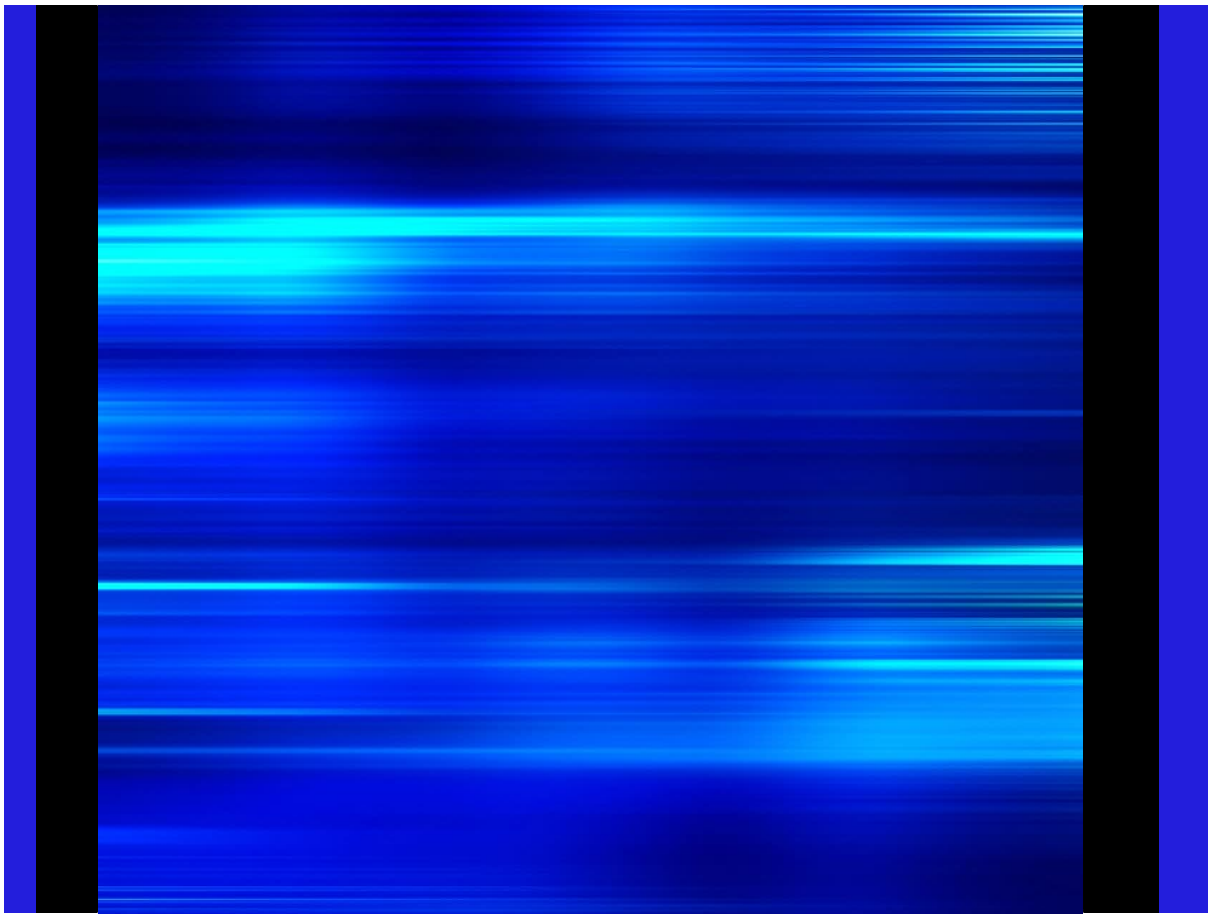
Construction Environmental Management Plan

Revision: 1

Origin Energy Power Limited

Origin Energy Mortlake Battery Energy Storage System Project
20 October 2023



Construction Environmental Management Plan

Client name: Origin Energy Power Limited

Project name: Origin Energy Mortlake Battery Energy Storage System Project

Project no: IS464700

Project manager: Roger Winders

Revision: 1

Date: 20 October 2023

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File name: Mortlake Power Station_Construction Environmental Management Plan_Stage 3_Rev 1

Document history and status

Version	Date	Description	Author	Reviewed	Approved
A	28/04/23	Draft for client review	P. Brinkley	R Winders	R Winders
B	17/5/23	Second draft for client review	P. Brinkley	R Winders	R Winders
C	23/6/23	Third draft for client review	P. Brinkley	R Winders	R Winders
0	6/7/23	Final for submission	P. Brinkley	R Winders	R Winders
1	20/10/23	Minor amendment	P. Brinkley	R Winders	R Winders

Distribution of copies

Version	Date issued	Issued to	Comments
A	28/04/23	Origin	Draft for client review
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C	23/6/23	Origin	Third draft for client review
0	6/7/23	DTP	Final for submission
1	20/10/23	DTP	Minor Amendment to section 1.6

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1. Purpose and Scope

1.1 Project Background

Origin Energy Power Limited (Origin), a wholly-owned subsidiary of Origin Energy Limited (Origin Energy), owns and operates Mortlake Power Station (MPS) in southwest Victoria. MPS is located approximately 200 kilometres (km) west of Melbourne and 12 km west of the town of Mortlake (Figure 1). MPS consists of two open cycle natural gas-fired turbines each registered to produce approximately 300 megawatts (MW) of electricity. The power station generally operates on a peaking basis but can operate as a baseload or intermediate load power station when required by the National Electricity Market (NEM).

In 2018, Origin investigated options for expanding the capacity of MPS through the installation of additional gas-fired turbines (Expansion Project). The Expansion Project was designed to support the high levels of renewable energy emerging in Victoria and provide enhanced grid stability for Victorian customers through firming. The concept plan involved four gas turbines of nominal 50-70 MW capacity each, to be located on existing hardstand adjacent to the existing units.

The broader MPS site has an area of approximately 104 hectares (ha), of which the current power station site occupies approximately nine ha. Associated infrastructure includes approximately 78 km of underground gas pipeline linking the site to a gas production plant near Port Campbell and two water pipelines running from supply sources close to Mortlake. The land is located within the Shire of Moyne and is subject to provisions of the Moyne Planning Scheme, within a Special Use Zone (SUZ1).

The original MPS, including associated gas and water pipelines, was subject to environmental assessment under the *Environment Effects Act 1978* which required preparation of an Environment Effects Statement (EES). The project was facilitated by Planning Scheme Amendment C20 (Amendment C20) to Moyne Planning Scheme which was assessed concurrently with the EES. Other approvals through the EES process included a Works Approval (WA58927) under the *Environment Protection Act 1970* and a pipeline permit (Application No. 259) under the *Pipelines Act 1967*. The Works Approval was amended in March 2020 to facilitate the Expansion Project and has since been updated to a Development Licence (DL1177) under the *Environment Protection Act 2017* (the EP Act).

The original approval documentation (EES, Works Approval, Planning Scheme Amendment) provided clear direction that MPS would be developed in two stages, with each stage having a nominal generating capacity of 500 MW. Stage 1 was commissioned in 2012, with the proposed Expansion Project effectively being Stage 2. Construction of the Expansion Project was to commence in 2020, however the project has been put on hold by Origin Energy.

In 2021, Origin Energy commenced investigations for providing the market with storage capacity through the installation of a Battery Energy Storage System (BESS) at MPS to facilitate the delivery of efficient, safe, and reliable energy storage (the BESS Project).

The BESS Project aims to support the Victorian Government's Renewable Energy Zones (REZs), particularly the South West REZ which covers MPS and surrounding areas. The BESS Project is intended to be the next stage of development of MPS. Investigations have continued since 2021 and the BESS Project is now at a point where design of the BESS is being developed.

Schedule 1 to Clause 37.01 Special Use Zone of the Moyne Planning Scheme states that a purpose of the MPS is *"to provide for the transmission, distribution and storage of power"*. This purpose supports the facilitation of the BESS Project within the MPS site. The mechanism by which the BESS Project can be facilitated under the Planning Scheme is via amendment of the current Development Plan and Construction Environmental Management Plan (CEMP). Origin intends to keep the option of the Expansion Project available, noting that construction of the BESS may precede that of the Expansion Project.

Construction of the BESS Project is planned to commence in 2024, with operation of the BESS planned to commence in 2025. As part of preparation for the BESS works, an amendment to the Development Licence is not required by EPA due to the BESS not being classified as a scheduled activity under the *Environment Protection Act 2017*.

1.2 Purpose

This CEMP is designed to effectively manage the environmental aspects associated with construction of the BESS and addresses the requirements of Clause 4.0 of Schedule 1 to the Special Use Zone of the Moyne Planning Scheme.

Origin plans to appoint a construction contractor for the BESS to deliver the project. This CEMP provides the general framework for the management of the construction of the BESS Project, and additional specific details will be provided by the construction contractor in an updated CEMP (or other environmental management documentation), which will be provided to the Department of Transport and Planning (DTP) prior to the commencement of construction of the BESS Project.

1.3 Site Description

MPS is located on Connewarren Lane, Mortlake, within Origin-owned land (Lot 1 PS620663R) (Figure 2). The broader MPS has an area of approximately 104 ha, of which the current power station site occupies approximately nine ha.

AusNet Transmission Group Pty Ltd (AusNet) operate an electrical substation within the broader MPS site on a separate parcel of land (Lot 2 PS620663R). Lot 2 PS620663R is owned by AusNet and covers an area of approximately 3.8 ha. The Moorabool-Heywood-Portland 500 kilovolt (kV) power line crosses Origin's property, immediately north of the existing gas-fired turbine plant.

The nearest residential dwelling is located approximately 2 km east of the MPS.

The MPS occurs within an area of cropping/grazing, with the property consisting of a highly modified environment that has been subject to agriculture use for more than a century. The BESS Project will be constructed on an area historically used for cropping and grazing that contains negligible ecological value (Jacobs, 2019a; NGH, 2023), with an associated construction footprint and maintenance laydown area to be located to the south of the existing hardstand. The hardstand area was not found to contain any ecological values (Jacobs, 2019a; NGH, 2023).

Two constructed drains run on either side of the BESS Project plant footprint, construction footprint and maintenance laydown area and natural depressions occur in nearby paddocks. The Jacobs Flora and Fauna Assessment (Jacobs, 2019a) found some native vegetation (Tall Marsh and Spike-sedge Wetland) traversing the drainage lines.

Another ecological assessment, prepared by NGH for AusNet as part of the Mortlake Turn-In project, found EVC 125 (Plains Grassy Wetland) traversing the drainage lines (NGH, 2023). The western drainage line will not be impacted by the construction or operational footprints of the BESS Project. Native vegetation in the eastern drainage line can be removed through the regrowth exemption (see Section 2.1 for further detail).

Two other patches of Plains Grassy Wetland were found within the MPS site but will not be affected by the construction or operational footprints of the BESS Project.

Hopkins River arcs around the Expansion Project site to the west at distance of approximately 2.5 km. Blind Creek drains the general area to Hopkins River in a south-westerly direction, taking in Lake Connewarren (an ephemeral saline lake approximately 2.5 km southeast of the site) and a series of ephemeral riparian wetlands associated with Blind Creek and the Hopkins River occur along the water courses (Jacobs, 2019a).

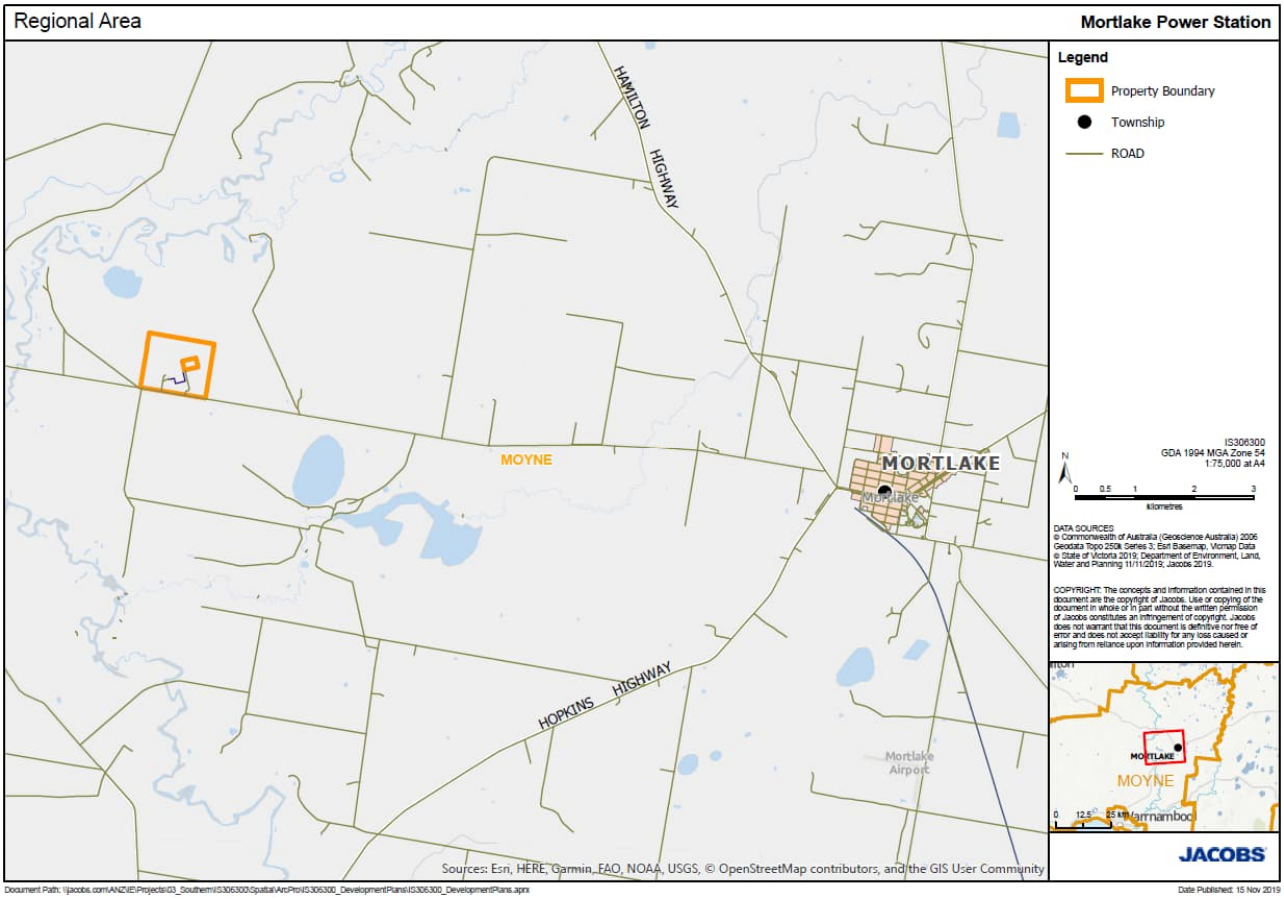

Figure 1. Regional Area

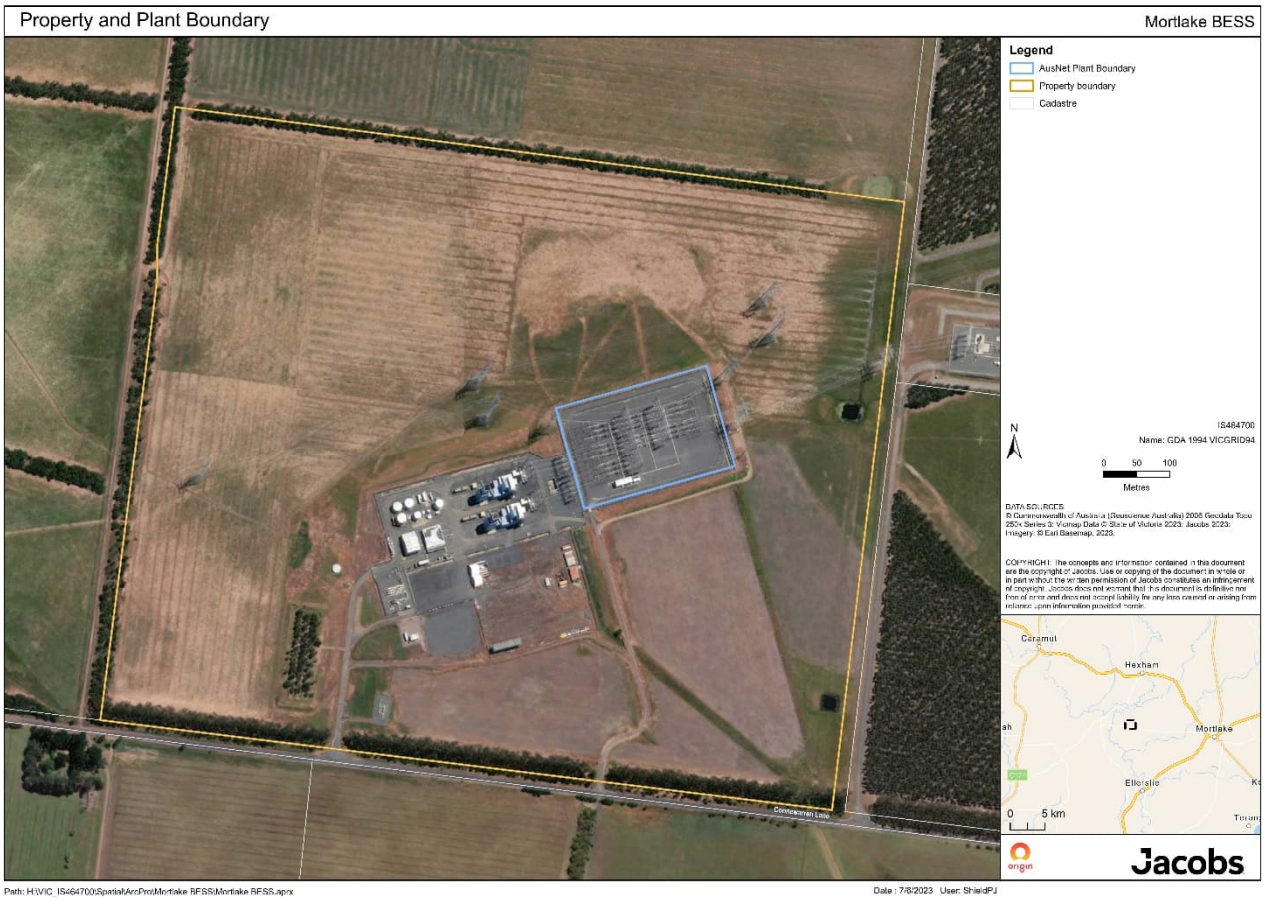

Figure 2. Property and Plant Boundary

1.4 Mortlake Power Station Staging

1.4.1 Construction of MPS Stage 1

Construction of Stage 1 of MPS commenced in 2009 and was completed in 2012 and was undertaken in accordance with WA58927, Schedule 1 to the Special Use Zone of the Moyne Planning Scheme, the Stage 1 Development Plan (BBS, 2009) and the Stage 1 Construction Environmental Management Plan (BBS, 2008). The current configuration of the MPS is reflective of Stage 1, centred on MPS operating as a gas-fired power station with two units each producing approximately 300MW of electricity.

1.4.2 Proposed MPS Expansion Project (Stage 2)

Origin planned to expand MPS with the Expansion Project, however that project is currently on hold.

The Expansion Project was to involve the construction and operation of the following equipment:

- Four open cycle gas turbines of nominal 50 to 70 MW capacity each
- The following two technologies and unit types were considered:
  - Siemens SGT-A65 models; or
  - GE LM6000PF+ models.
- Generator step-up transformers (GSUTs) (nominally one per turbine)
- One 500kV connection step-up transformer

- Other associated infrastructure (e.g., Balance of Plant [BOP], loading areas, parking areas, fencing, etc.)
- Temporary construction laydown and parking areas

The Expansion Project is on hold while Origin Energy assesses potential for a BESS to be installed at the Site. Accordingly, the land allocated for the Expansion Project is separate to the BESS area as the Expansion Project may be progressed in future.

1.4.3 MPS Battery Energy Storage System Project (Stage 3)

The proposed BESS Project will essentially be Stage 3 of the MPS. The BESS Project would include the construction and operation of a grid-scale BESS including:

- BESS compounds comprising of rows of battery enclosures housing lithium-ion type batteries connected to associated power conversion systems (PCS) and high voltage (HV) electrical reticulation equipment.
- A BESS substation housing high voltage transformers and associated infrastructure.
- Network connection (e.g., overhead power lines).
- Ancillary infrastructure and facilities including provision of water via standpipe and temporary construction power, safety protection systems and site ancillary facilities such as laydown areas and site offices.

1.4.4 Accommodation and Services

Various workforces will be associated with the construction of the BESS Project at MPS, and a baseline workforce will be maintained on site to the logical conclusion of the project. These are tabulated against the number of persons, and the estimated total duration of that particular type of workforce activity. Labour would be sourced locally where possible; however, specialist technical staff may need to be brought in from outside of the region.

The specific details of the workforce will be finalised following the engagement of the construction contractor. The construction contractor will provide the following details of the workforce and accommodation:

- An estimate of the number of employees and their family members, attracted to the region during the construction period.
- The expected demographics of the workforce.
- Availability of commercial and private accommodation, based on the results of an accommodation survey.
- Identification of potential impacts on housing, medical, childcare, education, and recreation services in the region, and in particular localities.
- A strategy to manage the accommodation needs of the workforce.
- Identification of measures to minimise adverse impacts on the delivery of social and community services to the broader community.

1.5 Related Documents

This CEMP should be read in conjunction with the following documents which provide details of the project and provide the context for this CEMP:

- Mortlake Power Station amended Development Plan (to be submitted to the Minister for Planning concurrently with this CEMP).

- Mortlake Power Station Expansion Project Stage 2 Development Plan (submitted to Moyne Shire Council for approval on 30 April 2020).
- Mortlake Power Station Stage 1 Development Plan (submitted to Moyne Shire Council for approval on 20 January 2009).
- Mortlake Power Station BESS Project Traffic Impact Assessment (to be submitted to the Minister for Planning as part of this CEMP).
- Mortlake Power Station Expansion Project Traffic Management Plan (submitted to Moyne Shire Council for approval on 17 April 2020).
- Sonus Noise Assessment (to be submitted to the Minister for Planning as part of this CEMP).
- NGH Ecological Assessment (to be submitted to the Minister for Planning as part of this CEMP).
- Jacobs Flora and Fauna Assessment (to be submitted to the Minister for Planning as part of this CEMP).
- Bushfire Risk Assessment (to be submitted to the Minister for Planning as part of the amended Development Plan).
- Origin Health, Safety and Environment Policy.
- Mortlake Power Station Emergency Response Plan (Document Reference Number: MPS-HSE-ERP-001).
- Origin Incident Management Procedure (Document Reference Number: ORG-HSE-PRO-025).

1.6 Construction Environmental Management Plan Requirements

1.6.1 Moyne Planning Scheme

Table 1 lists the Environmental Management Plan requirements for the MPS set by Clause 3.0 of Schedule 1 to the Special Use Zone of the Moyne Planning Scheme. Table 1also describes which components of this CEMP address each requirement.

Table 1: Requirements of Moyne Planning Scheme

Moyne Planning Scheme Requirement	CEMP Component
Clause 4.0 of Schedule 1 to the Special Use Zone of the Moyne Planning Scheme: … *Environmental management plans* *Before the construction of any buildings and works starts, a construction environmental management plan must be prepared to the satisfaction of the responsible authority. Prior to the commencement of the use as a gas-fired power station, an operations environmental management plan must be prepared to the satisfaction of the responsible authority.* *The environmental management plans must describe (but not necessarily be limited to) management processes and procedures to minimise the amenity and environmental impacts of the use and development of the site as a gas-fired power station and associated construction activities. The plans must set out objectives, performance and monitoring requirements.* *The construction environmental management plan must address the following:*	This CEMP will be submitted to the responsible authority (being the Minister for Planning) for approval. Construction of the BESS Project will not commence until approval of this CEMP is obtained from The Minister for Planning.

Environmental assessment and management of soils, water, flora and fauna, weeds, cultural heritage and air emissions.	Section 2.1 and Section 3
Noise.	Section 3.3
Erosion control.	Section 3.1
Storm water runoff.	Section 3.1
Off-site dust emissions.	Section 3.2
The transfer of site mud to roads.	Section 3.2
Staff training and communication.	Section 4
Reporting for monitoring, audits, incidents, and complaints.	Section 7
Emergency response.	Section 6.3
Traffic management, including but not limited to: *Preferred traffic routes with truck movements to the west of the power station site on Connewarren Lane to be minimised.* *Over-dimensional vehicles and loads.* *The upgrade of the Connewarren Lane/Hamilton Highway intersection to the satisfaction of VicRoads and the responsible authority.* *Stock movements on Connewarren Lane.* *Hours of construction and construction deliveries.* *Procedures for access to adjacent properties.* *Provision of staff car parking.* *Traffic circulation within the construction zone.* *Emergency vehicle access.* *Provision for public pedestrian access.* *Training.* *Notice of works and their publicity.* *Contact personnel.*	Traffic Impact Assessment
Accommodation and community services, including but not limited to: *An estimate of the number of employees and their family members, attracted to the region during the construction period.* *The expected demographics of the workforce.* *Availability of commercial and private accommodation, based on the results of an accommodation survey.* *Identification of potential impacts on housing, medical, childcare, education and recreation services in the region, and in particular localities.* *A strategy to manage the accommodation needs of the workforce.*	Section 1.4.4

Identification of measures to minimise adverse impacts on the delivery of social and community services to the broader community.	
The responsible authority must seek and consider the comments of Corangamite Shire Council in relation to the accommodation and community services part of the construction environmental management plan.	To be addressed by Department of Transport and Planning.

1.6.2 Works Approval WA58927

On 17 April 2007, EPA issued a Works Approval (WA58927), which provides general conditions, works conditions and reporting conditions for the MPS. The Works Approval allowed for the development of the MPS in two stages, with the first stage being completed in 2012.

An amended WA58927 was issued by EPA on 20 March 2020. In line with the EP Act, WA58927 was updated to DL1177 with the same conditions. The conditions of DL1177 relevant to this CEMP are provided in Table 2.

Table 2: Requirements of DL1177

WA58927 Requirement	CEMP Component
WA_W1 *Before commencing construction of the following components of the works, you must provide to EPA a report or reports with the confirmed plans and specifications of those components, including details of:* *…* *k) Construction Environmental Management Plan (CEMP).*	This CEMP
WA_W2 *You must not commence construction of those parts of the works for which reports are required by condition WA_W1 until written EPA approval of those reports has been received.*	This CEMP will be submitted to DTP for approval
WA_W4 *You must notify EPA when the construction of the works covered by this Works Approval has been commenced.*	Section 7.
WA_W5 *You must notify EPA when the construction of the works covered by this approval has been completed.*	Section 7.
WA_W15 *During construction, unacceptable noise (including vibration) must not be emitted beyond the boundaries of the premises.*	Section 3.3.
WA_W16 *During construction, stormwater discharged from the premises must not be contaminated with waste.*	Section 3.1.
WA_W17 *All construction activities must be undertaken in accordance with EPA Publication 480 "Environmental Guidelines for Major Construction Sites".*	This CEMP
WA_W18	Section 5.

WA58927 Requirement	CEMP Component
During construction, you must undertake an Environmental Monitoring Program that enables you and EPA to determine compliance with the Construction activities as approved by EPA.	
WA_W19 *During construction, you must ensure that all activities are carried out in accordance with WA_W1 including construction activities at the premises must not result in the discharge or have seepage of hydrocarbon or chemical waste from the premises to land, groundwater or surface waters.*	Section 3.

1.6.3 Traffic Management Plan

A Construction Traffic Management Plan will be prepared and implemented by the construction contractor and will include a range of mitigation measures to minimise the potential traffic impacts of the project. Prior to the commencement of development of the BESS, the Construction Traffic Management Plan will be prepared in consultation with Moyne Shire Council and Department of Transport and Planning and endorsed by the responsible authority.

2. Environmental Assessment and Planning

2.1 Environmental Aspects

Clause 4.0 of Schedule 1 to the Special Use Zone of the Moyne Planning Scheme requires that a CEMP must be prepared which addresses the environmental assessment and management of soils, water, flora and fauna, weeds, cultural heritage and air emissions.

Assessments of the potential impacts of the Expansion Project on these environmental aspects, as well as noise amenity and air quality, were undertaken as part of the process to amend WA58927.

Construction and operation of the BESS Project is not expected to significantly alter environmental aspects specific to the Project location summarised below:

- *Soils*
  Assessments of the geology, landforms and soils in the vicinity of the MPS and associated gas pipeline corridor were undertaken by Coffey (2004; 2005) and Enesar (2004b). The soil in the area was classified as hard acidic yellow mottled duplex soils or shallow, stony chocolate soils with brown earths occurring on cinder cones depending on the geomorphic zone (Origin and Enesar, 2005). Acid sulphate soils are not likely to be found in the MPS site. Soils in the region are fertile and predominantly support the grazing (beef and dairy cattle) industry (Origin and Enesar, 2005). The soil conditions have not changed since the writing of the Origin, Coffey and Enesar assessments. Thus, for brevity these reports have not been appended to this CEMP. Management measures for soil during the construction of the BESS Project are described in Section 3.1.
- *Water*

  Water for concrete mixing during construction will be sourced at the location of the concrete batching plant, dust suppression water will be sourced from bore and water recycling.

  During construction of the BESS Project, stormwater will be managed as per the measures outlined in Section 3.1.
- *Flora and Fauna*

  Jacobs (2019a) undertook a Flora and Fauna Assessment which assessed the potential impacts to native flora and fauna associated with the MPS site, including the BESS and laydown area footprints.

  Jacobs (2019a) identified the following:

  The MPS occurs within an area of cropping/grazing, with the property consisting of a highly modified environment that has been subject to agriculture for more than a century. The BESS Project will be constructed on an area historically used for extensive cropping/grazing that contains negligible ecological value (Jacobs, 2019a), with an associated construction footprint and maintenance laydown area to be located to the south of the existing hardstand. This new hardstand was not found to contain any ecological values (Jacobs, 2019a).

  There was a patch of vegetation to the southwest of the proposed new hardstand area (Plains Rushy Wetland). This patch was not within the construction and operation footprint of the BESS Project and was unlikely to be affected (Jacobs 2019a). Two constructed drains run to the east and west of the BESS Project plant footprint, construction footprint and maintenance laydown area and natural depressions occur in the nearby paddocks.

  More recently, NGH (2023) undertook an Ecological Assessment which assessed the potential impacts to native flora and fauna associated with Mortlake Terminal Station site and surrounds, including MPS. NGH (2023) identified three patches of EVC 125 (Plains Grassy Wetland): two dams on the eastern boundary and the linear strip traversing the drainage lines. NGH (2023) also found a small scattered tree on the western drainage line.

The Plains Grassy Wetland patches on the two dams are not within the construction or operational footprint of the BESS Project and will not be impacted. The western drainage line contains an approximate 10-metre-wide patch of Plains Grassy Wetland and a small scattered tree. However, these are not within the construction or operational footprint and will not be impacted.

The BESS footprint overlaps the eastern drainage line and thus impacts the corresponding Plains Grassy Wetland patch. However, this vegetation has only recently grown (sometime since 2019) because it did not exist at the time of the Jacobs assessment in September 2019. Accordingly, the vegetation in the eastern drainage line can be classified as regrowth that is less than 10 years old. Through the regrowth exemption in the planning scheme, this native vegetation can be removed. The Regrowth exemption is defined as:

"Vegetation that is to be removed, destroyed or lopped that has naturally established or regenerated on land lawfully cleared of naturally established vegetation, and is:

- *less than 10 years old; or*
- *bracken (Pteridium esculentum); or*
- *within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record, and has established after the plantation; or*
- *less than ten years old at the time of a property vegetation plan being signed by the Secretary to the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987), and is:*
  - *shown on that plan as being 'certified regrowth'; and*
  - *on land that is to be used or maintained for cultivation or pasture during the term of that plan.*

This exemption does not apply to land where native vegetation has been destroyed or otherwise damaged as a result of flood, fire or other natural disaster."

By comparison of Figure 5-3 in the NGH Ecological Assessment and Figure 5 in the Jacobs Flora and Fauna Assessment, the Plains Grassy Wetland patch within the eastern drainage line is less than 10 years old and can therefore be removed.

Furthermore, the whole MPS land parcel was agriculture land (crops) for many years and the drainage line did not exist. During the development of MPS from 2009-2011, the western and eastern drainage lines were specifically constructed as drains. During the construction process, the drainage lines were cleared of crops, scraped and graded bare and then constructed as spoon drains. During the development of MPS, no native vegetation was present. Native vegetation has only grown in the drainage line since September 2019.

Mitigation measures for native flora and fauna are provided in Section 3.6.

- *Weeds*
  The Flora and Fauna Assessment (Jacobs, 2019a) identified weeds in the vicinity of the BESS Project, including Perennial Ryegrass (**Lolium perenne*), Cape Weed (**Arctotheca calendula*) and Onion Weed (**Romulea rosea*), Yorkshire Fog (*Holcus lanatus*), Couch (*Cynodon dactylon*), Drain Flat-sedge (*Cyperus eragrostis*) Paspalum (*Paspalum dilatatum*) and Watercress (*Nasturtium officinale*) (Jacobs, 2019a). Measures to mitigate the spread of weeds during the construction of the BESS Project are described in Section 3.6.1.
- *Cultural Heritage*
  An extensive assessment of both Aboriginal and historic cultural heritage was undertaken by Andrew Long & Associates (2005), which covered the MPS site and associated gas pipeline corridor. This assessment did not identify any Aboriginal or historic cultural heritage sites within the MPS site. The Origin Incident Management Procedure (Unexpected Finds Protocol) is to be followed in the event of a

cultural heritage find. The measures to manage any cultural heritage sites identified during the construction of the BESS Project are outlined in Section 3.7.

- *Air Emissions*
  Minor amounts of dust and equipment emissions will be produced during the earthworks and construction activities associated with the BESS Project. Jacobs (2019b) undertook an air quality assessment for the Expansion Project, which assesses the potential impacts of the expansion on air quality. The BESS Project is not expected to produce any further impacts to air quality. Air Quality management measures are provided in Section 3.2.
- *Noise*
  Noise emissions will be produced by construction activities and equipment during the earthworks, and during operations from equipment such as inverters.

  Sonus undertook a Noise Impact Assessment for the Expansion Project (2020) and the BESS Project (2023), which assess the potential impacts of the construction of the Expansion and BESS Projects respectively on noise amenity. Noise management measures are provided in Section 3.3.

2.2 Legislation, Standards and Codes of Practice

The legislation, standards and codes of practice of relevance to this CEMP include the following:

- Commonwealth legislation:
  - *Environment Protection and Biodiversity Conservation Act 1999*
  - *Aboriginal and Torres Strait Islanders Heritage Protection Act 1984*
  - *Native Title Act 1993*
  - *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*
  - *The National Greenhouse Strategy*
  - *National Greenhouse Emissions Reporting Act 2007*
- Victorian legislation:
  - *Catchment and Land Protection Act 1994*
  - *Dangerous Goods Act 1985*
  - *Environment Effects Act 1978*
  - *Environment Protection Act 2017*
  - *Environment Protection Regulations 2018*
  - *Fisheries Act 1995*
  - *Flora and Fauna Guarantee Act 1988*
  - *Heritage Act 2017*
  - *Planning and Environment Act 1987*
  - *Sustainability Victoria Act 2005*
  - *Victoria Renewable Energy Act 2006*
  - *Water Act 1989*
  - *Wildlife Act 1975*
- General Environmental Duty (GED)
- Environmental Reference Standards (ERS)

2.3 Approvals, Licences and Permits

Origin holds relevant licences and permits for the construction and operation of the MPS, including the following:

- EPA Development Licence 1177
- EPA Operating Licence 8750

2.4 Guidelines and Standards

The following guidelines and standards are of relevance to this CEMP:

- *Civil construction, building and demolition guide* (EPA Publication 1834) (EPA, 2020)
- *Construction Techniques for Sediment Pollution Control* (EPA Publication 275) (EPA, 1991)
- *Liquid Storage and Handling Guidelines* (EPA Publication 1698) (EPA, 2018)
- *Noise from Industry in Regional Victoria Guideline* (EPA Publication 1411) (EPA, 2011)
- *Victorian guideline for water recycling* (EPA Publication 1910) (EPA, 2021)
- *Technical information for the Victorian guideline for water recycling* (EPA Publication 1911) (EPA, 2021)
- *Glenelg-Hopkins Regional Catchment Strategy (2021-2027)* (Glenelg Hopkins Catchment Management Authority [GHCMA], 2021)
- *Weeds of the Glenelg Hopkins Catchment* (GHCMA, 2019)
- *AS/NZS ISO 14001:2016 Environmental Management Systems – Requirements with Guidance for Use*
- *AS 1940:2017 the Storage and Handling of Flammable and Combustible Liquids*
- *AS 2436-2010 (R2016) Guide to Noise Control on Construction, Demolition and Maintenance Sites*
- *Australian Dangerous Goods Code* (Commonwealth of Australia, 2018)
- *National Strategy for Ecologically Sustainable Development* (Commonwealth of Australia, 1992)

The construction contractor will address any additional guidelines and standards of relevance that will be followed during construction of the BESS Project in a site-specific environmental management plan and/or subplans.

2.5 Objectives and Performance Targets

Environmental objectives and targets for the construction of the BESS Project developed in consideration of key environmental risks are outlined in Table 3.

Table 3. Mortlake Power Station – BESS Project – Environmental Objectives

CEMP Component	Objectives	Performance Requirements (Targets)
Environmental assessment	▪ To identify or obtain information on any relevant environmental impact that the construction of the BESS Project may cause.	Construction contractor to assess whether construction works have the potential to cause environmental impacts and develop works-specific management measures prior to construction commencing.
Risk assessment and management	▪ To identify and rank all potential risks that may arise from the construction of the BESS Project. ▪ To implement risk management strategies to reduce all significant risks to the environment to acceptable levels.	Risk assessment to be completed prior to construction commencing.
Contractor-specific CEMP	▪ To develop an environmental management plan to reduce the adverse impact of construction activities on the environment.	Contractor-specific CEMP or subordinate plan to be produced by construction contractor to provide additional details and works-specific management measures prior to construction commencing and implemented throughout construction.
Erosion, Stormwater management and sediment control	▪ To minimise the quantity of soil lost during construction due to land-clearing. ▪ To manage soil stockpiles so that dust and sediment in run-off are minimised. ▪ To minimise the impact of contaminated stormwater on receiving waters. ▪ To ensure that de-watering operations do not result in turbid water entering natural waterways.	Stormwater discharged from the premises must not be contaminated with waste in accordance with Condition WA_W8 of WA58927. No deterioration in water quality (sediment and/or contaminant loading) of surface water bodies. Construction activities undertaken in accordance with erosion, stormwater and sediment control management outlined in Section 3.1.
Air quality and dust control	▪ To ensure there is no health risk or loss of amenity due to emission of dust or exhaust gases to the environment.	Construction activities undertaken in accordance with air quality and dust control measures outlined in Section 3.2.

<table>
<tr><td>Noise and vibration</td><td>To ensure that, in accordance with the MPS EPA Licence (EPA Licence 8750) there are no emissions from noise and/or vibration from the premises which are detrimental to either of the following:
a. The environment in the area around the premises; and
b. The wellbeing of persons and/or their property in the area around the premises.</td><td>Noise monitoring results are compliant with the Works Approval WA58927 Construction Period Noise Limits, as follows:<table><tr><th>Time Period</th><th>Noise Level dB(A)</th></tr><tr><td>DAY</td><td>55 dB(A)</td></tr><tr><td>EVENING</td><td>39 dB(A)</td></tr><tr><td>NIGHT</td><td>34 dB(A)</td></tr></table></td></tr>
<tr><td>Waste and contaminated material</td><td>▪ To minimise the waste volume sent to landfill.
▪ To ensure that all contaminated material uncovered on a construction site are excavated and disposed of in an environmentally responsible manner.
▪ To ensure that all litter is disposed of in a responsible manner and is not released into the environment.</td><td>Implement a waste minimisation program for the project site.
Construction activities do not result in the discharge of hydrocarbon or chemical waste from the premises to land, groundwater or surface waters in accordance with WA_W19 of WA58927.
Construction activities undertaken in accordance with waste and contaminated material management measures outlined in Section 3.4.</td></tr>
<tr><td>Storing fuels and chemicals</td><td>▪ To ensure that fuel and chemical storage is safe, and that any materials that escape do not cause environmental damage.</td><td>Construction activities are undertaken in accordance with EPA Publication 1698 and the management measures outlined in Section 3.5.</td></tr>
<tr><td>Flora and fauna</td><td>▪ Construction activities avoid and minimise the clearing of native vegetation and avoid and minimise impacts on significant flora, fauna and ecological values.</td><td>No impact to native vegetation excluding the removal of native vegetation within the eastern drainage line as per the Regrowth exemption.
Project activities conducted in accordance with the flora and fauna management measures outlined in Section 3.6.</td></tr>
<tr><td>Cultural heritage</td><td>▪ Minimise impacts on Aboriginal and historic cultural heritage places and values.</td><td>Project activities conducted in accordance with cultural heritage management measures outlines in Section 3.7.</td></tr>
</table>

3. Environmental Management Measures

The construction of the BESS Project will be undertaken in a manner which effectively manages the environmental aspects. Broad environmental management measures have been developed based on the requirements of the Moyne Planning Scheme (Section 1.6.1), DL1177 (Section 1.6.2) and the EPA Publication 480 (EPA, 1996) and recommendations from environmental assessments undertaken for the Expansion and BESS Projects.

The construction contractor would provide additional details and works-specific management measures to complement this CEMP prior to the commencement of construction activities.

Through its selection process, Origin will ensure that the chosen construction contractor has a robust environmental management system in place (e.g., a system developed in accordance with the ISO 14000 series).

3.1 Erosion, Stormwater Management and Sediment Control

The plant footprint associated with the BESS Project will be developed on an area previously subjected to cropping and grazing. Additional area to the south of the existing hardstand area will be used for laydown during construction and maintenance in an area that has also been previously subjected to cropping and grazing. The entire property surrounding the MPS is very flat, with only a couple metres of variation in elevation across the site.

Construction of the BESS and associated infrastructure will involve civil earthworks within the operational plant footprint.

The general erosion, sediment and water quality management measures for each activity are discussed below. Additional erosion control measures are to be developed as needed by the construction contractor prior to the commencement of construction works.

3.1.1 Erosion and Sediment Pollution Controls

Erosion and sediment pollution measures will be installed throughout the Project site in accordance with *EPA Publication 275: Sediment Pollution Control*, including those outlined below. These controls will be retained until the associated disturbed areas have regenerated.

- Erosion control measures will be installed prior to construction commencing, to minimise the amount of silt erosion and to prevent the export of sediments from the site. Measures may include geotextile silt fences (with sedimentation basins where appropriate) being located on all drainage lines which are likely to receive runoff from exposed and disturbed areas
- Erosion and sediment control structures shall be designed for the one in two-year average recurrence interval (ARI) storm event for temporary structures
- Existing vegetation surrounding the construction sites will be used as a buffer zone for filtering surface runoff wherever possible
- Monitoring for the accumulation of sediment in cut-off and table drains, and following procedures to remove and stockpile the accumulated material when required
- During site Induction training, all personnel shall be briefed on the requirements to manage erosion and sedimentation
- Erosion prevention shall be undertaken in preference to sediment retention on the site by using the following measures:

  - Vehicular traffic shall be restricted to the existing access road and designated site entry and exit points
  - Plant, equipment, and materials storage shall be restricted to constructed hard standings
  - Runoff should be diverted away from areas that are exposed or sensitive to erosion (e.g., stockpiles) to reduce the risk of erosion on the site
  - Exposed soil surfaces will be left rough to reduce the velocity of runoff and to increase infiltration to decrease erosion.
- Sediment retention structures shall be utilised wherever appropriate to trap entrained sediment in run-off.
- Work shall be scheduled to ensure:
  - The exposure of soil is minimised - i.e., a work area shall only be stripped when necessary and the work area shall undergo progressive rehabilitation
  - Disturbed areas are stabilised as early as practicable by restoring soil cover and/or structure and are progressively stabilised as each section of work is completed
  - Weather conditions are taken into consideration to minimise work during heavy rainfall events.
- Where localised erosion is identified, following weekly inspections or after a rain event, immediate remediation will occur to prevent any further erosion

3.1.2 Stormwater and Dewatering

MPS has an existing water management system which manages stormwater within the existing plant.

Discharge of any collected runoff will be conducted in accordance with the EPA Publication 1834, Guidance sheet 11: Wastewater, to ensure that discharge does not result in turbid or contaminated water entering natural waterways.

Dewatering of construction worksites is not expected, however if required, dewatering activities will be undertaken in accordance with the construction contractor's site-specific CEMP.

3.1.3 Stockpiles and Batters

Construction of the BESS and associated infrastructure will involve civil earthworks within the operational plant footprint, including fill and construction of associated fill batters. During the civil works, temporary soil and construction material stockpiles would be established. The following actions will be undertaken where appropriate:

- Land disturbances will be confined to the minimum practicable working area for each site.
- All soil removed will be stockpiled, with topsoil and subsoil being stockpiled separately. Soil will then be replaced as soon as possible; in the order it was removed.
- Stockpiles to be located away from areas of inundation.
- Stockpiles will be located away from the constructed drain.
- Where practicable, stockpiles will be constructed with a gradient of less than 2:1 (horizontal: vertical).
- Stockpiles are to be stabilised through mulching topsoil, compaction or seeding the stockpile with sterile grasses, if anticipated to be required for longer than 28 days.
- Surface water measures shall divert flows away from stockpiled materials.

- Avoid overwatering during dust suppression to prevent surface water ponding and running off through excessive use.
- Sediment, erosion, and litter control measures will be installed around exposed and disturbed areas, including unstable stockpiles, to prevent the export of sediments from the site.

3.2 Air Quality and Dust Control

As a result of land disturbance and construction of the Project, there is potential for nuisance dust effects on surrounding areas/neighbours. There is also potential for further air emissions from diesel exhaust emissions from vehicles and machinery.

The MPS EPA Licence (EPA Licence 8750) requires that Origin ensures that odours offensive to the senses of human beings are not discharged, emitted or released beyond the boundaries of the premises during construction activities.

3.2.1 Dust

To mitigate the impacts of dust, and avoid dust nuisance to any residential areas, the following measures are recommended:

- Stockpiles should be removed from site as soon as possible.
- During the construction period, control dust emissions through localised water spraying (particularly on stockpiles and hardstand surfaces).
- During drier periods of the year with high evaporation rates, review daily weather updates to provide adequate warning of likely strong winds, to assist with daily management of wind-blown dust.
- Cover vehicle loads while transporting material, where practicable.
- Investigate the need for rumble grids to be installed at entry point to the access road to remove any residual material on wheels to prevent dirt being tracked onto roads.
- Deploy street sweeping in the event that mud or soil build up is detected at intersection with Connewarren Lane.
- Investigate the need to install dust screens and/or wind fences to shield exposed areas.
- Revegetate disturbed areas as soon as practicable.

3.2.2 Other Emissions

Diesel exhaust emissions will arise from the use of machinery and construction vehicles. Likely pollutants in the exhaust emissions include sulphur dioxide (SO2), nitrogen oxides (NOx), PM10, carbon monoxide (CO), and carbon dioxide (CO2).

The impacts of products of combustion are only expected to be localised around the emission source. They have the potential to impact workers' comfort, if not properly controlled, but on a regional scale, the incremental increase in emissions is expected to be minor.

To minimise the above impacts, the following measures will be considered:

- Shutting down machinery when not in immediate use.
- Minimising unnecessary vehicle movements.
- Operating vehicles using efficient driving practices.
- Regularly servicing and maintenance of vehicles and other machinery using qualified personnel.

3.3 Noise and Vibration

The MPS EPA Licence (EPA Licence 8750) requires that Origin ensures that there are no emissions of noise and/or vibration from the premises which are detrimental to either of the following:

a) The environment in the area around the premises; and

b) The wellbeing of persons and/or their property in the area around the premises.

Development Licence 1177 includes Construction Period Noise Limits, as follows (Table 4):

Table 4: Construction Period Noise Limits

Time Period	Noise Level dB(A)
DAY	55 dB(A)
EVENING	39 dB(A)
NIGHT	34 dB(A)

The BESS Project will be constructed in accordance with these noise design targets.

The potential noise and vibration impacts of the BESS and Expansion Projects were assessed by Sonus (2023). This assessment included recommended measures to manage noise emissions associated with the construction of the BESS Project.

The exact nature of the construction techniques and equipment for the BESS Project will be determined by final equipment selection and site-specific requirements for the construction contractor. Sonus (2023) assessed the potential noise levels from a "worst-case" construction fleet, with sound power levels for each piece of equipment based on Appendix D of AS 2436-1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites*. The equipment assessed, and maximum overall sound power levels were:

- Hand-held grinder – 106 A-weighted decibels (dB[A])
- Loader – 120 dB(A)
- Truck – 120 dB(A)
- Excavator – 118 dB(A)
- Generator – 119 dB(A)
- Air Compressor – 107 dB(A)
- Crane – 123 dB(A)

Sonus (2023) predicted a noise level lower than the Noise Design Target of 34 dB(A) that applies to continuous noise at night and therefore is unlikely to result in any significant impact.

The construction noise predictions, as well as specific noise mitigation and management measures, would be reassessed using Publication 1834: *Civil Construction, Building and Demolition Guide*, following the commissioning of a construction contractor and determination of the actual construction fleet to be used. Publication 1834 Provides recommendations on how to meet the General Environmental Duty under the EP Act.

Sonus (2023) recommended the following acoustic treatment be considered for the construction of the Expansion Project:

- Ensure all construction activity for the power station occurs during normal hours (7:00 am and 6:00 pm Monday to Friday and 7:00 am to 1:00 pm Saturday), unless a further environmental noise assessment is undertaken. Where necessary, works or activities outside normal working hours may occur for:
  - Low-noise impact works (such as internal fitout, painting or cabling);
  - Managed impact works (works where the noise emissions are managed through actions specified in a noise and vibration management plan);
  - Unavoidable works (works which pose a major traffic hazard, an unacceptable risk to life or property, or works which have commenced during normal working hours but cannot be stopped).
- Where construction activities are necessary or desired to occur outside of the above hours, undertake either an additional noise assessment when details of construction equipment is known, or conduct on-site noise monitoring. Note that background noise monitoring at the most affected receiver locations in the absence of construction activities is likely to be required to inform the allowable levels.
- For works outside of normal working hours, Publication 1834 provides the following objective criteria:
  - Day/evening: noise level from non-residential construction at any residential premises not to exceed background noise by:
    - 10 dB(A) or more for up to 18 months after project commencement;
    - 5 dB(A) or more after 18 months.
  - Night: noise inaudible within a habitable room of any residential premises.
- Ensure that all construction activity incorporates “best practice” techniques for the control of noise to sensitive land uses in the vicinity. Examples of practices which may assist in minimising the noise impacts associated with the construction works include the following:
  - Undertake preparatory work offsite where there is low potential for impacting people;
  - Restrict areas where mobile plant can operate so that it is away from people who could be affected by noise;
  - Locate site vehicle access and waiting areas away from people who could be affected by noise;
  - Plan vehicle movements to avoid manoeuvres and idling at location nearest to nearby people;
  - Use quieter equipment or methods. This may require considering:
    - Buying or leasing quieter equipment;
    - Avoiding metal-to-metal and metal-to-stone contact;
    - Installing mufflers;
    - Reducing throttle and turning off equipment when not in use;
    - Placing things down rather than throwing;
    - Educating drivers to use driving practices that minimise noise.
  - Use electrical equipment rather than equipment driven by a diesel generator;
  - Use broadband reversing alarms;
  - Ensure that plant, equipment and vehicles are well maintained and in good working order (including enclosures, mufflers or other noise mitigation measures).

3.4 Waste and Contaminated Material

The construction of the BESS Project will involve the production of various wastes. These wastes may include the following:

- Solid Wastes – timber and concrete formwork, scrap steel and off-cut, plaster board, insulation materials, food scraps, plastics and general office waste. These waste materials will be stockpiled separately, recycled where possible or sent to a licenced landfill.
- Liquid Wastes – Certain activities during construction and commissioning will produce waste liquid effluent streams (e.g., chemical cleaning, sewage effluent) that will be collected on site in temporary facilities and disposed of by licenced effluent disposal contractors.

3.4.1 Waste Reduction

Waste generated through the construction of the BESS Project will be reduced by selecting, in order of preference, avoidance, reduction, reuse and recycling.

The construction contractor will undertake a waste minimisation assessment which examines opportunities for waste avoidance, reduction, reuse and recycling specific to the materials required for their construction. Following this assessment, specific waste minimisation targets and measures will be incorporated into this CEMP.

3.4.2 Litter

It will be the responsibility of the construction contractor to maintain a high quality of housekeeping and ensure that materials are not left where they can be washed or blown away to become litter during construction of the BESS Project. The following measures should be implemented:

- Provide bins for construction workers and staff at locations where they consume food.
- Conduct ongoing awareness with staff of the need to avoid littering.

3.4.3 Contaminated Material

Should any contaminated materials or wastes be uncovered during the earthworks for the BESS Project, the following management measures will be implemented:

- Assay material uncovered on-site prior to disposal. If the wastes include putrescible wastes, then also analyse leachate and landfill gases.
- Excavate material in a manner which avoids off-site environmental problems.
- Seal remaining contaminated material of wastes, where only part of the tip has been excavated, to ensure that there is no off-site effect now or in the future.
- Transport odorous wastes in covered vehicles.
- Dispose of contaminated material in a landfill licensed to take the type of contaminated material or wastes uncovered.

3.4.4 Liquid Wastes

Liquid wastes will be managed in accordance with the requirements of EPA publication 1698 for the specific fuels and chemicals stored on site EPA Publication 1698 (EPA, 2018).

3.5 Storage of Chemicals and Fuels

Construction of the BESS Project may involve the storage and handling of chemicals and fuels.

Prior to the commencement of construction, specific management measures will be developed by the construction contractor for the handling and storage of chemicals and fuels in accordance with the *Liquid*

storage and handling guidelines (EPA Publication 1698) (EPA, 2018). The general measures to be implemented will include the following:

- Minimise fuels and chemicals stored onsite.
- Install bunds and take other precautions to reduce the risk of spills in accordance with EPA Publication 1698.
- Implement a contingency plan to handle spills, so that environmental damage is avoided.

3.6 Flora and Fauna

The proposed infrastructure of the BESS Project will be located in a historical cropping and grazing area which contains negligible ecological values. The construction footprint and maintenance laydown will be located in the paddock directly to the south of the existing hardstand area.

Four listed Threatened Ecological Communities (TECs) are modelled to occur within the vicinity (10 km) of the site as determined through the PMST (NGH, 2023), including:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Natural Temperate Grassland of the Victorian Volcanic Plain
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

All four TECs are listed as Critically Endangered reflecting the general scarcity of native vegetation in the western Victorian Volcanic Plains area. None of these TECs were identified on site (NGH, 2023).The PMST found 10 bird species, three fish species, one frog species, one insect, one reptile, seven mammals and 17 plant species within 5 km of the site (NGH, 2023). However, all EPBC Act and *Flora and Fauna Guarantee Act 1988* (FFG Act) listed flora and fauna have a low likelihood of occurring on site, and no EPBC or FFG listed vegetation communities occur on site.

Modelling of pre-European occupation Ecological Vegetation Classes (EVCs) distribution shows the site likely contained Plains Grassland (EVC 132) and the nearby EVCs included Plains Grassy Woodland (EVC 55) and Plains Grassy Wetland (EVC 125). This vegetation has been cleared from the site (note: regrowth of EVC 125 has occurred).

MPS contains two small patches of native vegetation that are classed as EVC 125 (Plains Grassy Wetland). These patches, located on dams, have been designated as environmental protection zones by Origin Energy and will not be impacted by the BESS.

Plains Grassy Wetland is also located along the drainage lines that surround the BESS Project area. The western drainage line native vegetation, along with a small scattered tree, do not lie within the construction or operational footprints of the BESS. However, given the proximity to the Project footprint, the mitigation measures outlined below will be adhered to for the western drainage line.

The BESS footprint overlaps the eastern drainage line and thus impacts the corresponding Plains Grassy Wetland patch. However, through the regrowth exemption, this native vegetation can be removed. By comparison of Figure 5-3 in the NGH Ecological Assessment and Figure 5 in the Jacobs Flora and Fauna Assessment, the Plains Grassy Wetland patch within the eastern drainage line is less than 10 years old and can therefore be removed.

The recommended construction management measures of the Flora and Fauna Assessment (Jacobs, 2019a) and the Ecological Assessment (NGH, 2023) for the BESS Project are as follows:

- Construction must be managed in a way that does not cause harm to human or the environment and is line with the General Environmental Duty, as per the EP Act. This includes changes to water quality that make the waterways 'potentially harmful to animals, birds, wildlife, fish or aquatic life'.

- In accordance with the Victoria *Wildlife Act 1975*, if any wildlife is located within habitat proposed for clearing, capture and relocation of such wildlife may be required.
- Erect fencing and 'no-go zone' signage to avoid access to the (western) drainage areas and the dams to the east of the BESS footprint.
- Inform all staff and contractors on site of the EVC mapped areas as areas to avoid.
- Establish an unexpected finds protocol for fauna management (particularly for large wildlife such as emus and kangaroos), including requirements that:
    - Details of a suitably qualified and local wildlife handler, ecologist or representative from Wildlife Victoria are available on site in the event that the Project needs to carry out any relocation of wildlife.
    - Any injured or harmed wildlife are only managed by a suitably qualified wildlife handler, ecologist, or a representative from Wildlife Victoria and to relocate the individual to an appropriate care facility.
    - Fencing is established around construction areas to exclude wildlife from works areas and minimise unnecessary harm or injury to wildlife.

3.6.1 Weeds

Declared weed species are present within the investigation area of the Flora and Fauna Assessment (Jacobs, 2019a).

Weed mitigation measures should be implemented to control weeds and to prevent increase in the populations of these species as a result of the proposed works. These mitigation measures should be implemented in accordance with obligations under the *Catchment and Land Protection Act 1994* and include the following:

- Flora species not currently present on the site shall not be deliberately introduced, even on a temporary basis, during construction.
- Replacing excavated soil as soon as practicable to prevent the germination and establishment of weeds.
- Reinstatement with previously removed topsoil, return to cropping (or grazing) as quickly as practicable.
- Enforcement of restrictions for the movement of vehicles and machinery along access road and through designated entrance and exit point.
- Limiting access to any identified areas of high infestation of noxious weeds, where possible, to those staff directly addressing the invasive species.
- All stockpiles remaining at the conclusion of the construction phase are to be removed and rehabilitated, and all temporary cleared areas, such as lay down areas, are to be remediated to prevent the establishment of weeds.

3.7 Cultural Heritage

No Aboriginal or historic cultural heritage sites have been identified through cultural heritage assessments within the MPS site. Origin currently implement cultural heritage training for site staff. This training includes the following process for monitoring:

- Due care during earthworks and disturbance of land by staff via adequate supervision of activities.
- Identified sites will go on a register and reviewed prior to any works in that area.

The following actions are to be taken if unexpected finds are discovered:

- If contractors working on a site and are unsure if they have come across a cultural heritage site, contractor is to implement the Origin “Authority to Stop Work” and contact their supervisor.
- All observations and incidents associated with the discovery, disturbance, damage and/or taking of cultural heritage items must be reported immediately to the Site Responsible Manager.
- Sites confirmed as cultural heritage sites of significance will be listed on the site register.

The Origin Incident Management Procedure (Document Reference Number: HSE-PRO-025) is to be followed in the event of a cultural heritage find. During construction, staff will continue to undergo Origin’s cultural heritage training.

4. Implementation and Operation

This CEMP provides the management framework and general management objectives and measures which should be implemented during construction of the BESS Project.

The CEMP will be complemented with specific environmental management documents or subplans following the engagement of a construction contractor. Through its selection process, Origin will ensure that the chosen construction contractor has a robust environmental management system in place (e.g., a system developed in accordance with the ISO 14000 series). The implementation of the CEMP will be the responsibility of this contractor. The implementation of the CEMP should consider the following:

- Environmental roles and responsibilities for line supervisors, employees, subcontractors, and consultants.
- Personal accountabilities.
- Responsibilities and authorities.
- Training:
  - Site induction;
  - Site training and awareness sessions;
  - Emergency Procedures;
  - Training records;
- Communication
  - External communication;
  - Internal communication;
- Environmental Management System documentation
- Control of management records
- Operational control / procedures
- Design management
- Subcontractor selection.

5. Monitoring and Inspections

5.1 Environmental Monitoring and Inspections

Table 5 provides a general program to monitor environmental impacts of the construction of the BESS Project. These measures were developed from the EPA Publication 1834 and will be further developed by the construction contractor prior to commencement of construction to ensure that the program adequately monitors the specific activities associated with the construction of the BESS Project. This program will be added to as needed by the construction contractor.

Table 5: Construction Environmental Monitoring Plan

Area of Risk	Performance objective	Control procedures / measures	Monitoring indicators / requirements	Monitoring frequency	Recommended responsibility (TBC)
Erosion, stormwater management and sediment control	▪ To minimise the quantity of soil lost during construction due to land-clearing. ▪ To manage soil stockpiles so that dust and sediment in run-off are minimised.	Measures outlined in Section 3.1	Conduct regular inspections to ensure installations are working effectively.	Weekly, as triggered by wet weather requirements	Contractor Construction Site Supervisor
			Check for localised erosion on site. Special attention will be paid to works on relatively steep gradients or near the constructed drain.	Weekly, as triggered by wet weather requirements	Contractor Construction Site Supervisor
	▪ To minimise the impact of contaminated stormwater on receiving waters. ▪ To ensure that dewatering operations do not result in turbid water entering natural waterways.	Measures outlined in Section 3.1	Complete a baseline water quality survey of environment downstream of constructed drain.	Prior to construction commencing	Contractor Site Safety & Environment Officer
			Monitor water quality to identify contamination from construction processes and	Weekly, and as triggered by wet weather requirements	Contractor Construction Site Supervisor

			any additional control measures required		
			Measure turbidity on the input and output side of control devices during wet weather inspections.	As triggered by wet weather requirements	Contractor Construction Site Supervisor
Air quality and dust control	▪ To ensure there is no health risk or loss of amenity due to emission of dust or exhaust gases to the environment.	Measures outline in Section 3.2	Presence of dust and other particulate against baseline air quality. Community/ residential complaints.	Daily	Contractor Construction Site Supervisor
Noise and vibration	▪ To ensure that, in accordance with the MPS EPA Licence (EPA Licence 8750) there are no emissions from noise and/or vibration from the premises which are detrimental to either of the following: ▪ The environment in the area around the premises; and ▪ The wellbeing of persons and/or their property in the area around the premises.	Measures outlined in Section 3.3	Community/ residential complaints If community complaints are received, then monitoring will be undertaken at affected residences to ascertain compliance with EPA Noise Control Guidelines	As required by complaints	Contractor Construction Site Supervisor
Waste and contaminated material	▪ To minimise the waste volume sent to landfill. ▪ To ensure that all contaminated material uncovered on a construction site are excavated	Measures outlined in Section 3.4	Presence of litter and general cleanliness of site Waste segregated, recyclables collected and	Daily	Contractor Site Safety & Environment Officer

	and disposed of in an environmentally responsible manner. ▪ To ensure that all litter is disposed of in a responsible manner and is not released into the environment.		other wastes disposed of appropriately		
Storing fuels and chemicals	▪ To ensure that fuel and chemical storage is safe, and that any materials that escape do not cause environmental damage.	In accordance with the requirements of EPA Publication 1698 for the specific fuels and chemicals stored on site.			Contractor Site Safety & Environment Officer
Flora and fauna	▪ Construction actives avoid and minimise the clearing of native vegetation and avoid and minimise impacts on significant flora, fauna and ecological values.	Measures outlined in Section 3.6	Any impact to, or clearance of, native vegetation is to be reported immediately and logged in an environmental incidents register for investigation and follow up (with the exception of the native vegetation patch traversing the eastern drainage line within the construction and operational footprint of the BESS Project).	As required by disturbance activities.	Contractor Site Safety & Environment Officer
Cultural heritage	▪ Minimise impacts on Aboriginal and historic cultural heritage places and values.	Measures outlined in Section 3.7	All observations and incidents associated with the discovery, disturbance, damage and/or taking of	As required by disturbance activities	Contractor Site Safety & Environment Officer

			cultural heritage items must be reported immediately to the Site Responsible Manager.		

6. Incidents, Complaints and Emergency Response

6.1 Incidents

The construction contractor will be required to develop and implement an Environmental Incident Response Plan prior to the commencement of the construction of the BESS Project, in consideration of the Origin Incident Management Procedure (Document Reference Number: HSE-PRC-048). The Environmental Incident Response Plan should include the following as a minimum:

- Responsibilities for the implementation of the plan.
- Response actions.
- Notification, documentation and reporting procedures.

6.2 Complaints

Origin implements the Complaint Handling Procedure (Document Reference Number: GEN-HSE-PRC-001) which maintains a register of any complaints received regarding the MPS. The plan will be updated to incorporate the BESS Project prior to the commencement of construction activities.

All complaints received relating to the construction activities should also be recorded in a Complaint Register maintained by the construction contractor which records the following as a minimum:

- The date and time of the complaint, where relevant.
- The means by which the complaint was made (e.g., telephone, mail or email).
- Any personal details of the complainant that were provided, or if no details were provided, a note to that effect.
- The nature of the complaint.
- Any action taken in relation to the complaint, including any follow-up contact with the complainant.
- If no action was taken in relation to the complaint, the reason(s) why no action was taken.

6.3 Emergency Response

Origin implements the Mortlake Power Station Emergency Response Plan (Document Reference Number: MPS-HSE-ERP-001) which sets the emergency response protocol followed at the MPS.

Origin will update the Mortlake Emergency Response Plan in cooperation with the construction contractor prior to the commencement of construction, to ensure that appropriate emergency response protocols are in place for the specific activities associated with the construction of the BESS Project.

The Mortlake Emergency Response Plan must be included in all induction processes and posted in obvious locations.

7. Reporting and Notification

The adoption of a clearly defined reporting program will ensure that a transparent approach is followed when reporting on the environmental performance of the BESS Project during construction and operation. A reporting program will be developed by the construction contractor in coordination with Origin for inclusion in an updated CEMP, with the environmental reporting and review requirements to broadly include the reporting of:

- Compliance Reporting – regular reporting detailing the results of the monitoring programs under approved management plans, a comparison of actual performance against goals and objectives, and the identification of corrective actions;
- Incident Reporting – the incident reporting and investigation process will be a valuable method of addressing shortcomings in procedures, training or equipment and forms part of the opportunity for improvement. Where lessons are learnt from the investigation or current procedures are identified as being ineffective, the CEMP will be revised to include the improved procedures or requirements. Moyne Shire Council and EPA will be advised if a notifiable environmental incident occurs; and
- Statutory Notification – required where there has been a non-compliance with legislation or approval conditions; or actual or potential harm to the health or safety of human beings or the environment is considered significant.

In accordance with Conditions WA_W4 and WA_W5 of WA58927, Origin must notify EPA when the construction of the works associated with the BESS Project have commenced, and again when these construction works have been completed.

7.1 Environmental Audits

Environmental audits of the Project (both internal and external) will be undertaken if required, with the objective of determining the appropriateness of the CEMP in achieving environmental objectives and performance goals throughout the BESS Project construction. If required, audits will be undertaken in accordance with predetermined protocols. Internal audits may be undertaken by independent persons.

8. References

Andrew Long & Associates (2005) *Mortlake Power Station Cultural Heritage Assessment*.

Bilfinger Berger Services (2008) *Environmental Management Plan BBS Mortlake Power Station*.

Bilfinger Berger Services (2009) *Development Plan Mortlake Power Station*.

Coffey (2004) *Geotechnical Review of Proposed Gas Pipeline Corridor, Iona to Mortlake, Victoria Refinement of Pipeline Route*.

Coffey (2005) *Proposed Gas Pipeline, Iona to Mortlake, Victoria, Slope Risk Review, New Corrimuncle Road, Timboon*.

Commonwealth of Australia (1992) *National Strategy for Ecologically Sustainable Development*.

Commonwealth of Australia (2018) *Australian Dangerous Goods Code*.

Environment Protection Authority Victoria (1991) *Construction Techniques for Sediment Pollution Control*. EPA Publication 275.

Environment Protection Authority Victoria (2011) *Noise from Industry in Regional Victoria Guideline*. EPA Publication 1411.

Environment Protection Authority Victoria (2018) *Liquid Storage and Handling Guidelines*. EPA Publication 1698.

Environment Protection Authority Victoria (2020)*Civil construction, building and demolition guide* . EPA Publication 1834.

Environment Protection Authority Victoria (2021) *Victorian guideline for water recycling*. EPA Publication 1910.

Environment Protection Authority Victoria (2021) *Technical information for the Victorian guideline for water recycling.* EPA Publication 1911.

Glenelg Hopkins Catchment Management Authority (2019) *Weeds of the Glenelg Hopkins Catchment* .

Glenelg Hopkins Catchment Management Authority (2021) *Glenelg-Hopkins Regional Catchment Strategy 2021-2027*.

Jacobs (2019a) *Mortlake Power Station Expansion Project Flora and Fauna Assessment*.

Jacobs (2019b) *Mortlake Power Station Expansion Air Quality Assessment*.

NGH (2023) *Ecological Assessment – Mortlake Terminal Station*.

Origin Energy Power Limited (2005) *Mortlake Power Station Project Environmental Effects Statement Volume 1 – Main Report*.

Sonus Pty Ltd (2020) *Mortlake Power Station Expansion Environmental Noise Assessment*.

Sonus Pty Ltd (2023) *Mortlake Power Station Battery Energy Storage System and Gas Turbine Expansion Noise Assessment.*