

Solar River Project

Application Number: **02488**Commencement Date:
02/07/2024Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Solar River Project

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Solar Farm

1.1.4 Estimated start date *

01/01/2025

1.1.4 Estimated end date *

31/12/2056

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The proposed action by ZEN Energy relates to the construction and operation of a 230 MegaWatt (MW) solar array (the solar facility), up to 2048 Mega Watt hours (MWh) battery energy storage system (BESS) and will involve the development of an overhead transmission line (OTL) to connect the array to the existing Bunday Substation (the easement).

It is intended that the Solar River Project will be capable of providing 256MW of clean electricity to the South Australian energy network, with the solar farm being nominally 230MWdc. Battery storage capacity is expected to be a maximum of eight hours and a minimum of two and a half hours.

The nominated site access point is the existing Kungara Road, an Infrastructure Agreement with the Mid Murray Council in relation to upgrading of Kungara Rd is being negotiated.

Development of the solar facility encompasses:

- 589.83 hectares (ha) of solar array area and surrounding buffer/asset protection zone,
- ~400,000 solar panels,
- 46 inverter stations,
- Associated wiring and electrical components required to interconnect the inverter blocks to each transformer and all necessary electrical protection equipment,
- 6 mono-pole transmission poles (approximately 30 m in height) – from site substation to site boundary (transmission lines continue beyond this point),
- Internal site access tracks of minimum 3 m in width, and approximately 18km aggregate length, totalling approximately 5.4ha,
- Upgrade of the existing Kungara Rd,
- Control room, switchgear building, high voltage (hv) substation/switchyard, site office and carpark for employees and contractors. (11.25 ha),
- Drainage works including nominal three swale drainage points,
- Security fencing of the administration and control area (1,260 m of approximately 3 m high chain wire fencing),
- Internal stock fencing will be confirmed with the landholders prior to commercial operations,
- Lightning protection masts (substation area only),
- Flood lighting ,
- Up to 2048 MWh BESS distributed throughout the solar array, located in clusters at each of the 46 inverter stations.

It should be noted that these values will vary subject to detailed design.

Development of the new easement encompasses:

- 23.8 km of overhead transmission line (275kV),
- 800 m of site access tracks,
- 800m buried HV cable within the ElectraNet Bunday substation property,
- 71 mono-pole power poles (less than 30 m in height),
- 0.60 ha of tower hardstands,
- Associated wiring and electrical components required to interconnect the inverter blocks to each transformer and all necessary electrical protection equipment,
- Stringing corridor.

It should be noted that these values will vary subject to detailed design.

The Project Area totals 5562.3 ha. Construction of the solar array and easement will require some clearance of native vegetation. Construction of the solar array will involve partial clearance whereby larger shrubs and isolated trees will be removed, but grassland and understorey species will be retained both beneath and between individual solar panels. Ground-up clearance for construction of the OTL will be restricted to where hardstands are required and where access tracks do not already exist. The potential for use of aerial stringing (e.g. helicopter or drone) will be considered but is not factored into the clearance estimates provided herein

The clearance area approved by the Native Vegetation Council (NVC) totals 602.73 ha which can be divided into 589.83 ha for the solar facility The Project Area incorporates a Disturbance Footprint of 621.37 ha and an Avoidance Area of 4,959.57 ha. Within the Disturbance Footprint, up to 602.73 ha of native

vegetation will be impacted; which can be divided into 589.83 ha for the solar facility and 12.90 for the OTL.

The Avoidance Area was determined through the iterative design process. During this process, areas for proposed infrastructure were micro-sited and relocated to avoid mallee vegetation and Threatened Ecological Communities as far as practicable. Where it has not been possible to avoid these constraints, impact has been minimised by placing infrastructure requiring temporary clearance only, such as the OTL stringing corridor, in these areas where possible to do so. Consideration has been given to areas of suitable Southern Whiteface (*Aphelocephala leucopsis*) habitat whereby a 100 m buffer has been applied to suitable habitat and these areas have been avoided where possible to do so.

ZEN Energy estimates that construction of the Project will begin in 2025 and that the solar farm will begin to supply electricity to South Australia in 2026. ZEN Energy plan to assist the South Australian Government in achieving net 100% renewable electricity for the State by 2030.

Once solar panels and battery cells have reached the end of their life, ZEN Energy intends to engage domestic recycling operations to handle the PV modules and lithium-ion batteries. The components that will be used by ZEN Energy have a service life of >20 years.

Broadly, timeframes for the Project are:

- Main construction start: First quarter of 2025
- Construction end: Third quarter of 2026
- Commissioning: Fourth quarter of 2026
- Operation/generation commencement: Fourth quarter of 2026
- Operation/generation commencement: Fourth quarter of 2026
- Decommissioning: 2056 (approximately).

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

Yes

1.2.5 Provide information about the staged development (or relevant larger project).

This referral considers Stage 1 of potentially a two-stage solar farm project. Stage 2, if progressed, would comprise an approximate 612 ha site (inclusive of solar array and ancillary infrastructure) located directly north of the proposed Stage 1 area. The Stage 2 Area is situated on agricultural land and would adjoin the Stage 1 Area.

The exact Stage 2 area and design is still under consideration by ZEN, however, if progressed, would likely encompass a similar sized solar array as Stage 1.

The progression of Stage 2 would likely be dependent on the completion of Stage 1; with the two facilities anticipated to share certain infrastructure, including transmission line corridor, switchyard, substation connection, operations and maintenance facilities and site access.

At present, only the Stage 1 Area is a subject of this Referral. Referral in relation to Stage 2 is not required as development will not cause direct impact to any MNES. All areas determined to be suitable habitat for Southern Whiteface (as identified in Att 1 Solar River Stage 2 Ecological Assessment-REDACTED, Section 6.2.1, Figure 6, p37) have been avoided within the design and incorporate a 100 m buffer which will be treated as an exclusion zone by ZEN. There are no other MNES relevant to the Stage 2 area. Further detail is available within Solar River Stage 2 Ecological Assessment (Att 1 Solar River Stage 2 Ecological Assessment-REDACTED).

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Commonwealth legislation

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Determining impacts to Matters of National Environmental Significance including but not limited to:

- Wetlands of international importance
- Listed Threatened species and ecological communities
- Migratory species protected under international agreements

Referral to and approval by the minister against the EPBC Act is required where there will be significant impact to a MNES.

The following MNES are applicable to the proposed action:

- Southern Whiteface (*Aphelocephala leucopsis*), EPBC Vulnerable
- Hooded Robin (*Melanodryas cucullata cucullata*), EPBC Endangered
- Mallee Bird Community of the MDD Bioregion TEC, EPBC Endangered
- Plains Mallee Box Woodland of the MDD Bioregion TEC, EPBC Critically Endangered

Native Title Act 1994

The commonwealth *Native Title Act 1993* (NTA) is part of the commonwealth's response to the High Court's decision in *Mabo v Queensland (No.2)* and adopts the common law definition of native title, defined as the rights and interests that are possessed under the traditional laws and customs of Aboriginal people in land and waters. Consultants IHC searched SA Native Title Vision Web Map for information relating to the current native title status of the project area. The search revealed that there is currently no accepted native title claims over the Project Area.

Provisions within the NTA allow for the states to develop their own native title legislation provided the state legislation does not conflict with the commonwealth Act. South Australia has enacted an alternative state 'right to negotiate' scheme authorised by the commonwealth under section 43 of the NTA.

The OTL occurs within the First Peoples of the River Murray and Mallee Region Native Title Claim and is adjacent to the Ngadjuri Nation Native Title Claim area.

State legislation

National Parks and Wildlife Act 1972 (NPW Act)

Assessment of impacts to State listed flora and fauna and compliance with conditions imposed upon permits and approvals. Fauna and flora surveys were conducted within the Project Area in accordance with the appropriate permit (K25613-23).

Native Vegetation Act 1991 (NV Act)

Assessment of proposed native vegetation clearance against the NV Act Principles of Clearance and approval from the Native Vegetation Council (NVC). A clearance application and variations to the application have been submitted under NVC 2018/3066/010. The NVC resolved to endorse clearance as described in the application. The State Commission Assessment Panel for Development Application granted development consent for the Project.

A clearance application and variations to the application have been submitted under Regulation 12, Schedule 1, Clause 34 (NVC 2018/3066/010).

An addendum was prepared and submitted for Solar River. The addendum included an addition of 12.91 ha of native vegetation clearance to the 589.83 ha originally under application. Total clearance within the application amounts to 602.73 ha.

Landscape South Australia Act 2019 (LSA Act)

Obligation to ensure management of declared pest plants and animals. A water affecting activity permit may be required for impacts to the Burra Creek within the Project Area.

A permit for transportation of Declared Weeds and/or soil containing Declared Weed material will be obtained if necessary. Weed hygiene procedures will be incorporated into the CEMP (Construction Environmental Management Plan) and OEMP (Operational Environmental Management Plan) to prevent incidental transportation of weed material. *Lycium ferocissimum* (African Boxthorn) and *Xanthium spinosum* (Bathurst Burr) were recorded within the Project Area.

Planning, Development and Infrastructure Act 2016 (PDI Act)

The PDI Act repealed the *Development Act 1993*. The Act, along with the Planning, Development and Infrastructure (General) Regulations 2017 and Planning and Design Code, provide the legislative framework for carrying out planning and development works within South Australia. The Planning and Design Code replaced all council development plans to become the single source of planning policy for assessing development applications. No development can be undertaken without an appropriate Development Approval being obtained from the relevant authority after an application and assessment process.

The proposed location of the BESS falls under the Remote Areas Zone under the P&D Code. No Subzones apply. Within this Zone, Renewable Energy Facilities are classified as Impact Assessed development where they are also located under the Significant Landscape Protection Overlay or Character Preservation District Overlay. BESS facilities are specifically excluded from this classification. This classification does not apply to this variation, as the variation within this Zone relates only to the BESS components of the Solar River Project, and neither of the specified Overlays apply across the area. No other classification is given to the proposed infrastructure, and hence, the BESS would default to Performance Assessed development.

The proposed transmission line variation is located under the Rural Intensive Enterprise Zone, Rural Intensive Enterprise Zone and Rural Zone under the P&D Code. There are no applicable Subzones. Under the relevant Zones, neither transmission lines nor infrastructure associated with a Renewable Energy Facility are assigned a classification, and therefore the transmission line variations default to Performance Assessed development.

The following Overlays apply:

- Hazards (Bushfire – Regional) Overlay (transmission line only),
- Hazards (Bushfire – Outback) Overlay (BESS only),
- Hazards (Flooding – Evidence Required) Overlay,
- Key Outback and Rural Routes Overlay (transmission line only),
- Native Vegetation Overlay,
- Murray Darling Basin Overlay,
- Water Resources Overlay,
- Limited Land Division Overlay (BESS only).

As this development application is being lodged under Section 131 of the PDI Act, the development application will be assessed on its merits against the applicable policies of the P&D Code. Please refer to Variation to DA 010/V082/17 (see Att 2_Variation to DA_010_V082_17 - REDACTED) for further information.

Aboriginal Heritage Act 1988 (AHA)

Protection of any Aboriginal site, object or remains, whether previously recorded or not are covered under the blanket protection of this Act. Under section 23 of the AHA it is an offence to damage, or interfere with an Aboriginal site, objects or remains unless written authorisation from the Minister for Aboriginal Affairs and Reconciliation has been obtained.

If a previously unknown Aboriginal heritage site is discovered during works and cannot be avoided, Ministerial authorisation under section 23 of the AHA will be required.

If Aboriginal sites, objects or remains are uncovered during the works, the policy within the CEMP (in development) will be followed. ZEN have acquired a heritage survey agreement with the Ngadjuri people. Please refer to the Heritage Survey Agreement (Att 3_Heritage Survey Agreement - REDACTED). An Independent Heritage Consultant (IHC) was engaged by WSP on behalf of ZEN Energy. IHC provided a technical note which discusses management measures. These measures will be followed and include a Site Discovery Procedure, heritage site inductions and on-site archaeologists. Due to confidentiality agreements, the document cannot be attached to this referral.

Heritage Places Act 1993

Facilitates provision for the identification, recording and conservation of places and objects of non-Indigenous heritage significance in South Australia.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Consultation around the Project commenced in 2017.

Key consultation includes:

- The Project has a Cultural Heritage Survey Agreement in place with Indigenous stakeholders (Att 3_Heritage Survey Agreement-REDACTED).
- ZEN Energy have met with both the relevant Indigenous stakeholders within H1 2024 (these parties have either claim areas or interest areas overlying the overall project footprint). ZEN Energy have or are in the process of negotiating survey agreements with relevant Indigenous stakeholders.

- ZEN Energy have met with both Goyder Regional Council and Mid Murray Council to discuss the project in the last 12 months. Goyder Regional Council has provided an explicit letter of support for the project, a copy of which is available as [Att4 Letter from Goyder Council-REDACTED](#).
- ZEN Energy have a project shopfront established in Burra (major town west of the project site) which is not normally manned, but does advertise contact details for ZEN Energy. Enquiries are responded to upon receipt.
- ZEN Energy engage regularly with participating landowners of which there are 6 (1 project site + 5 easement landowners).
- The Development Application for a variation to the Project, involving an increase in BESS capacity and variation to the proposed transmission line route was released for public notification by the State Commission Assessment Panel between 15 May and 7 June 2024. During this time, one submission was received from the public. The submission related generally to renewable energy facilities and did not contain comment on this specific project.

Generally, given the low density of residential land use in the area and large scale of surrounding agricultural properties, community interest in the project is low.

As the project already has development approval and has recently publicly exhibited a DA variation to support connection to Bunday substation, ZEN Energy do not plan for general community briefing sessions until such time as we might be ready to initiate construction.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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Confirm that you have read and understand this Privacy Notice *

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details	
ABN/ACN	80078004798
Organisation name	WSP AUSTRALIA PTY LIMITED
Organisation address	Level 17, 83 Pirie Street, Adelaide SA 5000
Referring party details	
Name	Tenille Anderson
Job title	Senior Environmental Planner
Phone	+61 8 8405 4257
Email	tenille.anderson@wsp.com
Address	Level 17, 83 Pirie Street, Adelaide SA 5000

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details	
ABN/ACN	69634921896

Organisation name ZEN ENERGY FUTURE PTY LTD

Organisation address Level 10, 473 Bourke St, Melbourne VIC 3000

Person proposing to take the action details

Name Dan Manderson

Job title Technical Manager

Phone 0405 017 683

Email dan.manderson@zenenergy.com.au

Address Level 10, 473 Bourke St Melbourne 3000

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

ZEN Energy has contracted the output from a significant number (more than 20) solar and wind projects around Australia. Based on reporting by our suppliers we understand these projects are compliant with Commonwealth and State legislation.

Our first ZEN-owned asset (Templers BESS) is now committed and in the early stages of construction at Templers, South Australia. This project has relevant approvals and has submitted the required plans (under our state development approval) for acceptance prior to the commencement of construction.

There are no proceedings (current or historical) against the Person in relation to Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

ZEN Energy are currently considering an Environmental Policy and Planning Framework. At this stage, they have prepared an Environmental Policy Statement which is available as [Att 5 Environment Policy Statement](#). ZEN Energy are committed to operating as an environmentally sustainable company. ZEN are governed by their Environmental Policy.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	69634921896
Organisation name	ZEN ENERGY FUTURE PTY LTD
Organisation address	Level 10, 473 Bourke St, Melbourne VIC 3000

Proposed designated proponent details

Name	Dan Manderson
Job title	Technical Manager
Phone	0405 017 683
Email	dan.manderson@zenenergy.com.au

Address

Level 10, 473 Bourke St Melbourne 3000

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	80078004798
Organisation name	WSP AUSTRALIA PTY LIMITED
Organisation address	Level 17, 83 Pirie Street, Adelaide SA 5000
Representative's name	Tenille Anderson
Representative's job title	Senior Environmental Planner
Phone	+61 8 8405 4257
Email	tenille.anderson@wsp.com
Address	Level 17, 83 Pirie Street, Adelaide SA 5000

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	69634921896
Organisation name	ZEN ENERGY FUTURE PTY LTD
Organisation address	Level 10, 473 Bourke St, Melbourne VIC 3000
Representative's name	Dan Manderson
Representative's job title	Technical Manager
Phone	0405 017 683
Email	dan.manderson@zenenergy.com.au
Address	Level 10, 473 Bourke St Melbourne 3000

✔ Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

1.4 Payment details: Payment allocation

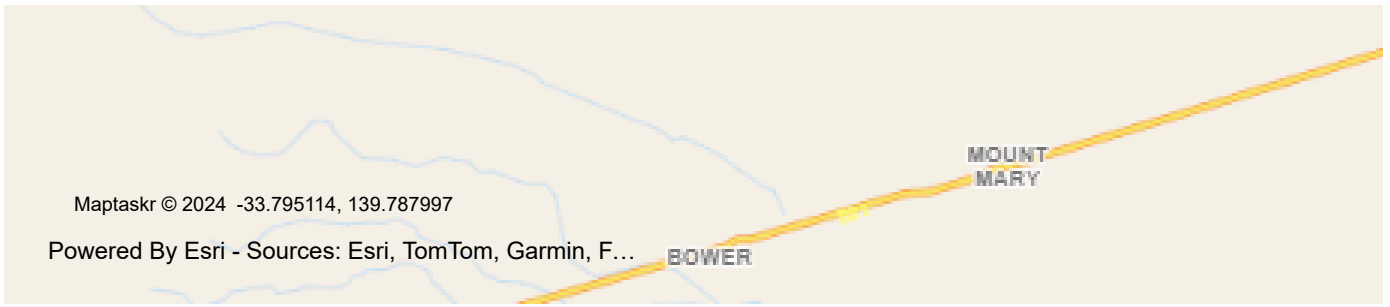
1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint





2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Dartmoor Road, Maude, SA 5320

2.2.2 Where is the primary jurisdiction of the proposed action? *

South Australia

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

Property where the solar facility is freehold land, owned by Pastoral Pursuits Pty Ltd. The property will be secured under lease agreement.

Property where the easement is located intercepts multiple freehold properties. Properties are owned by six landholders (including the solar facility site).

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The Project is located between Burra and Morgan in South Australia's mid-north. Burra occurs approximately 45 km north-east of the Project, while Morgan is approximately 35 km south-east. Both the solar facility and easement are located within the Regional Council of Goyder Local Government Area (LGA) and fall within the Remote Area Zone, the Rural Intensive Enterprise Zone and the Rural Zone. Historically, portions of the Project Area have been extensively cleared for agricultural uses which includes both cropping and livestock grazing. At present, land use is restricted to livestock grazing. The Project proposed does not require changes to the zoning in the area to facilitate development.

Solar facility

The location of the solar array and BESS is referred to hereafter as the Main Site. The Main Site occurs on pastoral land that has been historically cleared to facilitate dry-land cropping and it occurs within one land parcel (Dartmoor). Presently the area is used for sheep grazing. The Main Site consists of almost entirely degraded *Austrostipa* grassland with isolated scattered patches of tall shrubs and low trees. The solar facility is located within the Murray Darling Depression bioregion, the Murray Mallee subregion and the Sutherlands environmental association.

See [Att 6 IBRA Information, Section 1, p1-5](#) for detailed IBRA information.

Easement

The easement traverses land with differing historical land-use. Subsequently, condition and prevalence of native species varies, with the area forming a mosaic of high-quality native vegetation, including mallee woodland and chenopod shrubland and degraded native grassland historically cleared of woodland and used for pastoral production (sheep grazing).

The easement is located within the Murray Darling Depression bioregion, the Murray Mallee subregion and the Florieton, Mt Mary and Sutherlands environmental associations. See [Att 6 IBRA Information, Section 1, p1-5](#) for detailed IBRA information.

Eleven vegetation associations were mapped in the Project Area:

- *Casuarina pauper* / *Alectryon oleifolius* Low Open Woodland.
- *Austrostipa eremophila* / *Austrostipa nitida* Tussock Grassland.
- *Eucalyptus camaldulensis* +/- *Eucalyptus porosa* Open Woodland.
- *Schinus molle* Low Forest over Chenopod shrubs.
- *Maireana* spp. Low Open Shrubland.
- *Eucalyptus porosa* Open Woodland over Chenopod shrubs.
- *Myoporum platycarpum* Shrubland.
- *Eucalyptus oleosa* Mid-Mallee Woodland.
- Exotic Grassland.
- *Acacia nyssophylla* very sparse Low Shrubland over *Austrostipa* spp.
- *Eucalyptus brachycalyx* / *Eucalyptus oleosa* Mid-Mallee over Sclerophyll and Chenopod shrubs.

All vegetation associations will be impacted to some degree by the Project.

3.1.2 Describe any existing or proposed uses for the project area.

The existing land use of the solar farm and BESS site is agricultural (sheep grazing). Along the transmission line corridor, land use is a mix of agricultural activities (primarily grazing) with some powerline infrastructure and a low density of rural residential land use.

The principal use of the Project Area, once complete, will be production, storage and transmission of electricity.

The option for continued sheep grazing within the solar farm site is agreed in principle, with details of the grazing management plans to be developed prior to commercial operation.

The stringing corridor is intended as temporary clearing for the length of the OTL. For the portion of line run adjacent to Powerline Rd this stringing corridor will preferably be avoided by using the edge of the Powerline Rd easement for stringing (this would be subject to the final construction risk assessments to be completed by the selected contractor). On completion of construction, any compacted areas will be ripped, and the corridor will be allowed to naturally regenerate. As towers will be tall enough to lift the OTL above the clearance distance of the canopy, ongoing maintenance of stringing corridor vegetation will not be required.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The easement crosses the Burra Creek Water Catchment. More specifically, the Lower Burra Creek Sub-Catchment. It is a component of the Murray-Darling Drainage Division and the Lower Murray River Basin. In addition, there are some minor unnamed watercourses traversed by the easement, the majority of which are denoted as Stream Order 1 (which are believed to be minor drainage lines, swamps or low lying areas that are ephemeral and usually only contain water during and immediately after rain events).

There are no named watercourses within the Main Site, although a portion of the area is denoted as Land Subject to Flooding. Field assessment noted that there are numerous ephemeral creeks within the Main Site. The Main Site can be described as a floodplain.

High-quality remnant native vegetation is intersected by the easement. The remnant vegetation offers habitat for various fauna species and constitutes habitat for members of the Mallee Bird Community of the Murray Darling Depression Bioregion (MBC) Threatened Ecological Community (TEC).

Similarly intersected by the easement is a portion of *Acacia nyssophylla* Low Shrubland, which although in poor to moderate condition, supports the EPBC Act listed Southern Whiteface (*Aphelocephala leucopsis*).

The Plains Mallee Box Woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregion (PMBW) TEC is also intersected by the easement where it is present in good to excellent condition.

There are three Heritage Agreement areas within 5 km of the Project Area.

There are no World Heritage Areas in proximity of the Project Area.

There are no Commonwealth Heritage Places within or near the Project Area.

There are no National Parks near the Project Area. There are two Conservation Parks (CP) within 20 km of the Project Area, namely White Dam CP and Mimbara CP.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Topography of the Project Area can be broadly categorised as gently undulating plains. It is relatively flat, with slopes not exceeding 5%. The only significant depression across the Project Area is where Burra Creek occurs.

The solar farm site broadly sits at an elevation of 93m above sea level. Elevation along the Project Area increases westward along the transmission line corridor, with a maximum elevation of around 235m above sea level at the substation. Please refer to [Att 7 Topographical map](#) for a visualisation of the elevation across the solar farm site and transmission line corridor.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Desktop methodology

An updated Protected Matters Search Tool Report (PMST) was generated on 26/03/2024 for a 5 km and 20 km buffer around the Project Area to ascertain if newly listed EPBC Act species may occur. The PMST Report is available as [Att 8 PMST Search results](#) and discussion of results are presented within the Ecological Impact Assessment as [Att 9 Ecological Impact Assessment-REDACTED, Section 4.1.1, p23-32](#). The search was in addition to desktop assessments completed from 2018 to 2023.

An updated search of the Biological Databases of South Australia (BDBSA) was completed on 05/04/2024 to ascertain if any listed threatened species had been recently recorded within 20 km of the Project Area.

A desktop assessment was first completed by EBS Ecology in 2023. The Solar River Desktop Assessment completed by EBS Ecology is available as [Att 10 Solar River Desktop Assessment](#). Desktop assessments completed prior to 2023 were completed by Kleinfelder Pty Ltd (Kleinfelder). Similarly, all field surveys and reports pre-dating 2023 were completed by Kleinfelder. The Kleinfelder Ecological Assessment and Data Report are available as [Att 11 Kleinfelder Ecological Assessment](#) and [Att 12 Kleinfelder Data Report](#) respectively. EBS Ecology cannot verify the results of the assessments completed by Kleinfelder.

Flora

In 2018, vegetation was assessed using a mixture of random meanders and floristic quadrats. Field surveys conducted by Kleinfelder across the Main Site and the easement in 2018 recorded 91 flora species. Additionally, in 2018 there were 15 hollow bearing trees and multiple dead trees recorded on the Main Site.

The Bushland Assessment Method (BAM) was used to assess vegetation according to the varied OTL design in 2023 by EBS Ecology, where all species within BAM Sites were recorded. There were 18 BAM Sites surveyed, with locations chosen based on differences in vegetation composition and condition. Additional targeted searches were undertaken for potential Threatened Ecological Communities (TECs) listed under the EPBC Act.

The 2023 surveys undertaken by EBS Ecology recorded 69 flora species.

No EPBC listed threatened flora species were observed during the field surveys in 2018 or 2023, although two TECs were observed.

Please see the Solar River NVC Clearance Report Addendum as [Att 13_Solar River NVC Clearance Report Addendum-REDACTED](#) for a list of all flora species recorded by EBS Ecology and for discussion of Declared Weeds identified during the field survey.

The desktop assessment conducted in 2024 identified three EPBC listed flora species as potentially occurring within the Project Area:

- Greencomb Spider-orchid (*Caladenia tensa*) (Endangered)
- Peep Hill Hop-bush (*Dodonaea subglandulifera*) (Endangered)
- Slender Bell-fruit (*Codonocarpus pyramidalis*) (Vulnerable).

Fauna

In accordance with the Survey guidelines for Australia's threatened birds, in 2023, targeted surveys were conducted across eight sites within the easement. Focus species and TECs were:

- *Aphelocephala leucopsis* (Southern Whiteface). (Vulnerable)
- *Melanodryas cucullata cucullata* (Hooded Robin – South-eastern) (Endangered)
- *Stagonopleura guttata* (Diamond Firetail) (Vulnerable)
- *Leipoa ocellata* (Malleefowl). (Vulnerable)
- *Lophochroa leadbeateri leadbeateri* (Eastern Major Mitchell's Cockatoo) (Endangered)
- Mallee Bird Community of the Murray Darling Depression Bioregion (Endangered).

All fauna observed during the targeted surveys was recorded. The surveys were used to supplement the diurnal bird surveys conducted on the Main Site and the easement in 2018. Diurnal herpetofauna surveys, Anabat recording and hollow-bearing tree surveys were also conducted in 2018.

Field surveys conducted across the Main Site and the easement in 2018 detected 85 fauna species (10 reptiles, 57 birds and 18 mammals).

Field surveys restricted to the easement that were conducted in 2023 detected 41 fauna species (35 birds and 6 mammals).

Five introduced species were observed across the Project Area in total:

- Brown Hare (*Lepus europaeus*)
- Common Starling (*Sturnus vulgaris*)
- House Mouse (*Mus musculus*)
- European Rabbit (*Oryctolagus cuniculus*)
- Red Fox (*Vulpes vulpes*).

Two EPBC listed bird species were observed during the surveys conducted in 2018 and 2023:

- Southern Whiteface (*Aphelocephala leucopsis leucopsis*) (Vulnerable). Recorded 2018 and 2023.
- Hooded Robin (*Melanodryas cucullata cucullata*) (Endangered). Recorded 2018.

A previous desktop assessment ([Att 10_Solar River Desktop Assessment, Section 4.2.4, Table 8, p24](#)) determined one EPBC listed fauna species that was not observed during the field survey as possible to occur within the Project Area:

- Eastern Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri*) (Endangered).

The updated desktop assessment ([Att 9_Ecological Impact Assessment - REDACTED, Section 4.1.2, Table 13, p27-30](#)) identified five other fauna species as potentially occurring within the Project Area:

- Blue-winged Parrot (*Neophema chrysostoma*) (Vulnerable)
- Diamond Firetail (*Stagonopleura guttata*) (Vulnerable)
- Fork-tailed Swift (*Apus pacificus*) (Migratory)
- Grey Falcon (*Falco hypoleucos*) (Vulnerable)
- Malleefowl (*Leipoa ocellata*) (Vulnerable) (Vulnerable)
- Regent Parrot (Eastern) (*Polytelis anthopeplus monarchoides*) (Vulnerable).

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Native vegetation

A clearance application and variations to the application have been submitted to the SA NVC (2018/3066/010). EBS Ecology were engaged to prepare an addendum to the original clearance application to include revisions to the OTL impact footprint.

As above, a total of eleven vegetation associations (ten native, one exotic) were identified in the Project Area.

Vegetation condition was poorer in areas where exotic species such as *Schinus molle* (Peppercorn Tree) were more dominant. Where practical, impact was relocated to avoid better condition vegetation patches to areas with poorer condition. 1472.95 ha of the Project Area comprises lower quality vegetation associations. 583.89 ha of which will be impacted, compared to 2.57 ha of higher quality vegetation associations of the 28.91 ha in the Project Area.

Please refer to [Att 11_Kleinfelder Ecological Assessment, Section 3.2.2, p15-19; Attachment 12, Section 3.2.1, p20-21](#); and, [Att 13_Solar River NVC Clearance Report Addendum-REDACTED, Section 5.1.2, p21-25](#) for more detailed descriptions of vegetation associations within the Project Area.

The OTL has been designed to avoid Mallee Box Woodland of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions TEC as far as is practicable.

Soil

Within the Murray Mallee IBRA subregion as a whole soil has been characterised as being either brown calcareous earths combined with highly calcareous brown loamy earths, hard setting loamy soils with red clayey subsoils and/or cracking clays.

In relation to the Project Area more specifically, the soil profile along the easement can be described as predominantly loam over limestone.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

The town of Burra, which is located approximately 45 km north-east of the Project Area, is a National Heritage Place listed as the Australian Cornish Mining Sites: Burra (Place ID 106304). It is also listed as a State Heritage Area and contains a number of State Heritage Places, including the Burra Mines Historic Site (includes Burra Jinker - object of heritage significance; State Heritage ID 10970), the Former Burra Smelts Historic Site (including Smelts Bridge Abutments, Smelter Ruins, Smelter Furnace Ruins, Smelts Manager's Residence and Office; State Heritage ID 10989) and the Burra Cemetery ID 10432) among others. ZEN have an agreement with Goyder Council to provide a Deed of Gift at financial close which can be used by the Council to support Heritage Places.

The Project will not have a direct impact on these places although may have a small indirect impact through alteration of the appearance of the nearby landscape. The BESS/OTL have been designed in consideration of this (e.g. PEC transmission poles consisting of 65 m tall lattice structures). It is the intention that vegetation that will be retained along the OTL will provide a partial screening of the infrastructure. Archaeological finds will be managed in accordance with ZEN's Heritage Survey Agreement.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The Project Area is recognised as being within the traditional lands of the Ngadjuri. There are limited publications available relating to specific Ngadjuri ethno-history which may be due in part to European interaction and subsequent cultural losses. However, the Ngadjuri are known to have lived a rich ceremonial life and to have been bound by complex social and marriage laws. Aboriginal heritage is protected by the *Aboriginal Heritage Act 1988* (SA) which also requires that the location and nature of known heritage is kept confidential.

The transmission line easement located south of Goyder Highway is under the First Peoples of the River Murray and Mallee Region #2 Claim Area (Tribunal Number SC2018/001/Federal Court SAD 184/2019), accepted for registration in November 2019. Native Title has not yet been determined within this area, however given that the Project is located within freehold land, it is understood that Native Title will have been extinguished within the Project Area. There are no registered Native Title Claims over the remaining portion of the transmission line easement or solar farm site.

A number of heritage assessments have been undertaken across the Project Area, including desktop risk assessments and field surveys to identify archaeological features that may exist within the Project Area, and to inform avoidance through design (if required).

ZEN Energy have further derisked the Project by consulting with relevant Aboriginal groups for the Project Area.

Construction and operational environmental management plans are still to be developed for the Project, however these documents will include protocols for the unexpected discovery of Aboriginal sites, objects or remains.

Independent Heritage Consultants (IHC) were engaged by WSP on behalf of ZEN Energy. IHC provided a technical note which discusses management measures. These measures will be followed and include a Site Discovery Procedure, heritage site inductions and on-site archaeologists. Due to confidentiality agreements, the document cannot be attached to this referral.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

A flood assessment of the Main Site was conducted by AECOM Australia PTY Ltd (AECOM) in 2020. AECOM were contracted to conduct an overland flow assessment for current conditions. The intention of the assessment was to:

- Build existing hydrologic and hydraulic models according to the Australian Rainfall and Runoff 2019 guidelines
- Define existing overland flows and hydraulic conditions across the site for the 1%, 0.5%, 0.2% and Annual Exceedance Probability flood event
- Estimate likely flood levels and velocities at the site
- Recommend appropriate levels within the site to ensure the proposed development has sufficient immunity against flooding.

The assessment indicated that peak flood velocity exceeds 1m/s and 2m/s in the concentrated flow paths of the major reaches and localised areas. For further detail see Solar River Flood Assessment which is available as [Att 14_Solar River Flood Assessment, Section 6, p14](#).

Mean annual rainfall within the Main Site is 244 mm. Mean annual rainfall varies along the OTL and ranges from 248 to 284 mm.

The solar farm site is located approximately 35km north-west of the River Murray protection area. The local catchment across the site is limited; with several shallow gullies or depressions which could provide some runoff during high rainfall events. Minor drainage lines across the site are expected to ultimately drain into the Murray River east of Morgan via the Burra Creek. This system feeds into the Coorong, and lakes Alexandrina and Albert wetland; approximately 150 - 200km downstream. Given the low level of drainage from the site, and distance of overland flows between the site and major watercourses, it is expected that project will have negligible impacts to the Coorong, and lakes Alexandrina and Albert wetland.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

No World Heritage properties occur within 20 km of the Project; therefore, no World Heritage properties are likely to be directly and/or indirectly impacted.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

No National Heritage properties occur within 20 km of the Project; therefore, no National Heritage properties are likely to be directly and/or indirectly impacted.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	The Coorong, and Lakes Alexandrina and Albert Wetland

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Coorong, and Lakes Alexandrina and Albert Wetland, a wetland of international importance (Ramsar), occurs 100-150 km south of the Project Area. No wetlands, estuaries or groundwater dependent ecosystems were identified within the Project Area. Although the easement occurs in proximity to Burra Creek, the Creek is not relevant to the Coorong., and so the Project is unlikely to have a direct and/or indirect impact on the wetland.

The flood assessment conducted by AECOM Australia PTY Ltd (AECOM) in 2020 was used to assist in Project design so that flood on areas and drainage lines could be effectively avoided.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Acacia glandulicarpa	Hairy-pod Wattle
No	No	Amytornis striatus howei	Murray Mallee Striated Grasswren, Striated Grasswren (sandplain)

Direct impact	Indirect impact	Species	Common name
Yes	No	<i>Aphelocephala leucopsis</i>	Southern Whiteface
No	No	<i>Caladenia tensa</i>	Greencomb Spider-orchid, Rigid Spider-orchid
No	No	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
No	No	<i>Calidris ferruginea</i>	Curlew Sandpiper
No	No	<i>Codonocarpus pyramidalis</i>	Slender Bell-fruit, Camel Poison
No	No	<i>Dodonaea subglandulifera</i>	Peep Hill Hop-bush
No	No	<i>Falco hypoleucos</i>	Grey Falcon
No	No	<i>Galaxias rostratus</i>	Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow
No	No	<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
No	No	<i>Grantiella picta</i>	Painted Honeyeater
No	No	<i>Leipoa ocellata</i>	Malleefowl
No	No	<i>Lepidium monoplocoides</i>	Winged Pepper-cress
No	No	<i>Litoria raniformis</i>	Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
No	No	<i>Lophochroa leadbeateri leadbeateri</i>	Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo
No	No	<i>Maccullochella peelii</i>	Murray Cod
No	No	<i>Manorina melanotis</i>	Black-eared Miner
Yes	No	<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin, Hooded Robin (south-eastern)
No	No	<i>Neophema chrysostoma</i>	Blue-winged Parrot
No	No	<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat, South-eastern Long-eared Bat
No	No	<i>Pedionomus torquatus</i>	Plains-wanderer
No	No	<i>Pterostylis xerophila</i>	Desert Greenhood

Direct impact	Indirect impact	Species	Common name
No	No	Rostratula australis	Australian Painted Snipe
No	No	Stagonopleura guttata	Diamond Firetail
No	No	Swainsona pyrophila	Yellow Swainson-pea

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions
Yes	No	Mallee Bird Community of the Murray Darling Depression Bioregion
No	No	Peppermint Box (<i>Eucalyptus odorata</i>) Grassy Woodland of South Australia
Yes	No	Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Of the 40 threatened flora and fauna species, 10 Migratory species, five Threatened Ecological Communities and one Wetland of International Importance identified by the PMST, the Solar River Project is likely to directly impact on four MNES through vegetation clearance:

- Mallee Bird Community of the Murray Darling Depression Bioregion TEC (Endangered)
- Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions TEC (Critically Endangered)
- South-eastern Hooded Robin (south-eastern) (*Melanodryas cucullata cucullata*), Endangered
- Southern Whiteface (*Aphelocephala leucopsis*), Vulnerable.

No other MNES have been detected within the Project Area during field surveys and are unlikely to be directly or indirectly impacted by the Project.

For a detailed discussion of MNES and for an updated likelihood of occurrence assessment please see the Ecological Impact Assessment as [Att 9_Ecological Impact Assessment-REDACTED, Section 5, p39-74](#).

Threatened Ecological Communities

Mallee Bird Community of the Murray Darling Depression Bioregion TEC

The Mallee Bird Community of the Murray Darling Depression (MBC) TEC is present in the Project Area and consequently will be directly impacted by clearance of native vegetation. The community occurs within two vegetation associations, which are described as *Eucalyptus brachycalyx* / *Eucalyptus oleosa* Mid-

Mallee over Sclerophyll and Chenopod shrubs and *Eucalyptus oleosa* Mid- Mallee Woodland. A total of 0.875 ha of MBC TEC habitat is proposed to be permanently cleared and 1.451 ha will be temporarily cleared for the construction of the OTL Clearance is considered a direct impact.

Plains Mallee Box Woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions TEC

The Plains Mallee Box Woodland of the Murray Darling Depression (PMBW) TEC is present in the Project Area as Variant 2, whereby *Eucalyptus porosa* is the dominant species. Where this TEC occurs in the Project Area, the community is described as *Eucalyptus porosa* Open Woodland over Chenopod shrubs. A total of 0.115 ha of the PMBW TEC is proposed to be cleared for the construction of the OTL stringing corridor. Clearance proposed will be temporary but still constitutes a direct impact.

Threatened fauna

South-eastern Hooded Robin (*Melanodryas cucullata cucullata*)

The Southern-eastern Hooded Robin was observed in the OTL Project Area in 2018 and according to BDBSA data the species was observed within 20 km of the Project Area in 2017. The species will be directly impacted by the Project by habitat removal.

Habitat that is critical to the survival of the South-eastern Hooded Robin according to DCCEEW incorporates the following:

- Dry eucalypt and *Acacia* spp. woodlands and shrublands remnants with an open understorey, some grassy areas and a complex ground layer, often in or near clearings or open areas;
- Structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses;
- Standing dead or live trees and tree stumps are also essential for nesting, roosting and foraging; and
- Moderately deep to deep soils, rocks and fallen timber which provides essential foraging habitat.

Habitat within the Project Area that is consistent with these requirements includes:

- *Casuarina pauper* +/- *Alectryon oleifolius* Low Open Woodland
- *Eucalyptus camaldulensis* +/- *Eucalyptus porosa* Open Woodland
- *Eucalyptus oleosa* Mid-Mallee Woodland

Clearance will require removal of approximately 0.923 ha of *Acacia nyssophylla* Low Shrubland, 0.129 ha of *Eucalyptus camaldulensis* +/- *Eucalyptus porosa* Open Woodland and 0.713 ha of *Eucalyptus oleosa* Mid-Mallee Woodland. Clearance varies between permanent and temporary across the easement and as such, constitutes a direct impact.

Following the Significant Impact Guidelines 1.1, the significant impact criterion is triggered, as habitat described in two of the three dot points is present and Hooded Robin have been found to occur.

Southern Whiteface (*Aphelocephala leucopsis*)

Southern Whiteface were observed in the Project Area in 2023 and will be directly impacted by the Project.

The three critical habitat elements required to support Southern Whiteface as described by DCCEEW are:

- Relatively undisturbed open woodlands and shrublands with an understorey of grasses or shrubs or both;
- Habitat with low tree densities and an herbaceous understorey litter cover which provides essential foraging habitat; and

- Living and dead trees with hollows and crevices which are essential for roosting and nesting.

Suitable habitat within the Project Area that contains these critical elements includes the following vegetation associations:

- *Acacia nyssophylla* very sparse Low Shrubland over *Austrostipa* spp.
- *Casuarina pauper* / *Alectryon oleifolius* Low Open Woodland
- *Eucalyptus brachycalyx* / *Eucalyptus oleosa* Mid-Mallee over Sclerophyll and Chenopod shrubs.
- *Eucalyptus porosa* Open Woodland over Chenopod shrubs
- *Maireana* spp. Low Open Shrubland
- *Myoporum platycarpum* Shrubland.

The species may also be found foraging in grassland that occurs close to native shrubland or open woodland.

Approximately 63.63 ha of *Casuarina pauper* / *Alectryon oleifolius* Low Open Woodland and 3.67 ha of *Maireana* spp. Low Open Shrubland will be impacted within the Main Site. Across the easement approximately 0.923 ha of *Acacia nyssophylla* Low Shrubland, 0.823 ha of *Casuarina pauper* Low Open Woodland, 1.613 of *Eucalyptus brachycalyx* Mid-Mallee Woodland, 0.115 ha of *Eucalyptus porosa* Woodland, 4.187 ha of *Maireana* Low Open Shrubland and 0.566 ha of *Myoporum platycarpum* Shrubland will be impacted. Clearance varies between permanent and temporary across the easement and as such, constitutes a direct impact.

Following the Significant Impact Guidelines 1.1, the significant impact criterion is triggered, as habitat described in two of the three dot points is present and Southern Whiteface occur.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact?

*

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Of the four MNES that the Project is likely to directly impact through vegetation clearance, a Significant Impact Criteria is triggered for all of the species/TECs under the Significant Impact Guidelines 1.1:

- Hooded Robin (*Melanodryas cucullata cucullata*) (EPBC Act: Endangered; NPW Act: Rare) – removal of 29.01 ha of suitable habitat may reduce the area of occupancy of the species and clearance will adversely affect habitat critical to the survival of the species, however, the impact is unlikely to be significant.
- Southern Whiteface (*Aphelocephala leucopsis*) (EPBC Act: Vulnerable) – removal of 37.48 ha of suitable habitat may reduce the area of occupancy of the species and clearance will adversely affect habitat critical to the survival of the species, however, the impact is unlikely to be significant.
- Mallee Bird Community of the MDD Bioregion (EPBC Act: Endangered) - removal of 2.21 ha of this TEC is unlikely to reduce the extent of the TEC and/or increase fragmentation, however will affect habitat critical to the proliferation of the TEC. Clearance may modify or destroy abiotic factors which may cause minute change in species composition at the local level but is unlikely to substantially reduce the quality/integrity of the TEC at the regional scale. The impact is unlikely to be significant.
- Plains Malle Box Woodland of the MDD Bioregion (EPBC Act: Critically Endangered) -removal of 0.12 ha of this TEC will reduce the extent of the TEC and will adversely affect habitat critical to the proliferation of the TEC. There is a low occurrence of the TEC in the region and so removal of PMBW in the Project Area may substantially reduce the quality/integrity of the TEC. The impact is unlikely to be significant.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action.

*

Although a Significant Impact is triggered for four MNES, the Project is not a controlled action as impacts can be managed through mitigation measures to the extent that they will not be significant impacts.

For Hooded Robin more specifically, given that there is a substantial amount of suitable connected habitat in South Australia, removal of vegetation for the Project is unlikely to adversely impact the species at a population level. As such, a significant impact is unlikely to occur.

Regarding Southern Whiteface, given that the species is common and widespread across a broad swathe of non-specific and connected habitat in South Australia and is not state listed, removal of vegetation for the Project is unlikely to adversely impact the species at a population level. As such, a significant impact is unlikely to occur. The Area of Occupancy for the Southern Whiteface relates to an 'important population', rather than the species as a whole. There is no important population defined for Southern Whiteface, and the population impacted by the project does not meet the definitions as set out in the Significant Impact guidelines.

There is a substantial amount, being 6690.47 ha of mallee vegetation that is connected to the mallee vegetation within the Project Area. This indicates that the MBC is widespread across the region and a reduction of 2.21 ha that will be cleared for the Project is unlikely to constitute a significant impact.

It is likely that the presence of the Plains Mallee Box Woodland TEC within the region has been understated and the impact will not be significant. During field surveys it was found that there was substantial *Eucalyptus porosa* dominated woodland within the region that has not been mapped by the Department for Environment and Water (DEW), rather, much of it was found to be incorrectly mapped as *Eucalyptus camaldulensis*, *Eucalyptus gracilis* or *Eucalyptus largiflorens*. Vegetation mapping provided by DEW is the only broad scale mapping data available. Where there will be clearance of the TEC it is of a small area, the majority clearance will be temporary with vegetation being able to naturally regenerate following trimming.

Further discussion of each MNES that will be directly impacted is presented within the Ecological Impact Assessment ([Att 9_Ecological Impact Assessment-REDACTED, Section 5, p39-74](#)).

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. ***Avoidance**

An alignment has been chosen that avoids larger patches of PMBW TEC. Earlier versions of the proposed alignment were altered specifically to avoid the TEC, iterations are available as [Att 15_OTL design iterations, p1](#). For example, an earlier alignment that placed additional distance between an unregulated airstrip and the OTL but impacted more patches of the TEC was further amended to limit TEC impact. Further to this, ZEN committed to avoid clearance of *Eucalyptus camaldulensis* (River Red Gum) when traversing Burra Creek.

Minimization

While the Project has tried to place infrastructure as far as is possible in grassland and shrubland vegetation in poorer condition, there are patches of woodland and mallee that cannot be avoided. The requirement to maintain minimum clearance distances between the proposed OTL and existing infrastructure such as ElectraNet transmission lines, together with practical limitations on land access rights present constraints on the Project. These constraints mean that the OTL must be constructed on the south side of Powerline Road and is unable to avoid all mallee vegetation.

With this in view, steps have been taken to minimise the clearance of native vegetation. This includes the following:

- Mono-pole towers/tubular steel poles will be used, reducing the extent of permanent clearance needed at tower locations.
- All laydown areas will be placed within cleared tower sites or inside the stringing corridor.
- The OTL easement will be accessed by existing access tracks only. Where access tracks do not exist, the stringing corridor will be used as access.
- In grassland and shrubland vegetation, the stringing corridor will be either rolled or driven over only. It will not be cleared with machinery to bare earth in these areas.
- For higher quality vegetation areas, aerial means (drones/helicopter) for stringing will be considered to avoid vegetation clearance along the alignment.
- The construction working zone will be limited to a crane and elevated work platform. This is set to a minimum of 20 x 30 m.
- Where Mallee Box TEC cannot be avoided, impact is limited to temporary clearance of the stringing corridor only. All towers have been placed outside of the TEC (Figure 10).
- In mallee on Powerline Road, the OTL has been placed as close as possible to the road corridor to minimise impacts caused by fragmentation. Towers have been placed in more open vegetation and located outside of mallee vegetation as far as is practicable. Tower spacing has also increased to 300 m in this area to reduce the number of towers required. These measures have minimised the clearance of Mallee Bird Community of the Murray Darling Depression Bioregion TEC.
- Towers will be constructed to a height that will maintain a minimum clearance distance above the maximum height of mallee and low woodland canopy (with clearance consistent with the Australian standard for transmission lines, AS7000). This will remove the need for ongoing vegetation maintenance and tree trimming inside the stringing corridor.

Additionally, the proponent and/or construction contractor will develop a Construction Environmental Management Plan (CEMP) that details the management strategies and actions that will be taken to minimise direct and indirect impacts to flora and fauna as a result of the vegetation clearance.

ZEN have committed to the following measures during construction:

- A pre-clearance survey will be undertaken by a suitably qualified ecologist to determine the presence of threatened species and Southern Hair-nosed Wombat (*Lasiorhinus latifrons*) burrows.
- All construction personnel will be inducted to be made aware of the CEMP and its content.
- Vegetation clearance areas will be clearly defined and marked.
- No clearing, parking, laydown, stockpiles, or other disturbance of native vegetation outside of the defined clearance area.
- Trigger points and stop work procedures will be developed and implemented in the event of unplanned and unauthorised vegetation clearance.
- Vegetation clearance procedures will be clearly defined and approved by the proponent.
- Clearance and construction activities to occur during daylight hours only.
- Limit entry/exit points to the construction footprint to the minimum number possible.
- All fill materials required for construction (e.g., sand, soil, gravel) will be sourced from certified weed and phytophthora free sites.
- Restrict all vehicle and machinery traffic to designated roads and access tracks that are approved by the proponent.

- Restrict the movement of weed material to the vegetation clearance area, including by developing and implementing machinery wash-down protocols.
- An on-ground inspection and audit will be conducted at 36 months post inspection.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Vegetation clearance will be offset in accordance with the requirements of the *SA Native Vegetation Act 1991*. The final offset will be calculated based on the final detailed design for the Project.

To offset impact to MNES, both a Retention Area and an Offset Area are under consideration by ZEN. The proposed Retention Area would involve the agreed ongoing protection of PMBW that is not within the impact footprint. Regarding a potential Offset Area, ZEN have access to land adjacent to the Project Area that contains suitable habitat for Southern Whiteface and Hooded Robin. Access to this land may enable ZEN to undertake proactive management and improve habitat for both threatened species.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	<i>Actitis hypoleucos</i>	Common Sandpiper
No	No	<i>Apus pacificus</i>	Fork-tailed Swift
No	No	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
No	No	<i>Calidris ferruginea</i>	Curlew Sandpiper
No	No	<i>Calidris melanotos</i>	Pectoral Sandpiper
No	No	<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
No	No	<i>Motacilla cinerea</i>	Grey Wagtail
No	No	<i>Motacilla flava</i>	Yellow Wagtail
No	No	<i>Myiagra cyanoleuca</i>	Satin Flycatcher

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The PMST search identified two migratory species as known or likely to occur within a 20 km buffer of the Project Area:

- Fork-tailed Swift (*Myiagra cyanoleuca*)
- Satin Flycatcher (*Apus pacificus*)

The following migratory species were identified as possibly occurring by the PMST:

- Common Greenshank (*Tringa nebularia*)
- Common Sandpiper (*Actitis hypoleucos*)
- Curlew Sandpiper (*Calidris ferruginea*)
- Grey Wagtail (*Motacilla cinerea*)
- Latham's Snipe (*Gallinago hardwickii*)
- Pectoral Sandpiper (*Calidris melanotos*)
- Sharp-tailed Sandpiper (*Calidris acuminata*)
- Yellow Wagtail (*Motacilla flava*).

There are no wetlands or suitable habitat for migratory species within the Project Area. It is unlikely that migratory species will be observed using habitat within the Project Area, rather, they may only occur as a fly over. Subsequently, direct/indirect impact on these species is unlikely and a significant impact is unlikely to occur.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

No Nuclear MNES occur within 20 km of the Project, therefore no Nuclear MNES are likely to be directly and/or indirectly impacted by the action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

No Commonwealth Marine Areas occur within 20 km of the Project, therefore no Commonwealth Marine Areas are likely to be directly and/or indirectly impacted by the action.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Great Barrier Reef does not occur within 20 km of the Project, therefore will not be directly and/or indirectly impacted by the action.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Project is not associated with a Water resource in relation to large coal mining development or coal seam gas, therefore this matter is not impacted

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Project is not on or near Commonwealth Land, therefore this matter is not impacted.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Project does not impact a Commonwealth Heritage Place Overseas, therefore this matter is not impacted.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

Location

The Project location is constrained by the ability to secure land access agreements, availability of access to solar resources, appropriateness of topography/geotechnical conditions, and proximity to feasible grid connections.

Vegetation and fauna impacts were considered in the early site selection process of the Project, and as well during the concept design stage; with infrastructure, including transmission line corridor and poles micro-sited to avoid areas of higher quality vegetation and threatened species habitat.

The solar array area was selected according to it being a sparsely vegetated site, with scattered trees only. The original PV array site selection attempted to minimise fauna impacts (including Southern Whiteface habitat) and the PV project site was approved prior to the species being EPBC listed.

The concept design and alignment of the OTL has had three iterations for the sole purpose of reducing the impact of the Project to MNES.

Original easement to Robertstown was 34km. 10km was taken off the route switching to Bunday, and route was deviated to avoid an airstrip. The route parallel to Powerline Rd was run as close as possible to Powerline Rd (to limit the impact to the fringe of existing mallee scrub). ZEN paid for ElectraNet to assess in more detail the minimum setback distance from existing lines, to support this approach. ZEN then further decided to increase the structure size along this section to minimise the need for clearance. The airstrip deviation was then further modified to minimise impacts on mapped TEC.

The final alignment has been chosen so that it avoids larger patches of Mallee Box TEC. The attached map ([Att 12_Kleinfelder Data Report, Section 3.2.3, p23-33](#)) indicates the location of earlier versions of the proposed alignment that were altered for this reason. An earlier alignment that placed additional distance between an unregulated airstrip and the OTL but impacted more patches of the TEC was further amended to limit TEC impact.

Aside from ecological constraints, variation was required to avoid land use conflicts, this is described further within [Att 2_Variation to DA_010_V082_17-REDACTED, Section 2.1, p2-4](#).

Timeline

Southern Whiteface breeding season typically occurs between July and October. Where individuals are known to occur or where nests have been identified, construction should be postponed or avoided during this period.

Hooded Robin breeding season typically occurs between August and November. Where individuals are known to occur or where nests have been identified, construction should be postponed or avoided during this period.

Pre-clearance surveys will be undertaken by a suitably qualified ecologist to ensure that breeding has ceased before construction begins in an area.

Activity

The purpose of the Solar River Project is to deploy 400,000 solar panels and associated energy storage to provide dispatchable low-emissions energy (solar PV having lifecycle emissions of <50kg CO₂-e/MWh in comparison to 900kg CO₂-e/MWh for higher efficiency black coal power stations). The Federal Government

have committed to net zero greenhouse gas emissions by 2050 and by 2030 it is the goal of the Federal Government to reduce emissions to levels that are 43% below those recorded in 2005. A shift to forms of renewable electricity (i.e. solar) is critical to the Federal Government in reaching this target.

5. Lodgement

5.1 Attachments

1.2.5 Information about the staged development

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1_Solar River Stage 2 Ecological Assessment.pdf Ecological assessment for potential Solar River Project Stage 2	29/02/2024	Yes	High
#2.	Document	Att 1_Solar River Stage 2 Ecological Assessment- REDACTED.pdf Ecological assessment for a potential Solar River Project Stage 2	29/02/2024	No	High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2_Variation to DA_010_V082_17 - REDACTED.pdf Development application for the project transmission line.	21/12/2023	No	High
#2.	Document	Att 2_Variation to DA_010_V082_17.pdf Development application for the project transmission line	21/12/2023	Yes	High
#3.	Document	Att 3_Heritage Survey Agreement.PDF Aboriginal Heritage Survey Agreement for the Solar River Project, between the Solar River Pty Ltd and the Ngadjuri Nation Aboriginal Corporation		Yes	High
#4.	Document	Att 3_Heritage Survey Agreement-REDACTED.pdf Aboriginal Heritage Survey Agreement for the Solar River Project, between the Solar River Project Pty Ltd and the Ngadjuri Nation Aboriginal Corporation		No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4_Letter from Goyder Council.pdf Letter of support for the Project from the Goyder Council	12/02/2024	Yes	High
#2.	Document	Att4_Letter from Goyder Council-REDACTED.pdf Letter of support for the Project from the Goyder Council	12/02/2024	No	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Type	Name	Date	Sensitivity	Confidence
#1.	Document Att 5_ Environment Policy Statement.pdf Zen Energy Environmental Policy Statement	23/04/2023	1b	High

3.1.1 Current condition of the project area's environment

Type	Name	Date	Sensitivity	Confidence
#1.	Document Att 6_IBRA Information.pdf IBRA classifications for the Project Area.	27/06/2024	1b	High

3.1.4 Gradient relevant to the project area

Type	Name	Date	Sensitivity	Confidence
#1.	Document Att 7_Topographical map.pdf Topographical map of the Project Area.	19/06/2024	1b	High

3.2.1 Flora and fauna within the affected area

Type	Name	Date	Sensitivity	Confidence
#1.	Document Att 10_Solar River Desktop Assessment.pdf 2023 desktop ecological assessment for the transmission line variation for the Project.	26/04/2023	1b	High
#2.	Document Att 11_Kleinfelder Ecological Assessment.pdf 2018 Ecological Assessment for the Project.	31/01/2018	1b	High
#3.	Document Att 12_Kleinfelder Data Report.pdf 2018 native vegetation clearance data report for the Project.	08/03/2018	1b	High
#4.	Document Att 13_Solar River NVC Clearance Report Addendum.pdf 2023 native vegetation data report addendum	21/12/2023	1c	High
#5.	Document Att 13_Solar River NVC Clearance Report Addendum-REDACTED.pdf 2023 native vegetation data report addendum.	21/12/2023	1b	High
#6.	Document Att 8_PMST Search results.pdf PMST search results for the Project Area.	16/03/2024	1b	High
#7.	Document Att 9_Ecological Impact Assessment.pdf 2024 Ecological Assessment of the Project Area	01/07/2024	1c	High
#8.	Document Att 9_Ecological Impact Assessment-REDACTED.pdf 2024 Ecological Assessment for the Project Area.	01/07/2024	1b	High

3.4.1 Hydrology characteristics that apply to the project area

Type	Name	Date	Sensitivity	Confidence
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#1.	Document Att 14 _Solar River Flood Assessment.pdf Flood assessment for the Project.	12/10/2020	No	High
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4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

Type	Name	Date	Sensitivity	Confidence
#1.	Document Att 15_OTL design iterations.pdf Alternative OTL alignments, showing avoidance of the Plains Mallee Box Woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Regions TEC.	31/05/2024	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	80078004798
Organisation name	WSP AUSTRALIA PTY LIMITED
Organisation address	Level 17, 83 Pirie Street, Adelaide SA 5000
Representative's name	Tenille Anderson
Representative's job title	Senior Environmental Planner
Phone	+61 8 8405 4257
Email	tenille.anderson@wsp.com
Address	Level 17, 83 Pirie Street, Adelaide SA 5000

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

By checking this box, I, **Tenille Anderson of WSP AUSTRALIA PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

- I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	69634921896
Organisation name	ZEN ENERGY FUTURE PTY LTD
Organisation address	Level 10, 473 Bourke St, Melbourne VIC 3000
Representative's name	Dan Manderson
Representative's job title	Technical Manager
Phone	0405 017 683
Email	dan.manderson@zenenergy.com.au
Address	Level 10, 473 Bourke St Melbourne 3000

- Check this box to indicate you have read the referral form. *

- I would like to receive notifications and track the referral progress through the EPBC portal. *

I, **Dan Manderson of ZEN ENERGY FUTURE PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

- I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

- Check this box to indicate you have read the referral form. *

- I would like to receive notifications and track the referral progress through the EPBC portal. *

- I, **Dan Manderson of ZEN ENERGY FUTURE PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

- I would like to receive notifications and track the referral progress through the EPBC portal. *