to herbicides. • Replacing non-target species removed/killed as a result of weed control activities. • Protecting Non-target species from spray drift. • Using only herbicides registered for use within or near waterways for the specific target weed. • Not applying herbicide if it is raining or if rain is expected. Mixing and loading herbicides and cleaning equipment away from waterways and drains. The CEMP will detail the procedures for the management of weeds on the development site (which will be in accordance with the requirements of the Biosecurity Act 2015).	Table 4, ref W1 and W4
	BO10	During the clearing works, weeds will be disposed of and managed appropriately to stop the spread of existing weed species.	Table 4, ref W1
	BO11	Ensure vehicle and machinery hygiene measures are applied during construction and operation. Vehicle washdowns may be	Table 4, ref W2

Potential impact	Reference	Mitigation measure	Implemented by management action
		required for the removal of mud and plant materials.	
Impacts from introduction and spread of plant or pathogens or animal disease	BO12	Pathogen management measures will be implemented to prevent the introduction and spread of amphibian chytrid fungus, *Phytophthora cinnamomi* and Exotic Rust Fungi. The CEMP will provide a protocol for construction vehicles driving to and from site to prevent the spread or introduction of diseases.	Table 4, ref W3
Increase in light, noise and vibration impacts during works	BO13	Avoid excessive noise and vibration during construction activity. Construction activities are to be carried out during diurnal hours.	Table 4, ref F3
Increased erosion and sedimentation due to the removal of vegetation	BO14	Erosion and sediment controls will remain in place until all rehabilitation has been completed. Drainage lines will be protected from runoff and stockpiling of spoil.	Table 4, ref E1
	BO15	Revegetation of slopes or exposed soil areas will be undertaken as soon as possible in accordance with the CEMP. Landscaping of exposed surfaces using native indigenous species only. Soil loss will be prevented by immediate stabilisation of exposed surfaces (e.g. use of Jute mesh and/or soil binder).	Table 4, ref R1
Fragmentation resulting in reduced connectivity	BO16	The future detailed design phase will enhance the retainment of native vegetation. Patches of native vegetation that are located near larger patches of native vegetation would be prioritised for retainment.	Table 4, ref V1

5.2 Biodiversity management actions

The management actions below implement the mitigation measures and conditions of consent committed to or required by the consent for the LBBAWP.

Table 4 Biodiversity management actions

Aspect	Ref	Management action	Person responsible	Timing/schedule
Vegetation clearing	V1	The need for vegetation clearing is to be further investigated and, where possible, reduced as part of the detailed design process. Further investigation will include a review of completed vegetation surveys and management plans undertaken for Liddell Power Station. The results of these surveys will be correlated with the detailed design to minimise vegetation clearing, with preference for the retention of high value native vegetation and/or vegetation providing habitat for native fauna.	Project manager and environment manager	Detailed design (short term)
	V2	A ground and vegetation disturbance approval must be in place prior to any works that may disturb topsoil or vegetation. This includes the provision of a completed application form for sign-off by the project environment manager prior to any such works taking place	Site manager and environment manager	Prior to ground disturbing works during construction (medium term)
	V3	All areas proposed to be cleared are to be fenced off with temporary fencing to avoid clearing into no-go areas. Temporary frog proof/exclusion fencing is to be installed where in close proximity to waterbodies to exclude amphibians. Artificial cover (e.g. tiles) are to be placed four weeks prior to disturbance to attract the Hunter Valley Delma.	Site manager and environment manager	Prior to commencement of construction (short term)

Aspect	Ref	Management action	Person responsible	Timing/schedule
	V4	Vegetation is to be cleared according to a protocol that includes a pre-clearance survey for potential habitat features, actively nesting animals, important weed infestations and any pest species. Four to five days prior clearing, artificial cover is to be checked, and any fauna released to an undisturbed nearby area. Further advice should be sought (e.g. BCD or other expert) for relocations outside of the immediate area. Other active searches are to happen no more than 48 hours prior to clearing activities commencing and are to involve rock rolling and searching the base of some tussocks across the broader area. All clearing should be undertaken at a suitable time in terms of the occupation of the area by fauna, e.g. outside of breeding periods.	Environment manager	During construction (medium term)
	V5	All vegetation cleared from the site is to be assessed and directed as appropriate by the project HSE manager. This includes the separation of weed material and the reuse of vegetation with habitat value where possible, e.g. fallen logs or tree hollows.	Environment manager	During construction (medium term)
	V6	Vegetation clearance should be avoided in temperatures above 35^{o}C where reasonable and feasible.	Environment manager	During construction (medium term)
Fauna management	F1	A pre-clearance survey is to be undertaken of all areas of native vegetation required to be cleared for construction. This will target native fauna, with particular attention to threatened species. This will include: • Inspection of all tree hollows >5 cm diameter • Inspection of any burrows or drays • Should native animals be present, these are to be handled and relocated according to the fauna handling protocol in Appendix B.	Project Ecologist	Prior to commencement of vegetation clearing (short term)
	F2	In the event of unexpected finds in relation to biodiversity (e.g. threatened species, fauna, nests, burrows or hollows) the Project Ecologist is to be informed as soon as practical. The Project Ecologist is to then decide the appropriate course of action depending on the situation. This may include notification of the appropriate regulator for important finds such as threatened species previously unrecorded at the site.	Project Ecologist	During construction (medium term)

Aspect	Ref	Management action	Person responsible	Timing/schedule
	F3	All encounters with wildlife on site are to be managed in accordance with AGLM-HSE-PRO-009.01 Wildlife encounters	Environment manager and project ecologist	During construction (medium term)
	F4	A fauna handling protocol (Appendix B) is to be implemented to guide the handling and release of native and non-native fauna. This will include procedures for checking vegetation for fauna prior to clearing and allowing for dispersal prior to removal. This will also include procedures for the capture and release of native fauna and the management of non-native fauna. All such activities are to be undertaken by an experienced ecologist with an appropriate ethics licence.	Environment Manager and Project Ecologist	During construction (medium term)
Direct fauna disturbance	F5	Site activities are to be designed and set up to reduce the potential for direct disturbance to native fauna. This includes: • the minimisation of light spill into areas of adjacent vegetation by minimising the need for lighting, using directional lighting and using light shields where appropriate • minimising the potential for noise disturbance where possible through the reduction of noise according to the noise and vibration management plan • design of roads and access tracks to avoid the potential for vehicle strike as far as practicable, e.g. preferencing access tracks through already cleared areas rather than adjacent to vegetated areas	Environment Manager, Project Manager	Prior to construction (short term)
Fauna habitat	H1	'No-Go' zones will be designated to prevent unnecessary encroachment into adjacent fauna habitat. These zones are to be set out based on the limit of works identified in the detailed design.	Site Supervisor and Environment Manager	Prior to commencement of construction (short term)
	H2	Any hollows greater than 5 cm diameter in trees to be cleared for construction are to be retained. These are to be stored safely within the construction area for later reuse during the site rehabilitation stage (see action R1 below).	Site Supervisor and Environment Manager	During early and late stages of construction (short term and medium term)

Aspect	Ref	Management action	Person responsible	Timing/schedule
	H3	Woody debris (logs and mulch) from areas of native vegetation required to be cleared for construction is to be retained. This material is to stored for later re-spreading over rehabilitated areas of the site.	Site supervisor and Environment Manager	During early and late stages of construction (short term and medium term)
Weed and pathogen control	W1	The monitoring of weed emergence is to be undertaken as per the requirements outlined in Table 5. Where emerging weed issues are identified, corrective action is to be taken, which may include the use of herbicide, direct removal or other means. The least disruptive method for appropriately dealing with weeds is to be selected on a case-by-case basis.	Environment Manager and Project Ecologist	During construction (medium term)
	W2	Vehicles are to be monitored for the potential for introducing weeds into the site or transporting weeds out of the site as per the requirements outlined in Table 5.	Environment Manager	During construction (medium term)
	W3	The potential for the introduction of pathogens to be managed on a risk basis. This includes the introduction of diseases such as Phytophthora, myrtle rust and chytrid fungus. The potential for such introduction area to be considered by the project HSE manager based upon the specific activities taking place (e.g. transporting of vegetative material or movement of equipment from known or suspected area of infestation). In the event that such import or export of pathogens is suspected, vehicle, machinery and equipment washdowns are to take place using appropriate methods.	Environment Manager	During construction (medium term)
	W4	Upon completion of construction, all areas of exposed soil or disturbance must be monitored for weed emergence or infestation as per the requirements outlined in Table 5. The timing of weed control works should be determined in consultation with control is to be undertaken at least as frequently as outlined in Table 5, or more frequently if advised by a suitably qualified Bush Regeneration or Weed Management Contractor	Environment Manager	Post-construction (long term)

Aspect	Ref	Management action	Person responsible	Timing/schedule
Erosion and sediment control	E1	The requirements of the soil and water management subplan will be implemented In full with respect to the protection of biodiversity values within and around the site. These measures are to be reviewed with respect to specific potential impacts on biodiversity values within and around the site (e.g. frog habitat) and augmented as appropriate to avoid or reduce these impacts.	Environment manager	Prior to construction and during construction (short and medium term)
	E2	Where soil is proposed to be removed from areas of native vegetation, the topsoil will be reserved and stockpiled for later reuse. This is to be stockpiled in suitable areas away from drainage lines and covered with a waterproof membrane until required for rehabilitation.	Site manager and Environment manager	During construction (medium term)

Aspect	Ref	Management action	Person responsible	Timing/schedule
Site rehabilitation	R1	The site is to be rehabilitated upon completion of the main construction activities. This will be undertaken according to the following methodology: • Construction plant and equipment is demobilised from the site • Areas subject to earthworks are assessed for their potential to support rehabilitated vegetation. If areas are not suitable stored topsoil is to be used to provide a planting layer • Operational or asset protection zone areas are to be rehabilitated back to grass, which may be hydromulched or direct seeded onto the site. Non-native seed mix may be used for these areas to encourage rapid cover and to avoid colonisation by weeds • Areas proposed to be returned to native vegetation will be re-covered with coarse woody debris stored at the start of vegetation clearing works. These areas would then be replanted with suitable local native species. Replanting is preferred over regeneration due to the impoverished seed bank and in order to encourage rapid growth prior to colonisation by weeds. Tree guards are to be used to protect against attack by herbivores. Watering is to occur at least every three days for four weeks to encourage establishment. Weeds are to be monitored and removed for four weeks after planting and quarterly after that for 12 months. • Any retained hollows from felled trees are to be reinstalled in mature trees to restore arboreal habitat value. All of the above activities are to be undertaken in consultation with the project Environment Manager.	Site manager and Environment manager	During late stages of construction (medium term)
	R2	Species for rehabilitation activities are to be selected based upon the relevant plant community types present across the broader Liddell site. These plants should be sources from a suitable native plant nursery with experience in the provision of local native species for rehabilitation activities.		

6.0 Regulatory consultation

AGLM have corresponded with various stakeholders during the development of the LBBAWP, including the Biodiversity, Conservation and Science Directorate within DPHI (BCS) (referred to in the EIS and RTS as Biodiversity Conservation Division).

Whilst the EIS was on exhibition, BCS provided a submission that included a list of recommendations for addressing information gaps or improvements to the BDAR. A revised BDAR was prepared and is attached as Appendix D to the RTS (Jacobs 2021). The revised BDAR resulted in changes to the management measures for biodiversity as proposed in the EIS.

Condition B8 (b) of SSD-8889679 states that this BMP must be prepared in consultation with the BCS. The draft BMP was submitted to BCS for review on 21 March 2023. A copy of BCS's response, along with a table outlining how BCS's comments have been addressed, is provided in Appendix A.

7.0 Compliance and reporting

7.1 Project monitoring

During construction, monitoring will be undertaken as per Table 5 below, including relevant reporting as required.

Table 5 Project monitoring requirements

Aspect	Item	Frequency	Indicator	Person responsible
Pre-clearance survey	An inspection of native vegetation to be impacted to confirm the absence of fauna species. Written notification will be provided to BCS following implementation of pre-clearance and clearing protocols advising of any fauna observed or injured.	Prior to vegetation clearance works	No native fauna species detected	Environment manager and project ecologist
Fauna inspections	Inspection of trenches/holes	Each morning	No fauna detected	Environment manager and Project contractor
General site inspections	Undertake site walkthrough to inspect 'No-Go' zones, construction activities and any emerging issues	At least weekly	All fencing is intact and no evidence of people encroaching no-go areas. Works are being carried out in accordance with this plan	Environment manager and Project contractor
Weeds and pathogens	Inspection of construction area, including laydown areas and stockpiles for emerging weeds	Weekly inspection of full site	Emerging weeds are identified as they arise	Project ecologist

Aspect	Item	Frequency	Indicator	Person responsible
	Inspection of vehicles for attached soil and other vectors for the transport of weeds and/or pathogens into and out of the construction area. hygiene protocols should adhere to *Protocols to protect priority biodiversity areas in NSW from Phytophthora cinnamomic, myrtle rust, amphibian chytrid fungus and invasive plants* (DPIE, 2020).	During the movement of earthmoving machinery in and out of the site	New weeds or pathogens are not introduced to the site	Environment manager
	Inspection of all areas disturbed during construction for the emergence of weeds. Where weeds are identified, control is to be undertaken by a suitably qualified Bush Regeneration or Weed Management Contractor	Monthly for the first 6 months post-construction and 6 monthly for the following 18 months thereafter.	Weeds are adequately suppressed during the monitoring period	Environment manager
Site rehabilitation	Inspection of the success of rehabilitation measures. This includes monitoring for weed growth, success of any revegetation and inspection of restored habitat. Where necessary this will include rectification of issues e.g. removal of emerging weeds, replanting of any planted vegetation that has died off	Monthly for the first 6 months post-construction and 6 monthly for the following 18 months thereafter	Disturbed areas become progressively rehabilitated i.e. revegetation is successful and habitat becomes established	Environment manager

7.2 Incident notification, reporting and response

The Planning Secretary must be notified in writing via the Major Projects website immediately after AGLM 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. An incident includes non-compliances with statutory requirements, exceedances of the impact assessment criteria and/or performance criteria.

Should there be a concern that conditions of this BMP are not being met and unauthorised impacts are occurring, the following steps will be undertaken:

a. Site Manager is to be notified

b. Site Manager will notify DPHI and BCS of the incident as soon as possible

c. the Contractor will engage a suitably qualified and experienced person(s) to:
   - Investigate the complaints/claims, and
   - Review the environmental performance of the construction activities to date.

d. AGLM will provide DPHI and BCS with a written report as soon as practicable that describes:
   - the nature of the non-compliance arising from the incident
   - the date and time of the incident
   - the likely cause of the incident
   - corrective actions that have been taken
   - proposed measures to address the cause of the incident and to avoid similar incidents in the future.

If/when an incident or non-compliance occurs it is to be recorded. This record should also include:

- Reasons why the incident occurred including any systemic issues that contributed
- Any other contributing factors e.g. wet weather
- Persons responsible
- Corrective action taken (if applicable)
- The effectiveness of corrective actions
- A review of management measures to avoid the incident or non-compliance reoccurring.

At the completion of construction a monitoring report is to be prepared by the construction contractor to report on the outcomes and effectiveness of the biodiversity management plan. This should:

- Provide evidence of the baseline environment in which the project was constructed. This is to be evidenced by photographs and site descriptions, with particular reference to the presence of intact native vegetation and weeds
- Report on the compliance of construction with the measures outlined in this plan. This should include reference to the record of incidents outlined above and their effectiveness in relation to the measures and protocols outlined in Table 4 and Table 5
- Report on the end state of the construction site, including all ancillary sites. This is to be evidenced by photographs and site descriptions, with particular reference to the presence of intact native vegetation and weeds
- Provide guidance on the ongoing management of the operational project with reference to issues that arose during construction e.g. focus on weeds that were noted to be particularly prevalent.

This report should be further updated at the completion of the site management commitment period i.e. after 18 months post-construction. This update would provide further detail on the above elements,

including indication of the success of long-term rehabilitation measures and weed suppression. This should also update the recommendations for ongoing management of the operational site.

7.3 Non-Compliance Notification

The Planning Secretary must be notified in writing via the Major Projects website within seven days after AGLM becomes aware of any non-compliance.

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.

A non-compliance that has been notified as an incident does not need to also be notified as a non-compliance.

7.4 Complaints

Complaints and enquiries regarding Aboriginal heritage issues and any other environmental matters can be received from a number of sources, including:

- Via the website (https://www.agl.com.au/about-agl/how-we-source-energy/agl-macquarie)
- Via the complaints 24hr phone line to be set up prior to construction and advertised on the project website, newsletters and contact cards distributed within the community (1800039600)
- Via email. AGLCommunity@agl.com.au.

AGLM are required as part of their Environmental Management Strategy to include a complaints management procedure (Schedule 2, Part D1) which details how to receive, respond to, record and address community complaints. Liddell Power Station should utilise this procedure for issues relevant to biodiversity. It is recommended that as part of that procedure, records of all community complaints and subsequent actions be kept.

The following details should be recorded:

- date and time of the complaint
- complainant name and contact details
- the nature of the complaint
- how the complaint was made
- actions (if appropriate)
- consultation undertaken
- status (i.e. open/closed), and
- any further action required.

8.0 Audit and review

8.1 Independent environmental audit

This BMP will be audited, as part of the Independent Environmental Audit, within six months of the commencement of construction in accordance with Schedule 2, Part C of SSD-8889679:

> *C13. 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).*
>
> *C14. Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit.*

C15. The Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those specified in the Compliance Reporting Post Approval Requirements (2020, or its latest version), upon giving at least 4 weeks' notice (or timing) to the Applicant of the date upon which the audit must be commenced.

C16. In accordance with the specific requirements in the Independent Audit Post Approval Requirements (2020, or its latest version), the Applicant must:

(a) review and respond to each Independent Audit Report prepared under condition D12 of this approval, or condition D14 where notice is given by the Planning Secretary;

(b) submit the response to the Planning Secretary; and

(c) make each Independent Audit Report, and response to it, publicly available within 60 days of submission to the Planning Secretary. unless otherwise agreed by the Planning Secretary.

C17. Independent Audit Reports and the Applicant's response to audit findings must be submitted to the Planning Secretary within 2 months of undertaking the independent audit site inspection, as outlined in the Independent Audit Post Approvals Requirements (2020) unless otherwise agreed by the Planning Secretary.

C18. Notwithstanding the requirements of the Independent Audit Post Approval Requirements (2020, or its latest version), the Planning Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that independent operational audits have demonstrated operational compliance.

Any recommendations from the audit will be detailed in a report and will be implemented to the satisfaction of the DPHI.

8.2 Review schedule

The suitability of this BMP will be reviewed in accordance with Condition C3 of SSD-8889679, that is, within three months (unless the Planning Secretary agrees otherwise), of:

(a) the submission of an incident report under condition C4

(b) the submission of an audit report under condition C13, and

(c) the approval of any modification to the conditions of this consent, or

(d) a direction of the Secretary under condition A3 of Schedule 2.

The revised plan will be submitted to DPHI for approval within six weeks of the review. If any significant modifications to the plan are required as an outcome of the review, relevant government agencies will be consulted regarding the changes prior to the plan being submitted to DPHI for approval.

9.0 Training and inductions

All employees, contractors and supervisors carrying out activities that may cause impacts on biodiversity values within the site will undertake a biodiversity awareness training package prior to the commencement of their work to avoid any inadvertent impacts.

All employees, contractors and supervisors will also be made aware of their legal responsibilities under the BC Act during the site induction process.

From time to time, workforce communication and toolbox talks will allow for discussion of the objectives and requirements of this and any other relevant management plans.

Training packages will be updated regularly to be relevant to the type of works being completed. Records of training will be kept and maintained in a site database.

Appendix A

Regulatory consultation

Table 6 BCS comments and updates

Condition	Requirement	BMP reference	BCD recommendation – March 2023	Update made	BCD recommendation – May 2023	Response/update made	BCD recommendation – July 2023	Response/update made
Schedule 2, condition B7	The Applicant must not clear any native vegetation or fauna habitat located outside the approved disturbance areas described in the EIS.	Table 3. Management Measure BO6	No further action required.	No action	N/A	N/A	N/A	N/A
Schedule 2, condition B8	Prior to commencement of native vegetation clearance, unless otherwise agreed by the Secretary, the Applicant must prepare a Biodiversity Management Plan to the satisfaction of the Secretary. This plan must: (a) be prepared by a suitably qualified and experienced biodiversity expert/s	Section 1.8	No further action required.	No action	N/A	N/A	N/A	N/A
	(b) be prepared in consultation with the BCS	Section 5	No further action required.	No action	N/A	N/A	N/A	N/A
	(c) describe the short, medium and long-term measures to be undertaken to manage vegetation and fauna habitat on the site		Insufficient information provided. Provide detail to inform the short, medium and long-term measures to be undertaken to manage vegetation and fauna habitat on site, including timing and schedule	Management actions updated to indicate timing, including reference to short, medium and long-term actions.	Table 4 of the BMP should be amended to include the following protocols: • pre-clearance surveys should be conducted at a maximum 48 hours prior to scheduled works • works should be scheduled outside breeding and torpor season for species likely to occur on site • works should not occur during temperatures exceeding 35°c.	This detail is largely already included in action V4 though the following update has been made: *Vegetation is to be cleared according to a protocol that includes a pre-clearance survey for potential habitat features, actively nesting animals, important weed infestations and any pest species. This is to happen no more than 48 hours prior to clearing activities commencing. All clearing should be undertaken at a suitable time in terms of the occupation of the area by fauna, e.g. outside of breeding periods.* The third point has not been included as it is not practical on the basis that works will need to be undertaken in summer where the temperature may exceed 35°C on occasion. Works will occur up to temperatures approved by the on-site health and safety requirements.	• Best practice techniques will be used to minimise impact to the Hunter Valley (HV) Delma. This should include: ○ active searches immediately prior to clearing (e.g. rock rolling, searching the base of some tussocks) across the broader area ○ the placement of artificial cover (e.g. placement of tiles to attract HV Delma) preferably four weeks prior to disturbance of areas where the HV Delma may occur. Four to five days prior to the day of clearing artificial cover should be checked, and any fauna released to an undisturbed nearby area. Note: Further BCD and/ or expert advice may be required if translocation is proposed (i.e. a process that generally requires an approved translocation plan supported by a scientific license and translocation plan/risk matrix). For example release areas would preferably be surveyed in accordance with requirements for the HV Delma as outlined in the DPE Threatened reptile BAM survey guidelines to ensure any impact to adjoining population does not occur. Note: Future Staged BMPs will be required to include more detail with regard to management and mitigation of this species	• Actions V3 and V4 have been updated to include more detail on placing artificial cover and undertaking active pre-clearance searches for fauna.

Condition	Requirement	BMP reference	BCD recommendation – March 2023	Update made	BCD recommendation – May 2023	Response/update made	BCD recommendation – July 2023	Response/update made
							• Best endeavours will be made to avoid clearing at temperatures greater than 35ºC to minimise impact to displaced fauna • Temporary frog proof / exclusion fencing should be installed where in close proximity to waterbodies to exclude amphibians	• Action V6 has been added to include safeguard for temperatures above 35ºC. • Action V3 has been updated to include placement of amphibian fencing
	(d) describe measures to be implemented within the site to minimise: (i) the amount of clearing, including investigation of design options to minimise disturbance of native vegetation for the battery energy storage system and decoupling works	Table 3. Management Measures BO1, BO2 and BO16	No further action required.	No action	N/A	N/A	N/A	N/A
	(ii) impacts on fauna, including undertaking pre-clearance surveys and maximising the salvage of resources for habitat enhancement	Table 3. Management Measures BO3 and BO4	Inadequate information provided to satisfy that impacts to fauna will be avoided or minimised. Provide the following information: • define protocol referred to in Table 4, V4 and F1 • timing of pre-clearance survey • methodology of pre-clearance and clearing, including target species and release procedure. • unexpected finds protocol • methodology to maximise salvaging of resources for habitat enhancement.	• Protocol for fauna handling is outlined in Appendix B • Timing of the pre-clearance survey is provided in Table 4 • Methodology for pre-clearance included in measure F1 • Unexpected finds protocol included as action F2 • Salvage methodology included in action F1	Inadequate information has been provided to satisfy impacts to fauna will be avoided or minimised. The following information should be added to the plan: • methodology of pre-clearance and clearing, including target species and release procedure, including Hunter valley delma (Delma vescolineata) • communication should occur with rescue agencies and local veterinarians prior to the commencement of clearing to confirm the availability of resources for any captured/injured fauna that is unable to be released • specify in detail what will happen to displaced threatened fauna, and if it proposes relocation / translocation, then the BMP should provide what measures (e.g. monitoring) will be employed to minimise any detrimental effects on existing faunal populations and adjacent habitat. • release sites should be identified and mapped prior to clearing and all appropriate approvals granted by the landholders. Table 5 of the BMP should be amended to include the following:	• A methodology for pre-clearance surveys and management of fauna interactions during construction has already been provided in the main body of the BMP and Appendix B. This would include interactions with the Hunter Valley Delma. No further detail is warranted. • Advance communication with local vets and rescue agencies is unprecedented and unnecessary, particularly in the context of the site's long history of heavy industrial activity and the general lack of good quality habitat. Such a requirement may be suitable for work in or near high quality habitat such as a major road upgrade through undisturbed native vegetation, but is highly inappropriate for this project. • For the reasons outlined above, the potential for encountering fauna is expected to be very low. For any fauna that is rescued, the broader AGL-owned site at Liddell provides numerous suitable locations for release. A decision on the location, timing and circumstances of such releases is intended to be left to the fauna rescuer at the relevant time, who can make the decision based upon relevant information such as weather, other construction activities, and the species' habitat preferences. • Table 5 has been amended to require all fauna inspections to be undertaken by the project ecologist.	• Written notification will be provided to BCD following implementation of pre-clearance and clearing protocols completed by the site ecologist advising of any fauna observed or injured fauna particularly of the HV Delma	• Table 5 updated to include notification to BCD following vegetation clearance protocols.

Condition	Requirement	BMP reference	BCD recommendation – March 2023	Update made	BCD recommendation – May 2023	Response/update made	BCD recommendation – July 2023	Response/update made
					fauna inspections should be undertaken by a suitably qualified ecologist. Project ecologist should be the person responsible for fauna inspections.			
	(iii) impacts on threatened flora and fauna species or ecological communities within the development footprint and its surrounds	Table 3. All Management Measures	Table 4 of the BMP refers to site rehabilitation. Provide the following information: • location of proposed rehabilitation areas, including a figure • methodology to rehabilitate areas • monitoring and reporting rehabilitation.	• The proposed rehabilitation areas have not been defined at the time of writing. This is as a requirement for the Contractor to include in its Construction Environmental Management Plan (CEMP) • Rehabilitation methodology provided in action R1 • Monitoring and reporting actions enhanced in section 7.1	Table 1A of the BMP states 'The proposed rehabilitation areas have not been defined at the time of writing. However, BCD understands that it is as a requirement for the Contractor to include this in its Construction Environmental Management Plan (CEMP). Section 5.1 of the BMP cross references the CEMP in a number of instances and therefore, BCD requests that the CEMP is provided and reviewed in conjunction with the BMP.	The project will be delivered in two stages – demolition, which will occur in mid-2023 and then construction of the battery, which will not commence until very late 2023 or early 2024. The demolition activities will be undertaken under appropriate environmental controls, though would not require clearing of vegetation or disruption of natural habitat. A CEMP will be developed in advance of the construction phase in later 2023. Neither the CEMP nor demolition environmental controls will be available for review alongside the BMP. It is not clear why BCD requires the specific locations of rehabilitation activities, noting that they do not object to the rehabilitation methodology or monitoring regime to be applied to these areas. This rehabilitation methodology and monitoring can be applied to any/all areas disturbed by construction activities to the standard described in this BMP.	• Further medium to long term measures to manage vegetation and fauna habitat on the site, particularly with regard to site rehabilitation, will be clarified in the CEMP and would be consistent with the intent of condition B8 and the associated BMP. • Reporting on the effectiveness of measures required under Condition B8 will be provided as part of independent environmental audit reporting requirements.	• Noted • Noted
	(iv) the spread of weeds and fungal pathogens	Table 3. Management Measures BO8 to BO12	Further detail required to ensure spread of weeds and pathogens is minimised and controlled. Provide the following additional information: • define who is responsible for weed monitoring • define who is responsible for ensuring hygiene protocols are adhered to • further methodology for weed and pathogen prevention. Amend the BMP to include the following mitigation measures: • weed control should be implemented by a suitably qualified Bush Regeneration or Weed Management Contractor • frequency and timing of weed control should be revised in consultation with the Bush Regeneration or Weed Management Contractor • hygiene protocols should adhere to Protocols to protect priority biodiversity areas in NSW from	• Responsibility for weed management specified in Table 5 • Responsibility for hygiene protocols specified in Table 5 • Further detail is included in Table 4 • Responsibility for weed management specified in Table 5 • Frequency and timing of weed management specified in Table 5. Including consultation with Bush Regeneration or Weed Management Contractor • Updated hygiene protocols to include reference DPIE protocol	Amend Table 5 of the BMP to include the following: • that a suitably qualified Bush Regeneration or Weed Management Contractor as a person responsible the frequency and timing of weed control should be reviewed in consultation with the Bush Regeneration or Weed Management Contractor.	• Table 5 has been updated to allocate responsibility for weekly weed inspections to the project ecologist instead of the environment manager. This is on the basis that the project ecologist will already be on site and will have suitable knowledge of the relevant weeds in this location. The requirement to bring in a Bush Regeneration or Weed Management Contractor is not feasible for such frequent inspections (weekly, as outlined in Table 5) • The frequency of weed inspection and control has already been specified in Table 4 and Table 5 (i.e. weekly). Further consultation with a Bush Regeneration or Weed Management Contractor is not warranted.	N/A	N/A

Condition	Requirement	BMP reference	BCD recommendation – March 2023	Update made	BCD recommendation – May 2023	Response/update made	BCD recommendation – July 2023	Response/update made
			Phytophthora cinnamomic, myrtle rust, amphibian chytrid fungus and invasive plants (DPIE, 2020)					
	(v) the generation and dispersion of sediment to watercourses, and	Table 3. Management Measures BO14 and BO15	Provide the following additional detail regarding landscaping: • Species to be planted • methodology to source native indigenous species • monitoring, reporting and performance indicators	• Specified that species should be selected based on the relevant local PCTs • Added methodology for sourcing native species • Provided indicators for monitoring performance	Table 4 of the BMP states 'Non-native seed mix may be used for these areas to encourage rapid cover and to avoid colonisation by weeds.' Exotic vegetation should not be included in the landscaping plan. Provide the following additional detail regarding landscaping: • species to be planted • methodology to source native indigenous species.	• With use of sterile, non-native seed mix in hydromulching (such as rye or millet) is common practice for the rapid stabilisation of disturbed areas, particularly where a native seedbank is absent. Whilst native species would always be preferred, the use of a non-native mix allows the rapid cover of the area and suppresses the potential growth of weeds that are more difficult to control than the rye or millet mix. It should also be noted that this is a heavy industry site and as such the provision of any vegetation cover, native or otherwise, is a substantial improvement over the existing situation. • This comment does not appear to consider updates made in the previous round. Please refer to previous updates made for details on species to be selected and how they will be sourced.	N/A	N/A
	(vi) light spill from night works	Table. 3 Management Measure BO13	Provide additional information to inform how light spill and noise will be contained	Additional detail added regarding controlling light spill and noise	No further action required	No further action	N/A	N/A
	(e) include a program to monitor, evaluate and report on the effectiveness of the measures	See Section 7.1	Amend section 6.1 of the BMP to include further detail regarding the program. The program should include: • impacts and environmental performance of the development • specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measure • details to report the effectiveness of any management measures • details to investigate and implement ways to improve the environmental performance of the development over time • a protocol for managing and reporting any incidents complaints. non-compliances with statutory requirements	• Updated Table 4 Table 5 to provide management of environmental impacts and performance • Provided specific performance indicators in Table 5 • Provided for additional reporting requirements including effectiveness of measures • Provided methods to investigate and improve environmental management • Protocol for incidents and complaints, and non-compliances provided in section 7.0	Amend section 7 of the BMP to include further detail regarding the program. The program should include: • specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measure • Table 5 of the BMP uses broad indicators such as 'Disturbed areas become progressively rehabilitated.' The indicators should be expanded to include thresholds specific to the site. • details to report the effectiveness of any management measures • details to investigate and implement ways to improve the environmental performance of the development over time • exceedances of the impact assessment criteria and/or performance criteria • Monitoring Reports should be submitted to BCD.	• The request here appears to be a repeat of that provided previous with no acknowledgement of the specific performance indicators provided in the last round. The indicators provided are sufficient. No further action. • The indicators provided are adequate for measurement of the performance of site activities, noting the heavily degraded state from which it is commencing. No further detail is warranted or beneficial. • This comment does not appear to consider updates made in the previous round. Please see section 7.2 for detail concerning how the effectiveness of measures would be recorded. • The provision of additional detail around how to improve performance over time is not warranted for the relatively low impact nature of construction and the highly passive nature of operation. This request is unnecessarily onerous for a development of this nature. • This comment does not appear to consider updates made in the previous round. Please see section 7.2 for detail on how incidents would be managed,	N/A	N/A

Condition	Requirement	BMP reference	BCD recommendation – March 2023	Update made	BCD recommendation – May 2023	Response/update made	BCD recommendation – July 2023	Response/update made
			and exceedances of the impact assessment criteria and/or performance criteria			including the exceedance of impact assessment criteria. • Monitoring reports will not be provided to BCD. This requirement is not a condition of consent. However, all monitoring reports will be reviewed and actioned internally to ensure the maintenance of a high standard of biodiversity management within the development.		
Schedule 2, condition B8 (a)	The Applicant must implement the Biodiversity Management Plan approved by the Planning Secretary.	This BMP will be provided to DPE for approval by the Planning Secretary and will be implemented as outlined herein.	Refer to other recommendations above	No additional action	Amend as requested above	No additional action	N/A	N/A

Appendix B

Fauna handling protocol

Appendix B Fauna handling protocol

Introduction

The purpose of this protocol is to provide guidance with regard to the effective management of native fauna encountered on construction project sites. Given the disturbance to the local habitat, which often occurs during site construction activities, there is potential for native fauna to traverse onto or across construction sites. In such circumstances, there is a high risk of harm to native fauna (e.g. being struck by plant, tools or vehicles) or contact with fauna, including species that may pose a threat to human safety, such as venomous snakes and spiders.

This guideline is designed to provide construction personnel with an understanding of how to:

- avoid and/or minimise construction-related impacts on fauna and fauna habitat
- manage occurrences involving fauna on or adjacent to construction sites.

Legislative requirements

Table B.1 identifies legislation and regulations relevant to protecting and managing fauna in NSW. Significant penalties exist for legislation breaches due to unauthorised impacts on fauna and associated habitats.

To avoid breaches, AGL and its contractors must be aware of their legislative obligations and implement appropriate management measures to avoid impacts on fauna and habitats during construction. Contractors must undertake due diligence to identify other legislative requirements that may apply to a project.

Table B.1 Legislation and guidelines for the management of fauna and habitats in NSW

Requirements	Objectives
Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth) (EPBC Act)	Seeks to protect the environment, especially those aspects of the environment that are matters of national environmental significance (MNES). Listed threatened species and ecological communities are listed as MNES. A person who proposes to take action that will have or is likely to significantly impact an MNES must refer that action to the Minister for a decision on whether assessment and approval are required under the EPBC Act. It is an offence to take such an action without approval. Depending on the specific offence, penalties can include seven years imprisonment (for an individual) and up to $5.5 million civil penalty for a corporation.
Threatened Species Conservation Act 1995 (TSC Act)	Seeks to conserve biological diversity and promote ecologically sustainable development, prevent extinction and promote recovery of threatened species, populations and endangered ecological communities. Harming any fauna or flora listed under the Act is a criminal offence. It is an offence to contravene an order from the Director General for an action likely to result in the picking of threatened species, populations or ecological communities or damage to their habitat. Maximum penalties for a corporation are $1.1 million plus $110,000 per day the offence continues. Offences do not apply if the action has been authorised under another Act (e.g. if a licence has been granted under the National Parks and Wildlife Act 1974).
National Parks and Wildlife Act 1974	Seeks to conserve nature, including habitat, biological diversity and species.

Requirements	Objectives
	It is an offence to harm native fauna (as listed in Schedule 11 of the Act). The maximum penalty for doing so is $11,000 plus $1,100 in respect of each whole plant affected by the action and/or six months imprisonment. Offences do not apply if the action has been authorised under another Act (e.g. licence granted under the TSC Act).
Fisheries Management Act 1994	Seeks to conserve fish stocks and key fish habitats, threatened species, populations and ecological communities of fish and marine vegetation and promotes ecologically sustainable development, including the conservation of biological diversity. It is an offence for a person to be in possession of fish that were illegally taken. The maximum penalty is: for an individual, $22,000 and/or six months imprisonment for the first offence, or $44,000 plus and/or 12 months imprisonment, and for a corporation, $110,000 for a first offence, or $220,000 plus a subsequent offence.

A detailed list of threatened species publications can be found on the Office of Environment and Heritage website[5]. The list includes:

- endangered and vulnerable species profiles
- pest management plans
- threat abatement plans
- policies and guidelines
- brochures, newsletters and fact sheets.

Fauna management protocol

Prior to construction

Prior to the commencement of construction, the following fauna management measures should be implemented:

- review the Environmental Impact Assessment (EIA) to identify the location of potential fauna habitat and fauna sightings on or adjacent to the site
- incorporate construction fauna management measures identified in the EIA into the site induction, toolbox talk and pre-start meetings
- incorporate fauna management measures identified in the EIA into the project design and environmental management plans
- establish contracts with external specialists/agencies to attend the site and remove or relocate fauna. This may be a local suitably qualified fauna handler or an agency such as WIRES.
- protect vegetation, which may provide a habitat for fauna species
- install signs clearly identifying areas of potential fauna habitat
- plan construction works with consideration to habitat corridors (connectivity), fauna mobility and nesting times
- undertake fauna pre-clearance survey with the assistance of an ecologist where required

[5] https://www.environment.nsw.gov.au/

Design considerations

Considering how the temporary and permanent design may affect fauna can significantly reduce detrimental impacts and provide benefits to fauna. Incorporation of 'fauna friendly' features into the design is considered in the EIA and may include:

- maintenance of habitat corridors to allow fauna movement
- provision of habitat via landscaping species selection, retention of logs, drainage design
- protection of riparian zones
- maintenance of waterways to allow fish passage
- features to facilitate fauna movement across, over or under sites
- minimising impacts of lighting.

Pre-clearance surveys

Where required by the EIA, an ecologist should conduct a survey of the area to be cleared before clearing any vegetation. The ecologist is to identify and mark (e.g. with coloured tape or spray paint) any vegetation with fauna habitat potential within the clearing boundary and provide recommendations on how to minimise potential impacts to fauna.

Such recommendations may include:

- retaining or partially retaining the habitat
- knock tree trunks 24 hours prior to removal to encourage fauna to escape
- provision of nest boxes in an alternative location
- removal and relocation of fauna
- the need for the ecologist to be present during vegetation clearing, trimming or construction activities within or adjacent to sensitive habitat areas
- listing any threatened species or habitat trees to be protected and retained on an appropriate project register.

The time between the completion of these surveys and the commencement of works in and around the survey area should be kept to a minimum to ensure that the survey results accurately represent the area's habitat profile at the time of the works.

During construction

Measures to minimise potential impacts to fauna and fauna habitat as a result of construction activities are identified in the EIA and through the processes outlined above in pre-construction. Typical measures include:

- managing the site to minimise trap hazards and potential burrow/nest areas for fauna. For example, covering trenches, open pits and excavations, covering/stabilising unconsolidated materials and reducing the gradient of uncovered slopes
- implementing a protocol for encounters with fauna to minimise the potential of harm to fauna and site personnel
- avoid contact with poisonous fauna and ensure first aid kits are available to all personnel
- providing photographs and information on site notice boards showing local fauna and pests known to occur in the area
- managing the site to discourage pests
- managing the site to minimise adverse impacts on fauna habitat
- salvaging potential fauna habitat, i.e. hollow logs from clearing where possible and reinstating in appropriate locations

- regularly inspecting the site to monitor implementation and compliance with fauna protection measures
- providing ongoing training (e.g. toolbox talks and pre-start briefings) in response to fauna sightings, fauna-related incidents, or changing project conditions.

Management of encounters with fauna

Encounters with fauna should be managed to minimise potential harm to the fauna and site personnel. A site protocol should be established and consider the following actions:

- contact the environment manager and site supervisor immediately
- where an animal is traversing the worksite, avoid any contact, and it may exit the site without the need for further action
- if there is potential for site activities to cause harm to the animal, cease activities in the vicinity
- if the animal is potentially dangerous (e.g. poisonous snake or spider), cease activities and advise all personnel to leave the area
- if the animal is trapped, injured or shows signs of disease, or is potentially dangerous, contact the fauna handler or WIRES to remove and treat the animal
- any harm caused to an animal by construction activities or personnel, particularly threatened species, is an environmental incident requiring reporting and investigation.

Pest management

Pests compete with native fauna for food sources and habitat, may cause direct harm to native fauna through predation, and can cause health risks for humans. Early detection of pest incursions and rapid response is the most energy and cost-effective form of pest control.

There are a number of initiatives that can help to control the occurrence and impacts associated with pests. These include:

- ensure the site is maintained free from food waste, food containers and construction waste that may attract pests
- implementing pest management programs around site offices and compounds
- monitoring for the presence of pests and introduced fauna and contacting relevant specialists/agencies (e.g. local council) for removal of pests
- maintaining a register to track the types and locations of pests encountered across the project.

Habitat management

Native habitat, whether aquatic or terrestrial, provides shelter, food, protection from predators and breeding areas for native fauna. Effective management and protection of these habitats are fundamental to the survival of native fauna within and surrounding project sites. The management of habitats extends beyond minimising direct impacts on fauna and includes:

- protecting and managing vegetation, which may provide habitat for fauna species
- managing weed species that may affect fauna
- locating hazardous material storage away from environmentally sensitive areas and waters and ensuring effective spill response
- preventing land pollution and contamination through rigorous plant and equipment inspections, refuelling and maintenance in designated areas
- regularly testing the water quality of catchments within or adjacent to project boundaries
- preventing water pollution through effective erosion and sediment controls
- managing bushfire risk by minimising potential fuel sources such as timber/ flammable

- waste and excessive undergrowth in high-risk areas on construction sites (refer to the
- bushfire management plan, where applicable).

Record keeping and reporting

Records of significant fauna occurrences should be documented using the appropriate incident reports and project registers. A significant sighting/occurrence could be the discovery of an injured animal, dangerous animal (e.g. snake) or other fauna observation (e.g. discovery of threatened/endangered species within or adjacent to the project footprint) which may warrant further investigation and/or notification to site personnel or external agencies.

Records of all surveys and fauna management measures should also be kept, for example, on site-specific environmental inspection checklists and other relevant documents.