Australian Government
Department of the Environment

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Minister's delegate.) To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Commonwealth marine environment (sections 23 and 24A)
- Great Barrier Reef Marine Park (sections 24B and 24C)
- A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
- The environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- The environment, if the action is taken by the Commonwealth (section 28)
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.

- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referrals Gateway (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

Is your action in the Great Barrier Reef Marine Park?

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB, GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (the Authority) for the Authority to commence its permit processes as required under the Great Barrier Reef Marine Park Regulations 1983. If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43, EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

What information do I need to provide?

Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal enter N/A.

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in blue text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below three megabytes (3mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than three megabytes (3mb) may delay processing of your referral.

Note: the Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.

How do I pay for my referral?

From 1 October 2014 the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website.

Payment of the referral fee can be made using one of the following methods:

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $7352
  Account Name: Department of the Environment.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway
  Environment Assessment Branch
  Department of the Environment
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

Note: in order to receive a reference number, submit your referral and the Referrals Gateway will email you the reference number.

How do I submit a referral?

Referrals may be submitted by mail or email.

Mail to:

Referrals Gateway
Environment Assessment Branch
Department of Environment
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are required.

Email to: epbc.referrals@environment.gov.au

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- **Follow up with a mailed hardcopy including copies of any attachments or supporting reports.**

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

The proposed action would have UNACCEPTABLE impacts and CANNOT proceed

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

Compliance audits

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes. If your project is in the Great Barrier Reef Marine Park and a decision is made to approve it, the Authority may also audit it. (See "*Is your action in the Great Barrier Reef Marine Park,"* p.2, for more details).

For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/topics/about-us/legislation/environment-protection-and-biodiversity-conservation-act-1999

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Project title: Port Augusta Renewal Energy Park

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

Use 2 or 3 sentences to uniquely identify the proposed action and its location.

DP Energy Australia Pty Ltd (DP Energy) is proposing to construct the Port Augusta Renewable Energy Park (herein referred to as Port Augusta REP), which will include up to 59 wind turbine generators) and up to 400 hectares of solar photovoltaic (PV) arrays. The Project site is located approximately 8 km south-east of the city of Port Augusta in the southern Flinders Ranges, South Australia (c. 320 km north of Adelaide) (see Attachment A, Figure V3.01.01). The Project site is approximately 5,400 hectares and lies on both sides of the A1 Augusta Highway, centred at approximately 32°36’07.76"S, 137°53’51.16"E.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

The below are generalised bounding points, provided in clockwise order starting from the northern most point. The exact project boundary is visually shown in Attachment A. GIS files delineating the project boundary are provided in Attachment B.

Location Point	Latitude (dms)	Longitude (dms)
1	32°32' 30.277" S	137°51' 16.164" E
2	32°34' 59.107" S	137°53' 2.065" E
3	32°35' 34.542" S	137°52' 49.297" E
4	32°35' 34.729" S	137°53' 27.347" E
5	32°35' 34.474" S	137°53' 47.535" E
6	32°35' 29.378" S	137°54' 51.972" E
7	32°35' 28.289" S	137°55' 23.524" E
8	32°34' 48.389" S	137°55' 23.607" E
9	32°34' 48.372" S	137°56' 20.260" E
10	32°34' 23.563" S	137°56' 20.333" E
11	32°35' 3.347" S	137°57' 28.356" E
12	32°35' 11.517" S	137°57' 10.059" E
13	32°35' 14.315" S	137°56' 59.058" E
14	32°36' 5.493" S	137°56' 58.787" E
15	32°36' 5.716" S	137°57' 32.941" E
16	32°36' 23.360" S	137°57' 31.193" E
17	32°36' 59.563" S	137°57' 9.069" E
18	32°37' 17.088" S	137°57' 26.830" E
19	32°37' 21.162" S	137°58' 17.544" E
20	32°38' 3.719" S	137°58' 15.868" E
21	32°38' 3.619" S	137°57' 26.520" E
22	32°38' 43.800" S	137°57' 26.454" E
23	32°38' 43.922" S	137°56' 40.620" E
24	32°37' 58.542" S	137°56' 40.400" E
25	32°37' 58.244" S	137°55' 29.785" E
26	32°37' 49.454" S	137°55' 23.421" E
27	32°36' 36.823" S	137°55' 23.449" E
28	32°36' 36.778" S	137°54' 31.608" E

29	32°37' 7.576" S	137°54' 32.862" E
30	32°37' 7.670" S	137°54' 7.189" E
31	32°37' 48.268" S	137°54' 9.361" E
32	32°37' 47.168" S	137°54' 12.878" E
33	32°38' 30.441" S	137°54' 12.802" E
34	32°38' 37.000" S	137°52' 43.041" E
35	32°38' 11.242" S	137°52' 26.855" E
36	32°37' 55.052" S	137°52' 0.272" E
37	32°37' 51.496" S	137°51' 57.962" E
38	32°37' 40.222" S	137°51' 57.121" E
39	32°37' 47.659" S	137°52' 39.867" E
40	32°37' 7.772" S	137°52' 40.088" E
41	32°37' 7.781" S	137°53' 12.419" E
42	32°36' 26.440" S	137°52' 58.648" E
43	32°36' 22.452" S	137°52' 57.616" E
44	32°36' 22.385" S	137°52' 16.286" E
45	32°35' 33.818" S	137°52' 16.727" E
46	32°35' 33.658" S	137°51' 7.087" E
47	32°33' 34.555" S	137°49' 35.378" E
48	32°33' 5.924" S	137°49' 20.333" E
49	32°33' 15.645" S	137°50' 56.382" E
50	32°32' 30.230" S	137°50' 56.100" E

1.3 **Locality and property description**

Provide a brief physical description of the property on which the proposed action will take place and the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

The Project site is located approximately 8 km south-east of Port Augusta and 320 km north of Adelaide. Site elevation ranges between 10 m ASL in the north-west to 140 m ASL to the east. The land is privately owned and used primarily for livestock grazing, located within the Primary Industry Zone of the Port Augusta City Council and the Primary Production Zone of the District Council of Mount Remarkable. The vegetation cover is predominantly low chenopod shrubland with scattered pockets of tall shrubland and mallee/woodland. A number of ephemeral creek lines run through the site. West of the site is the coastal zone which forms part of the Spencers Gulf wetland area and is under tidal influence.

1.4	**Size of the development footprint or work area (hectares)**	The project site is approximately 5,400 hectares, extending to both sides of the A1 Augusta Highway; refer to site and infrastructure maps in Attachment A. The development footprint (i.e. area to be impacted/proposed for clearance) is approximately 177 ha for the wind farm component. The clearance for the solar element will be determined post consent in consultation with the South Australian Native Vegetation Council (NVC).
1.5	**Street address of the site**	There is no street address as the project area encompasses multiple properties.

1.6 **Lot description**

Describe the lot numbers and title description, if known.

Title Description (Volume / Folio)	Section (S) / Allotment (A)	Hundred (H) / Deposited Plan (D)
CT5229/724	S694	H330600
CT5229/726	S684	H330600
CT5229/727	S683	H330600
CT5463/300	S688	H330600
CT5463/314	S923	H331400
CT5463/314	S922	H331400
CT5463/314	S920	H331400
CT5463/314	S921	H331400
CT5480/196	S695	H330600
CT5480/196	S682	H330600
CT5641/229	S687	H330600
CT5676/249	S662	H330600
CT5676/249	S663	H330600
CT5936/973	S19	H331400
CT5936/973	S12	H331400
CT5936/973	S357	H331400
CT6015/882	S678	H330600
CT6015/882	S686	H330600
CT6015/882	S677	H330600
CT6015/882	S674	H330600
CT6015/882	S669	H330600
CT6015/882	S670	H330600
CT6015/882	S661	H330600
CT6015/882	S17	H331400
CT6015/882	S16	H331400
CT6015/882	S32	H331400
CT6015/882	A400	D71015
CT6015/882	S31	H331400
CT6015/882	S33	H331400
CT6015/882	S34	H331400
CT6015/882	S35	H331400
CT6015/882	S676	H330600
CT6015/882	S360	H331400
CT6151/864	S697	H330600
CT6151/864	S700	H330600
CT6151/864	S698	H330600
CT6151/864	S699	H330600
CT6151/864	S696	H330600
CT6151/864	S708	H330600

1.7 **Local Government Area and Council contact (if known)**

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

The Port Augusta Renewable Energy Park has been sponsored by the Department of State Development as a development of public infrastructure under Section 49 of the Development Act 1993. The Development Application is to be lodged with the Development Assessment Commission.

Contact: Simon Neldner, Principal Planning Officer, Department of Planning, Transport and Infrastructure.
Phone: 08 7109 7058.

The Port Augusta REP falls within two Local Government Areas (LGAs): Port Augusta City Council and the District Council of Mount Remarkable.
Contact:Tung Pham, Community Planner, Port Augusta City Council. Phone: 08 8641 9142.
Contact:Matt Christophersen, Building and Development Officer, District Council of Mount Remarkable. Phone 08 8666 2014

1.8 **Time frame**

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

A Development Application is scheduled to be submitted to the Development Assessment Commission (DAC) in November 2015. As part of its assessment process, the DAC will call for submissions on the proposal. The period for submissions will be announced through advertisements in local newspapers, and submissions will be open for a period of at least fifteen days. Submissions must be made in writing and delivered to the DAC in person, or sent by post, email or fax.
Commencement of construction of the wind farm would be within 5 years of obtaining Development Approval.

1.9	**Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?		No
		X	Yes, you must also complete section 2.2
1.10	**Alternative time frames etc** Does the proposed action include alternative time frames, locations or activities?	X	No
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).
1.11	**State assessment** Is the action subject to a state or territory environmental impact assessment?		No
		X	Yes, you must also complete Section 2.5
1.12	**Component of larger action** Is the proposed action a component of a larger action?	X	No
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	X	No
			Yes, provide details:
1.14	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	X	No
			Yes, provide details:
1.15	**Great Barrier Reef Marine Park** Is the proposed action inside the Great Barrier Reef Marine Park?	X	No
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

The Port Augusta REP (the Project) is an integrated wind and solar photovoltaic (PV) development with an installed capacity of around 375MW combined wind turbines and solar modules.

The main permanent components of the Project are as follows:

- up to 59 wind turbines with a maximum tip height of 150m;
- approximately 1,600,000 solar modules measuring around 1.2x0.8m each;
- one main substation containing switchgear, transformers, offices, welfare facilities and workshop;
- two substations (east and west sites);
- three solar PV interconnection substations containing switchgear and transformers;
- up to 59 wind turbine transformers;
- up to 150 solar PV inverter/transformer stations;
- electrical export connection to Davenport Substation
- up to 59 hard standing areas for turbine construction;
- around 45km of 5m wide wind farm site tracks;
- approximately 40km of 3m wide solar PV site tracks;
- approximately 100km of underground 33kV cabling (linking turbines);
- approximately 8km of overhead 132kV electrical connection (east site to main sub-station)
- electrical cabling (linking solar panels):
- up to five lattice tower anemometer masts of up to 92m;
- security fencing approximately 2.4m high around the solar PV site;
- five access locations from the public highway; and
- a viewing platform and visitor information facility.

The main temporary components of the Project are as follows:

- up to five temporary construction compounds including laydown areas;
- around 5 borrow pits on west site for track material as shown in Attachement A, Figure V3.06.02 in Attachment A
- two concrete batching plants; and
- up to four temporary anemometers masts of up to 90m.

The Solar PV site is wholly contained to the west of the A1 Highway. The wind farm site occupies land on each side of the highway with 28 turbines located on the east site and 31 turbines on the west site. Up to five permanent anemometers will be distributed across the site to monitor wind speed and direction.

Wind turbine inter-array cabling will be underground throughout the site. The east site turbines will be electrically connected directly to the site sub-station by means of an overhead or underground 132kV electrical cable crossing the railway line, A1 highway and Morgan-Whyalla No 1 water pipeline.

The power generated will be exported from a site substation in the north west corner of the site via two underground cables to the Davenport substation approximately 4 km to the north of the site.

An indicative site layout of the project and infrastructure components including the temporary components is shown in figure Attachment V3:06:02..

Construction

Turbine and Solar PV equipment will be delivered either from Adelaide Port or Port Pirie north along the A1 Augusta Highway. Although construction phases will overlap, the project will generally be built in the phases outlined in Table 1.

Table 1. Phased Project Construction Activities.

Phase	Capacity (MW)	Technology	Site
1	50	Solar PV	West
2	150	Wind Turbine	West & East
3	50	Solar PV	West
4	50	Solar PV	West

During construction, in order to minimise wind farm construction traffic crossing the A1, a main (west) site and east site have been defined, each with its own temporary construction compound (TCC) and concrete batching plant (as shown in Attachment A, Figure V3:06:02), each capable of operating independently from the other. When construction is completed the main site TCC will be converted into a permanent site access with parking and a public viewing area. Site offices, workshop and spares stockholding will be contained in the site substation complex.

Internal wind farm tracks will for the most part be 5m unformed tracks with the exception of a 10m "spine" track on the main site. All access from the public road will have security barriers and the solar PV site will be contained within a security fence (approximately 2.4 m).

Export and inter-site electrical connections:

The electricity produced by the Project will be exported from the main substation north along Port Paterson Road underground via two 132kV cables to the existing Davenport substation approximately 4km to the north-west. The proposed route is shown in Attachment A, Figure V3.06.14.

East site turbines to the south of Horrocks Pass Road (Turbines 63 – 67) will be connected to the main east site reticulation network via an underground 33kV cable as shown in Attachment A: Figure V3.06.17. Power from the east site turbines will be linked to the main substation by means of an overhead electrical connection across the ARTC rail corridor, the A1 highway and SA Water pipeline as shown in Attachment A, Figure V3.06.17.

Depending on the final electrical design, the west site switching station will either be connected to the main substation via the overhead connection or will be connected to the west site (north) 33kV reticulation system via an underground cable as shown in Attachment A, Figure V3.06.17.

Operation
Once operational the Port Augusta REP site will operate for up to 25 years prior to decommissioning. A series of operational management measures will be in place (see Section 5).

Decommissioning
There are two likely decommissioning scenarios:

1. The site would be decommissioned and returned to its former condition. Major equipment including the turbines, solar panels and substation components would be broken up and recycled. Where possible existing tracks would be left in situ for use by the landowner.
2. Reflecting the advances in technology, existing equipment would be replaced with the latest technology (within the existing development envelope).

2.2 Alternatives to taking the proposed action

This should be a detailed description outlining any feasible alternatives to taking the proposed action (including not taking the action) that were considered but are not proposed (note, this is distinct from any proposed alternatives relating to location, time frames, or activities – see section 2.3).

DP Energy investigated a number of potential wind farm sites across Australia. A series of selection criteria were applied to potential wind farm sites in order to determine site suitability (environmental, social, technical and operational). Of a number of sites meeting selection criteria in South Australia, the Port Augusta location was selected as the lead site for further feasibility investigation for the following reasons:

- Excellent grid capacity in close proximity to the site;
- A predictable diurnal wind resource driven by the relative temperature differential between the land (heating and cooling every 24 hours) and the sea (relatively stable);
- The broader landscape is heavily modified through the clearing of native vegetation for grazing;
- Located on a coastal plain in proximity to the Northern and Playford B Power Stations and the Davenport Sub-station the visual impact is considered to be reduced in comparison to an equivalent ridgeline site with less evidence of manmade features;
- Relatively low population density with a complementary land use not adversely impacting on existing agricultural activities;
- Excellent access from the A1 Augusta Highway; and
- Proximity to local goods and services available in Port Augusta.

Following the final fauna survey in June 2013, the layout was modified to reflect the recommendations of the Flora and Fauna assessments. This resulted in the removal of turbines 4, 9, 24, 27, 28, 29, 30 and 35, and the relocation of turbines 22, 25, 26, 31 – 34, 36 – 39, 40 – 41, 43 - 46, 49, 55 – 58, 59 – 62 and 63 – 67, either directly in response to recommendations or indirectly to compensate for direct changes to neighbouring turbines. Many of the associated access tracks were also relocated to accommodate the turbine relocations.

2.3 Alternative locations, time frames or activities that form part of the referred action

If you have identified that the proposed action includes alternative time frames, locations or activities (in section 1.10) you must complete this section. Describe any alternatives related to the physical location of the action, time frames within which the action is to be taken and alternative methods or activities for undertaking the action. For each alternative location, time frame or activity identified, you must also complete (where relevant) the details in sections 1.2-1.9, 2.4-2.7, 3.3 and 4. Please note, if the action that you propose to take is determined to be a controlled action, any alternative locations, time frames or activities that are identified here may be subject to environmental assessment and a decision on whether to approve the alternative.

Not applicable.

2.4 Context, planning framework and state/local government requirements

Explain the context in which the action is proposed, including any relevant planning framework at the state and/or local government level (e.g. within scope of a management plan, planning initiative or policy framework). Describe any Commonwealth or state legislation or policies under which approvals are required or will be considered against.

Context

The proposed Port Augusta REP will:

- Create clean, renewable energy, with an installed capacity of around 300 - 350MW.
- Contribute to the achievement of the Australian Government's Renewable Energy Target (RET) that 23.5% of Australia's electricity will be delivered from renewable sources by 2020.
- Provide economic and social benefits in the form of temporary and ongoing employment and economic stimulus for the Port Augusta region.
- Provide improved environmental outcomes through reduced greenhouse gas emissions.

Section 49 Development

The Port Augusta Renewable Energy Park has been sponsored by the Department of State Development as a development of public infrastructure under Section 49 of the Development Act 1993. A Development Application will be submitted to the Development Assessment Commission (DAC), who will receive submissions from members of the public and from local and state government agencies. The DAC will prepare a report for the Minister for Planning, who will either approve or refuse the development.

Federal legislative and policy framework

Consideration has been given to the EPBC Act Policy Statement 2.3 for the Wind Farm Industry (Commonwealth of Australia 2009b).

Relevant Commonwealth legislation may include:

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
- *Australian Heritage Council Act 2003*
- *Civil Aviation Safety Regulations 1998*
- *Environment and Heritage Legislation Amendment Act (No. 1) 2003*
- *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*
- *Native Title Act 1993*
- *Radio-communications Act 1992*
- *Renewable Energy (Electricity) Act 2000*

State legislative and policy framework

South Australia was the first state to legislate targets to reduce greenhouse gas emissions under the Climate Change and Greenhouse Emissions Reduction Act 2007, and currently hosts approximately 50% of the nations installed wind capacity.

The Climate Change and Greenhouse Reduction Act 2007, specifies South Australian Government to a target of 20 % of the State"s electricity being generated from renewable energy by 2014. In 2009, South Australia committed to increasing its renewable energy production target to 33% by 2020. This target was achieved in in 2013-2014. In 2014 a new target of 50% by 2025 was set, subject to national renewable energy policy being retained.

Relevant pieces of legislation at a State level may include:

- *Development Act 1993*
- *Aboriginal Heritage Act 1988*
- *Crown Land Management Act 2009*
- *Eastern Water Conservation and Drainage Board Act 1992*
- *Electricity Act 1996*
- *Environment Protection Act 1993*
- *Environmental Noise Guidelines 2009*
- *Environmental Protection (Noise) Policy 2007*
- *Heritage Places Act 1993*

- *National Parks and Wildlife Act 1972*
- *Native Vegetation Act 1991 and Regulations 2003*
- *Natural Resources Management Act 2004*
- *Real Property Act 1886*

South Australian Strategic Plan (2011)
South Australia's Strategic Plan (2011) establishes the broad strategy and government commitment to making South Australia prosperous, environmentally rich, culturally stimulating, offering its citizens every opportunity to live well and succeed. One of the key objectives of the Strategic Plan is for South Australia to be at the forefront of addressing climate change.

The overarching goal relating to sustainability is that "South Australia has reliable and sustainable energy sources, where renewable energy powers our homes, transport and workplaces." In order for the State to achieve this goal 100 targets relating to the environment have been established. Of these, the following two are of most relevance to the Port Augusta REP and identify how this project will assist the State in achieving its targets and goals:

- Target 64. Renewable energy: Support the development of renewable energy so that it comprises 33% of the state"s electricity production by 2020. Milestone of 20% by 2014.
- Target 66. Emissions intensity: Limit the carbon intensity of total South Australian electricity generation to 0.5 tonnes of CO2/MWh by 2020.

Strategic Infrastructure Plan for South Australia 2004/5 – 2014-15
In order for the South Australian Government to provide a sufficient supply of energy that will meet the increasing demand, additional sources of electricity, particularly using renewable energy will be required to be established. The Port Augusta REP will provide for the additional supply of up to 300 MW of renewable energy into network. The construction of this new wind and solar farm is consistent with the intent of the South Australian Government Strategic policy directions for renewable energy, greenhouse gas emissions and broader sustainability principles.

Local legislative and policy framework
The proposed Port Augusta REP falls entirely within the Primary Industry Zone of the Port Augusta City Council and the Primary Production Zone of the District Council of Mount Remarkable..

2.5 Environmental impact assessments under Commonwealth, state or territory legislation
If you have identified that the proposed action will be or has been subject to a state or territory environmental impact statement (in section 1.11) you must complete this section. Describe any environmental assessment of the relevant impacts of the project that has been, is being, or will be carried out under state or territory legislation. Specify the type and nature of the assessment, the relevant legislation and the current status of any assessments or approvals. Where possible, provide contact details for the state/territory assessment contact officer.
Describe or summarise any public consultation undertaken, or to be undertaken, during the assessment. Attach copies of relevant assessment documentation and outcomes of public consultations (if available).

DP Energy is committed to ensuring that all its projects are developed in a sustainable manner with the minimum reasonable environmental impact on their surroundings. Our approach in this respect is to consult with stakeholders and local interest groups in order to identify potentially sensitive issues and so that we are able to agree a scope and methodology that best defines not only how the baseline surveys will be carried out but also how the project may impact on such sensitivities. Following consultation, we have undertaken baseline surveys to characterise the area in its current form in order to assess the potential impact of the Project. These baseline surveys reports will be contained in the technical appendices to the pending Development Application.

Surveys, assessments and investigations were completed to address environmental, technical and social matters including: Flora and Flora, Cultural Heritage, Landscape and Visual Amenity, Noise, Aviation, Communications, and Traffic and Transport.

Flora & Fauna — Walkover surveys were conducted by EBS Ecology to characterise the ecology of the site and to identify designated or sensitive species. The results of these surveys have been fed into the design process to amend turbine and access track locations. The flora and fauna assessment is Attachment C. An ecological chapter was subsequently prepared in 2014-2015 as part of the development application for the project (EBS Ecology 2015 – Attachment D), this is a draft of the chapter for the Development Application. It is subject to final review/formatting, though for the purpose of the EPBC referral the technical content is correct.

Cultural Heritage — Australian Cultural Heritage Management (ACHM) conducted an anthropological heritage survey and an initial archaeological heritage site assessment of the proposed Port Augusta Renewable Energy Park footprint (the Project

Site), taking into account Aboriginal (anthropological and archaeological) and European (archaeological) cultural heritage.[1] The Cultural Heritage Site Assessment Report is Attachment E.

Landscape & Visual Amenity — A Landscape Character and Probable Visual Effect Assessment (LCPVEA) was conducted to characterise the local landscape character, and an assessment made of the capacity of the area (in landscape terms) to accommodate the proposal. A visual assessment has also been undertaken by generating a series of visualisations from key viewpoints in order to quantify the impacts and degree of sensitivity from these viewpoints. A selection of visualisations are contained in Attachment F.

Noise — The project is designed with substantial setbacks to minimise possible noise issues, however, a background noise survey was conducted at a number of locations across the site to enable accurate pre and post construction assessments to be undertaken.

Stakeholder and community consultation is an important part of the project development process. DPEA's approach to consultations has been informed by the recommendations proposed within the Environment Protection and Heritage Council (EPHC) Draft National Wind Farm Development Guidelines and the Clean Energy Council (CEC) Best Practice Guidelines.

Attachment G contains a summary of the consultations that have been undertaken.

DP Energy held Community Open Days for the project at the Port Augusta Institute Theatre on the 5th and 6th of May 2015. The purpose of the Open Days was to provide the community with an opportunity to view information about the project, to speak directly with the developers and their technical representatives, and to have questions answered in person. Approximately 70 people attended the Open Days, and the feedback received was generally positive with more than 70% of questionnaires completed indicating support for the project. Whilst these only represent approximately one quarter of the total number of attendees, our feeling is that this is a fair representation of the positive nature of the event. Much of the interest centred around the potential employment and other opportunities that the project will bring to the region. The material that was on display at the Open Day can be accessed from the following website http://dpenergy.info/parep/downloads and are included in Attachment H.

2.6 Public consultation (including with Indigenous stakeholders)

Your referral must include a description of any public consultation that has been, or is being, undertaken. Where Indigenous stakeholders are likely to be affected by your proposed action, your referral should describe any consultations undertaken with Indigenous stakeholders. Identify the relevant stakeholders and the status of consultations at the time of the referral. Where appropriate include copies of documents recording the outcomes of any consultations.

Attachment G contains a summary of stakeholder and community consultations (these details will be submitted as part of the Development Application for the project).

The Cultural Heritage report is Attachment E. This report contains further details regarding Traditional Owner consultation.

The material that was on display at the Open Day can be accessed from the following website:

http://dpenergy.info/parep/downloads and are included in Attachment H.

2.7 A staged development or component of a larger project

If you have identified that the proposed action is a component of a larger action (in section 1.12) you must complete this section. Provide information about the larger action and details of any interdependency between the stages/components and the larger action. You may also provide justification as to why you believe it is reasonable for the referred action to be considered separately from the larger proposal (eg. the referred action is 'stand-alone' and viable in its own right, there are separate responsibilities for component actions or approvals have been split in a similar way at the state or local government levels).

Not applicable.

3 Description of environment & likely impacts

[1] The Cultural Heritage Site Assessment was completed prior to the addition of Section 708 (s708), Hundred of Davenport (within title CT6151/864) in May 2014. However, a search of the Australian Heritage Database and the Register of Aboriginal Sites and Objects undertaken as part of the Cultural Heritage Site Assessment did not return any results for heritage sites or reported or registered Aboriginal sites within s708. It is intended that s708 will be surveyed as part of future pre-construction heritage investigations envisaged herein and the same mitigation and monitoring procedures applied.

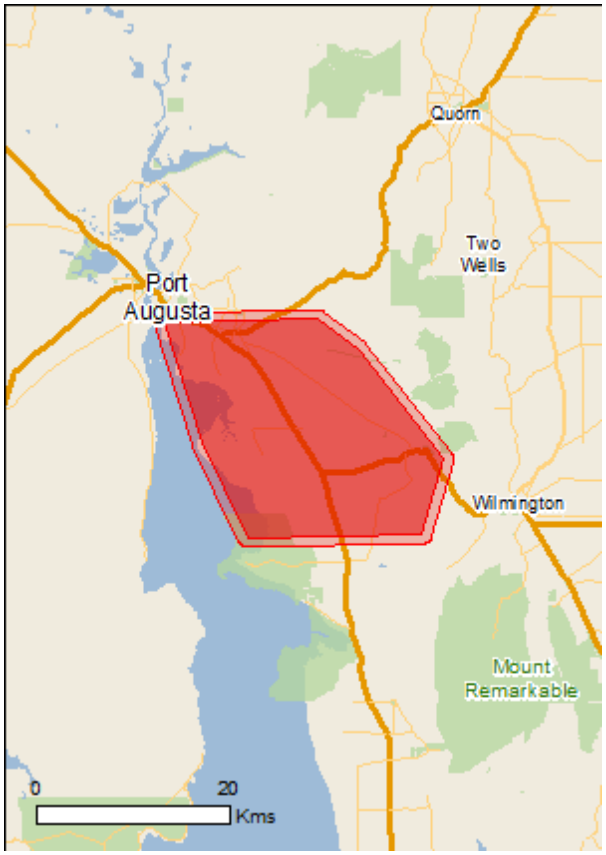
3.1 Matters of national environmental significance

In 2012-2013, EBS Ecology undertook a desktop and field ecological assessment for the proposed Port Augusta REP (EBS Ecology 2013 – Attachment C). An ecological chapter was subsequently prepared in 2014-2015 as part of the development application for the project (EBS Ecology 2015 – Attachment D), this is a draft of the chapter for the Development Application. It is subject to final review/formatting, though for the purpose of the EPBC referral the technical content is correct. The ecological chapter summarises the ecological constraints and risk assessment for the project, focusing on threatened and sensitive flora and fauna species and vegetation communities which are known from or potentially occur within the project area.

Given the time that has passed since the ecological assessment was undertaken, the EPBC Protected Matters Search was regenerated in August 2015, to ensure the referral and ecological chapter were based on up to date EPBC Act listings (Attachment I).

The information provided in the following sections is based on the August 2015 Protected Matters Search. A summary of the results of this search is provided in Table 2 and discussed in the following sections.

Table 2. Summary of the results of the EPBC Protected Matters Search Tool (5 km buffer).

Search area	Matters of National Environment Significance under the EPBC Act	Identified within search area
	World Heritage Properties	None
	National Heritage Places	None
	Wetlands of International Importance	None
	Great Barrier Reef Marine Park	None
	Commonwealth Marine Area	None
	Listed Threatened Ecological Communities	2
	Listed Threatened Species	41
	Listed Migratory Species	40
	Commonwealth Land	1
	Commonwealth Heritage Places	None
	Listed Marine Species	67
	Whales and other Cetaceans	8
	Critical Habitats	None
	Commonwealth Reserves Terrestrial	None
	Commonwealth Reserves Marine	None
	State and Territory Reserves	1
	Regional Forest Agreements	None
	Invasive Species	29
	Nationally Important Wetlands	1
	Key Ecological Features (Marine)	None

3.1 (a) World Heritage Properties

Description

There are no listed World Heritage Properties within or near the project site.

Nature and extent of likely impact

The proposed action will not directly or indirectly impact any World Heritage Properties.

3.1 (b) National Heritage Places

Description
There are no listed National Heritage Places within or near the project site.

Nature and extent of likely impact

The proposed action will not directly or indirectly impact any National Heritage Places.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description
There are no Wetlands of International Importance within or near the project site.

Nature and extent of likely impact

The proposed action will not directly or indirectly impact any Wetlands of International Importance.

3.1 (d) Listed threatened species and ecological communities

Description
The Protected Matters Search Tool identified the following nationally threatened species/ecological communities as potentially occurring or having habitat potentially occurring within the search area:

- 10 flora species
- 31fauna species
- 2 ecological communities.

These species/ecological communities, and their likelihood of occurrence within the project site, are shown in Table 3 and Table 4 below.

Table 3. Threatened species listed under the EPBC Act identified from the Protected Matters Search Tool (5 km buffer).

Scientific name	Common name	EPBC Status	Likelihood of occurrence within project site
FLORA			
Caladenia gladiolata	Bayonet Spider-orchid	EN	Unlikely
Caladenia macroclavia	Large-club Spider-orchid	EN	Unlikely
Caladenia tensa	Rigid Spider-orchid	EN	Possible
Caladenia woolcockiorum	Woolcock's Spider-orchid	VU	Unlikely
Caladenia xantholeuca	Flinders Ranges White Caladenia	EN	Unlikely
Frankenia plicata		EN	Possible
Olearia pannosa subsp. pannosa	Silver Daisy-bush	VU	Possible
Prasophyllum pallidum	Pale Leek-orchid	VU	Unlikely
Prasophyllum validum	Sturdy Leek-orchid	VU	Unlikely
Senecio megaglossus	Superb Groundsel	VU	Possible
FAUNA			
Birds			
Amytornis textilis myall	Western Grasswren (Gawler Ranges)	VU	Possible
Calidris ferruginea	Curlew Sandpiper	CE	Possible
Diomedea epomophora epomophora	Southern Royal Albatross	VU	Unlikely
Diomedea epomophora sanfordi	Northern Royal Albatross	EN	Unlikely
Diomedea exulans (sensu lato)	Wandering Albatross	VU, Mi (Ma)	Unlikely
Diomedea exulans antipodensis	Antipodean Albatross	VU	Unlikely
Diomedea exulans exulans	Tristan Albatross	EN	Unlikely
Grantiella picta	Painted Honeyeater	VU	Unlikely
Leipoa ocellata	Malleefowl	VU	Unlikely
Macronectes giganteus	Southern Giant Petrel	EN, Mi (Ma)	Unlikely
Macronectes halli	Northern Giant Petrel	VU, Mi (Ma)	Unlikely
Neophema chrysogaster	Orange-bellied Parrot	CE	Unlikely
Numenius madagascariensis	Eastern Curlew	CE, Mi (W)	Known
Pedionomus torquatus	Plains-wanderer	CE	Possible
Phoebetria fusca	Sooty Albatross	VU, Mi (Ma)	Unlikely
Rostratula australis	Australian Painted Snipe	EN	Unlikely
Sternula nereis nereis	Australian Fairy Tern	VU	Possible
Thalassarche cauta cauta	Shy Albatross	VU	Unlikely

Thalassarche cauta steadi	White-capped Albatross	VU	Unlikely
Thalassarche melanophris	Black-browed Albatross	VU, Mi (Ma)	Unlikely
Thalassarche melanophris impavida	Campbell Albatross	VU	Unlikely
Mammals			
Eubalaena australis	Southern Right Whale	EN, Mi (Ma)	Nil
Megaptera novaeangliae	Humpback Whale	VU, Mi (Ma)	Nil
Neophoca cinerea	Australian Sea-lion	VU	Nil
Petrogale xanthopus xanthopus	Yellow-footed Rock-wallaby	VU	Unlikely
Reptiles			
Aprasia pseudopulchella	Flinders Ranges Worm-lizard	VU	Possible
Caretta caretta	Loggerhead Turtle	EN, Mi (Ma)	Nil
Chelonia mydas	Green Turtle	VU, Mi (Ma)	Nil
Dermochelys coriacea	Leatherback Turtle	EN, Mi (Ma)	Nil
Notechis scutatus ater	Krefft's Tiger Snake (Flinders Ranges)	VU	Unlikely
Sharks			
Carcharodon carcharias	Great White Shark	VU, Mi (Ma)	Nil

Table 4. Threatened ecological communities listed under the EPBC Act identified from the Protected Matters Search Tool (5 km buffer).

Threatened ecological community	EPBC Status	Likelihood of occurrence
Peppermint Box (*Eucalyptus odorata*) Grassy Woodland of South Australia	CE	Unlikely
Subtropical and Temperate Coastal Saltmarsh	VU	Likely

Conservation Codes: CE: Critically Endangered, **EN**: Endangered, **VU**: Vulnerable, **R**: Rare.

FLORA

Four of the ten threatened flora species identified in the Protected Matters Search are considered as possibly occurring within the Port Augusta REP project site based on preferred habitat and known records. None of these species were recorded during surveys of the site.

Caladenia tensa (Rigid Spider-orchid) - EN
Frankenia plicata - EN
Olearia pannosa subsp. *pannosa* (Silver Daisy-bush) - VU
Senecio megaglossus (Superb Groundsel) - VU

These species are discussed below (Table 5). Further background on the threatened flora species is provided in the flora and fauna assessment (EBS Ecology 2013 – Attachment C) and the draft ecological chapter of the Development Application (Attachment D).

Table 5. Description of EPBC listed flora species assessed as having potential to occur within the Port Augusta REP Project Site.

Species (and EPBC status)	Description
***Caladenia tensa* (Rigid Spider-orchid) (Endangered)**	*Caladenia tensa* is a small Spider-orchid. Various habitats have been described including Cypress Pine, Yellow Gum Woodland, Pine / Box woodland, mallee-heath sites, heathy woodland, mallee woodland, low scrub and about rock outcrops in a variety of soil types. Flowering occurs in late August-October. In SA, it is known from the Northern Lofty, Murraylands, South East, Flinders Ranges and Kangaroo Island regions. In the broad sense the species is considered secure but some forms which may prove to be distinct species; the species does not have a conservation listing under the *South Australian National Parks and Wildlife Act 1972*.
***Frankenia plicata* (Endangered)**	*Frankenia plicata*, also known as Sea Heath, is a small densely branches, hairy, erect or prostrate shrub (flowering September-October). It occurs in SA, from north of Port Augusta to the NT border. It is likely the species is under reported due to difficulty in identification. It grows in a range of habitats that have good drainage, including small hillside channels and swales or loamy sands to clay.
***Olearia pannosa subsp. pannosa* (Silver Daisy-bush) (Vulnerable)**	*Olearia pannosa subsp. pannosa* (Silver Daisy-bush) occurs in the understorey of mallee and woodland communities in sandy, flat areas and in hilly, rocky areas. It is a medium-sized shrub with dark green leaves on the upper surface, silvery-white underneath and a large daisy flower. This species is distributed within a number of regions within South Australia, including the Flinders Ranges, Eyre Peninsula, Yorke Peninsula, the Northern and Southern Lofty Ranges, the Murray Mallee and the South East. Many of the Silver Daisy-bush populations are fragmented and contain a small number of individuals, often occurring in roadside vegetation remnants. Threats include roadside maintenance

	activities and edge effects, weed infestation, and lack of recruitment. Silver Daisy-bush was not observed during surveys of the site, and given its distinctive features is likely to have been observed if it was present. The Mallee vegetation associations within the project area represent potentially suitable habitat, however the chenopod understorey is atypical for this species.
Senecio megaglossus **(Superb Groundsel) (Vulnerable)**	*Senecio megaglossus* occurs within the Southern Flinders Ranges to the Northern Lofty Ranges; the species primarily inhabits rocky gorges and valley slopes and has been recorded from a number of vegetation types including grasslands and tall open shrublands. Associated vegetation communities include herbland or grassland often with *Lomandra effusa*, tall open shrubland dominated by *Pittosporum phylliraeoides*, *Acacia calamifolia* sparse heathland and *Cassinia laevis* low sparse shrubland. There is a record immediately south of the project area, near Main North Road (DENR 2010).

Information generally sourced from DOE (2015).

THREATENED ECOLOGICAL COMMUNITIES

Peppermint Box (Eucalyptus odorata) Grassy Woodland of South Australia, or derived grasslands, were not found within the project area during the field survey.

Subtropical and Temperate Coastal Saltmarsh is considered present within the project area and surrounding coastal zone. Vegetation Association 11 (*Tecticornia* spp. +/- *Maireana pyramidata* Low Open Shrubland) is the most relevant vegetation community mapped that could be considered part of the threatened ecological community. This vegetation association covers less than 1% of the project area and occurs in the south-west corner of the project area. No wind turbines are proposed in this area.

Advice was sought from the Commonwealth Department of the Environment regarding the Coastal Saltmarsh and because the community is classed as vulnerable under the EPBC Act, it is understood that no assessment is required at the EPBC Referral stage. A risk assessment has been undertaken for this threatened ecological community as a precaution (see Attachment D), with the resulting impact being low.

FAUNA

Six of the 31 threatened fauna species identified in the Protected Matters Search are considered as possibly occurring within the Port Augusta REP project site:

Amytornis textilis myall (Western Grasswren (Gawler Ranges)) - VU
Calidris ferruginea (Curlew Sandpiper) - CE
Numenius madagascariensis (Eastern Curlew) - CE
Pedionomus torquatus (Plains-wanderer) - CE
Sternula nereis nereis (Australian Fairy Tern) - VU
Aprasia pseudopulchella (Flinders Ranges Worm-lizard) - VU.

These species are discussed below (Table 6). Further background on the threatened fauna species is provided in the flora and fauna assessment (EBS Ecology 2013 Attachment C) and the draft ecological chapter of the Development Application (Attachment D).

Table 6. Description of EPBC listed fauna species assessed as having potential to occur within the Port Augusta REP Project Site.

Species (and EPBC status)	Description
Amytornis textilis myall **(Western Grasswren (Gawler Ranges)) – Vulnerable**	The Gawler Ranges subspecies of the Western Grasswren (previously known as the Thick-billed Grassland) may be the same form as the nominate subspecies *A. t. textilis* but more study is needed. Western Grasswrens are thickset, dull brown grasswrens with dark stout bills. The Gawler Ranges subspecies is usually seen in pairs or small groups, but sometimes occurs singly. The Gawler Ranges subspecies of the Western Grasswren is restricted to South Australia. It is scattered and widespread on the northeastern Eyre Peninsula, from around Whyalla and Mt Middleback, northwest through the Gawler Ranges (particularly the eastern Gawler Ranges), north to around Lake MacFarlane and eastern Lake Gairdner. The Western Grasswren (Gawler Ranges subspecies) occurs in open chenopod shrublands, often where dense stands of *Acacia tetragonophylla* (Dead Finish) or *Maireana pyramidata* (Blackbush) surround drainage lines. It also occurs in *Atriplex* spp. (Saltbush) and *Maireana* spp. (Bluebush) shrublands with a sparse or open overstorey of low trees or shrubs, such as *Acacia papyrocarpa* (Western Myall), *Casuarina cristata pauper* (Black Oak), *Lycium australe* (Australian Boxthorn), *Alectryon oleaefolium*

	(Bullock Bush) and *Myoporum platycarpum* (Sugarwood). It has also been recorded in *Nitraria billardierei* (Nitre Bush) on coastal shellgrit ridges South of Whyalla. The extent of occurrence of the Western Grasswren (Gawler Ranges subspecies) has not been reliably estimated, however it is assumed to be greater than 5 000 km². There is no evidence to suggest the subspecies has undergone a contraction in range. The total population size of the Gawler Ranges subspecies is estimated to be no more than 10,000 birds (DOE 2015).
Calidris ferruginea **(Curlew Sandpiper) – Critically Endangered**	The Curlew Sandpiper mainly occurs on intertidal mudflats in sheltered coastal areas. They forage on mudflats and in shallow <6cm deep water. Suitable habitat exists around Port Paterson, however the species is more commonly found in northern parts of Australia (DOE 2015). Possible fly over.
Numenius madagascariensis **(Eastern Curlew) – Critically Endangered**	The Eastern Curlew occurs in a variety of wetland habitats including inshore waters, reefs, bays, coastal cliffs, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes. Breeding takes places in the northern hemisphere within Eastern Russia during Australia's winter period. After breeding, the species then migrates, heading sound, with the vast majority of the population spending summer in Australia. The species will remain in Australia until mid to late February (DOE 2015). There are recent records of this species in the area (DENR 2010) and eleven individuals were observed during bird surveys in the coastal fringes associated with the mangroves to the west of the project site (EBS Ecology 2013). Possible fly over.
Pedionomus torquatus **(Plains-wanderer) – Critically Endangered**	The Plains-wanderer inhabits sparse, treeless, lowland native grassland with approximately 50% bare ground and usually occur on hard, red-brown clay soils. Birds may travel in search of suitable habitat (one recorded movement of 40 km). Records illustrate that the species can 'wander' hence the potential to occur within the project area.
Sternula nereis nereis **(Australian Fairy Tern) – Vulnerable**	The Australian Fairy Tern is found on coastal beaches, inshore and offshore islands, sheltered inlets, sewage farms, harbours, estuaries and lagoons. It favours both fresh and saline wetlands and near-coastal terrestrial wetlands, including lakes and salt-ponds (DOE 2015). Sheltered estuaries around Port Paterson appear suitable for this species. Recent records exist for the coastal area in proximity to the project site (DENR 2010). Generally confined to the coastal zone but possible fly over.
Aprasia pseudopulchella **(Flinders Ranges Worm-lizard) - Vulnerable.**	The Flinders Ranges Worm-Lizard occurs in open woodland, native tussock grassland, riparian habitats and rocky isolates. It prefers stony soils or clay soils with a stony surface. It is sometimes found underground, in debris and logs, or in ant and termite nests. This species is known from in and around the Flinders Ranges, as well as extending west into the plain area, which includes the Port Paterson area (DOE 2015). There is a recent record within 10 km of the project site (DENR 2010).

Information generally sourced from DOE (2015).

Nature and extent of likely impact

There is potential for impact to some threatened species highlighted in the EPBC Protected Matters Search as a result of the proposed action, however the impact is not considered to be significant as it will not:

- lead to a long-term decrease in the size of a population
- reduce the area of occupancy of the species
- fragment an existing population into two or more populations
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of a population
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat
- introduce disease that may cause the species to decline, or
- interfere with the recovery of the species.

Localised vegetation clearance is required for the turbines and associated wind farm infrastructure. Most of the required vegetation clearance for the wind farm will be within chenopod shrubland. Currently, there is no proposal to remove vegetation for the solar development however the solar development will have some level of impact on degraded chenopod shrubland.

If the threatened and migratory fauna species identified above are present, they are most likely to occur within their preferred habitats, which includes intact woodland, shrubland, samphire and wetland areas. If such areas are to be disturbed and cleared for infrastructure, it is possible there could be an impact on these species. There is currently no evidence that coastal bird species move through the project area during their period of residence, or that the area is an important flyway for migratory shorebirds.

In relation to EPBC listed flora, the main potential impact is in the form of:
- direct loss of plants through clearance
- loss of habitat through clearance
- the potential introduction and spread of weed species.

In relation to EPBC listed fauna, the main potential impact is in the form of:
- Direct habitat loss (through clearance)
- Indirect habitat loss (either temporary or permanent, through disturbance during construction/operation)
- Loss of individuals (through collision with turbines)
- Restricted movement of individuals (barrier effect)

The risk to coastal fauna species is predominantly in relation to turbine interactions during fly-overs.

The nature and significance of potential impacts to listed species that are known, likely to or considered as possibly occurring within the project area is summarised in Table 7.

No EPBC listed flora species are currently known from the project site although four species are considered as having some potential to occur. *Caladenia tensa, Olearia pannosa* subsp. *pannosa and Senecio megaglossus* are generally known from woodland habitats. Given the limited extent of woodland habitat and that impact to this habitat has been minimised through the design process, the risk to this species is low.

The potential impact of the development on EPBC listed species is minimised by:
- siting turbines, solar components and associated infrastructure on already degraded land where possible, in an association which is widely available across the broader region.
- avoiding and buffering coastal habitats to the west of the project area.
- avoiding and buffering of woodland habitat, where possible.
- avoiding and buffering ephemeral creeks
- minimising the construction footprint
- micro-siting by a qualified ecologist prior to construction, to ensure significant species/areas are avoided where possible - see Attachment D
- adopting site management measures as per Section 5 (e.g. exclusion zones to prevent any disturbance if a significant species is detected).

Table 7. Potential impacts on EPBC listed species assessed as having potential to occur within the Port Augusta REP Project Site.

Species	Potential Impact	Details and Significance of Impact
FLORA		
Caladenia tensa (Rigid Spider-orchid)	Clearance of individuals, habitat clearance	No individuals were detected during site surveys. Better quality Eucalypt woodland habitat could represent potential habitat. Orchids may not have been present at the time of site surveys. Potential impact has been minimised by avoiding woodland habitats and placement of infrastructure in degraded areas, where possible. Further survey/micro-siting should be undertaken if impact extends into potential habitat. While suitable habitat may occur within the project area, the relatively minimal clearance of potential habitat required for the construction of the wind farm is not considered likely to adversely affect habitat critical to the survival of the species, nor is it considered that it will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
Frankenia plicata	Clearance of individuals, habitat clearance	No individuals were detected during site surveys but potential habitat is present. Potential impact has been minimised by the proposed placement of infrastructure in degraded areas, where possible. While suitable habitat may occur within the project area, the relatively minimal clearance of potential habitat required for the construction of the wind farm is not considered likely to adversely affect habitat critical to the survival of the species, nor is it considered that it will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the

		extent that the species is likely to decline.
Olearia pannosa subsp. *pannosa* (Silver Daisy-bush)	Clearance of individuals, habitat clearance	No individuals were detected during site surveys. It is considered likely that the species would have been observed if present. Key habitat for this species is mallee and woodland communities, however the species is also often found in degraded patches (e.g. remnant roadside vegetation). Clearance of woodland vegetation and scattered trees will be minimised as far as practicable. While suitable habitat may occur within the project area, the relatively minimal clearance of potential habitat required for the construction of the wind farm is not considered likely to adversely affect habitat critical to the survival of the species, nor is it considered that it will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
Senecio megaglossus (Superb Groundsel)	Clearance of individuals, habitat clearance	No individuals were detected during site surveys. It is considered likely that the species would have been observed if present. While suitable habitat may occur within the project area (most likely shrubland or woodland), the relatively minimal clearance of potential habitat required for the construction of the wind farm is not considered likely to adversely affect habitat critical to the survival of the species, nor is it considered that it will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
FAUNA		
Amytornis textilis myall (Western Grasswren (Gawler Ranges))	Habitat loss and fragmentation Disturbance	No individuals were detected during site surveys. The species could occur within chenopod and other shrubland (of various quality) within the project area. This species generally flies low to the ground and thus interaction with turbines is unlikely. The species could suffer from habitat loss/ displacement associated with human, vehicle and construction activity, increased noise, and vibration sources reduction in habitat suitability.
Calidris ferruginea (Curlew Sandpiper)	Collision with turbines, disturbance associated with construction/operation	No individuals were detected during site surveys. The species is likely to be restricted to the coast. Flight paths are poorly understood, however turbines close to coastal fringes may represent a collision risk. The overall risk to the species is considered low given: its preference for coastal habitats and placement of turbines >1.5 km from the coast
Numenius madagascariensis (Eastern Curlew)	Collision with turbines, disturbance associated with construction/operation	Eastern Curlews were recorded from the coastal zone bordering the project area. This species travels vast distances across much of Australia, is likely to move through the Port Paterson area during coastal migrations. The direct paths, timing of the migratory flights are poorly understood, however turbines close to coastal fringes may represent a collision risk. The overall risk to the species is considered low given: its preference for coastal habitats and coastal movements; that observations were restricted to the coastal zone and no observation was made of this species flying at heights that would put it at risk of colliding with turbines; that impact on this species will be minimised by placement of turbines >1.5 km from the coast.
Pedionomus torquatus (Plains-wanderer)	Clearance of habitat, bird strike	No individuals were detected during site surveys. Significant habitat for this species is native grasslands, with a high degree of bare ground. Most of the site is covered with low shrubland as opposed to grassland. The low nature of the vegetation across much of the project site is potentially suitable for the Plains-wanderer. This habitat within the project area is well represented across the region. Clearance will be localised associated with infrastructure placement; low cover habitat will still be available across the project area. The overall impact to potential habitat is considered to

		be low. Plains-wanderers are extremely reluctant to fly. When they do fly, it is usually only to a height of 3-10 m (NSWNPWS 2002); that is, well below rotor height. In addition, it is unlikely that the Plains-wanderer would be common within the site, so the likelihood of bird strike for this species is considered to be extremely low.
Sternula nereis nereis (Australian Fairy Tern)	Collision with turbines, disturbance associated with construction/operation	Australian Fairy Tern was not detected during any of the surveys. It is unknown if the Australian Fairy Tern would travel inland and be at risk. It is considered possible that the species could fly-over the project area and be susceptible to collision. While some individuals may be lost, the potential loss of individuals is not expected to lead to a long-term decrease in the size of the populations.
Aprasia pseudopulchella (Flinders Ranges Worm-lizard)	Clearance of habitat, loss of individuals	No Flinders Ranges Worm-lizards were detected during any of the surveys. However, it is considered possible that the species occurs within the project area, due to presence of suitable habitat. While some individuals may be lost, their population numbers are now considered to be much higher than when it was listed under the EPBC Act. Therefore any loss of individuals is not expected to lead to a long-term decrease in the size of the populations. While suitable habitat may occur within the project area, the relatively minimal clearance of potential habitat required for the construction of the wind farm is not considered likely to adversely affect habitat critical to the survival of the species, nor is it considered that it will modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Information generally sourced from DOE (2015).

3.1 (e) Listed migratory species

Description
The Protected Matters Search identified 40 listed migratory species that may occur or may have habitat occurring within the area. These species and their likelihood of occurrence within the project site are shown in Table 8 below.

Three migratory species were detected during site surveys:
Calidris ruficollis (Red-necked Stint).
Merops ornatus (Rainbow Bee-eater)
Numenius madagascariensis (Eastern Curlew).

The species that also have a threatened rating are addressed above in Section 3.1d.

Table 8. Migratory species listed under the EPBC Act identified from the Protected Matters Search Tool (5 km buffer).

Scientific name	Common name	EPBC Status	Likelihood of occurrence within project site
Birds			
Apus pacificus	Fork-tailed Swift	Mi (Ma)	Possible
Ardea alba	Great Egret, White Egret	Mi (W)	Likely
Ardea ibis	Cattle Egret	Mi (W)	Likely
Arenaria interpres	Ruddy Turnstone	Mi (W)	Possible
Calidris acuminata	Sharp-tailed Sandpiper	Mi (W)	Possible
Calidris alba	Sanderling	Mi (W)	Likely
Calidris canutus	Red Knot, Knot	Mi (W)	Likely
Calidris ferruginea	Curlew Sandpiper	CE, Mi (W)	Possible
Calidris ruficollis	Red-necked Stint	Mi (W)	Known
Charadrius veredus	Oriental Plover	Mi (W)	Unlikely
Diomedea antipodensis	Antipodean Albatross	VU*, Mi (Ma)	Unlikely
Diomedea dabbenena	Tristan Albatross	EN*, Mi (Ma)	Unlikely

Diomedea epomophora (sensu stricto)	Southern Royal Albatross	VU*, Mi (Ma)	Unlikely
Diomedea exulans (sensu lato)	Wandering Albatross	VU, Mi (Ma)	Unlikely
Diomedea sanfordi	Northern Royal Albatross	EN*, Mi (Ma)	Unlikely
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Mi (W)	Unlikely
Limosa lapponica	Bar-tailed Godwit	Mi (W)	Likely
Limosa limosa	Black-tailed Godwit	Mi (W)	Possible
Macronectes giganteus	Southern Giant Petrel	EN, Mi (Ma)	Unlikely
Macronectes halli	Northern Giant Petrel	VU, Mi (Ma)	Unlikely
Merops ornatus	Rainbow Bee-eater	Mi (T)	Known
Numenius madagascariensis	Eastern Curlew	CE, Mi (W)	Known
Pandion haliaetus	Osprey	Mi (W)	Possible
Phoebetria fusca	Sooty Albatross	VU, Mi (Ma)	Unlikely
Puffinus carneipes	Flesh-footed Shearwater	Mi (Ma)	Possible
Rostratula benghalensis (sensu lato)	Painted Snipe	EN*	Unlikely
Thalassarche cauta (sensu stricto)	Shy Albatross, Tasmanian Shy Albatross	VU*, Mi (Ma)	Unlikely
Thalassarche impavida	Campbell's Albatross	VU*, Mi (Ma)	Unlikely
Thalassarche melanophris	Black-browed Albatross	VU, Mi (Ma)	Unlikely
Thalassarche steadi	White-capped Albatross	VU*, Mi (Ma)	Unlikely
Tringa stagnatilis	Marsh Sandpiper	Mi (W)	Possible
Reptiles			
Caretta caretta	Loggerhead Turtle	EN, Mi (Ma)	Nil
Chelonia mydas	Green Turtle	VU, Mi (Ma)	Nil
Dermochelys coriacea	Leatherback Turtle	EN, Mi (Ma)	Nil
Whales and other Cetaceans			
Balaenoptera edeni	Bryde's Whale	Mi (Ma)	Nil
Caperea marginata	Pygmy Right Whale	Mi (Ma)	Nil
Eubalaena australis	Southern Right Whale	EN, Mi (Ma)	Nil
Lagenorhynchus obscurus	Dusky Dolphin	Mi (Ma)	Nil
Megaptera novaeangliae	Humpback Whale	VU, Mi (Ma)	Nil
Sharks			
Carcharodon carcharias	Great White Shark	VU, Mi (Ma)	Nil
Lamna nasus	Porbeagle, Mackerel Shark	Mi (Ma)	Nil

Conservation Codes: CE: Critically Endangered, **EN**: Endangered, **VU**: Vulnerable, **R**: Rare, **Mi(Ma)**: Migratory – Marine, **Mi(T)**: Migratory Terrestrial. ***** Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Thirteen of the 40 listed migratory fauna species identified in the Protected Matters Search are considered as possibly occurring within the Port Augusta REP project site:
Apus pacificus (Fork-tailed Swift_ - Mi (Ma)
Ardea alba (Great Egret, White Egret) - Mi (W)
Ardea ibis (Cattle Egret) - Mi (W)
Arenaria interpres (Ruddy Turnstone) - Mi (W)
Calidris acuminata (Sharp-tailed Sandpiper) - Mi (W)
Calidris alba (Sanderling) - Mi (W)
Calidris canutus (Red Knot, Knot) - Mi (W)
Calidris ferruginea (Curlew Sandpiper) - CE, Mi (W)
Calidris ruficollis (Red-necked Stint) - Mi (W)
Limosa lapponica (Bar-tailed Godwit) - Mi (W)
Limosa limosa (Black-tailed Godwit) - Mi (W)
Merops ornatus (Rainbow Bee-eater) - Mi (T)
Numenius madagascariensis (Eastern Curlew) - CE, Mi (W)
Pandion haliaetus (Osprey) - Mi (W)
Puffinus carneipes (Flesh-footed Shearwater) - Mi (Ma)
Tringa stagnatilis (Marsh Sandpiper) - Mi (W).

Additional to the species identified in the Protected Matters Search (Commonwealth of Australia 2009a), the following EPBC Act listed migratory species are identified as possibly occurring based on existing records in the Biological Database of South Australia within 5 km of the project site:
Tringa nebularia (Common Greenshank) - Mi (most recent record 1999)
Pluvialis squatarola (Grey Plover) - Mi (most recent record 2006)
Hydroprogne caspia (Caspian Tern) - Mi (most recent record 2006) (DENR 2010).

All species known, likely or considered as possibly occurring within the project site are discussed in Table 9 below, except for

species which are also threatened, which are covered in Section 3.1d above. Further background on the migratory species is provided in the flora and fauna assessment (EBS Ecology 2013 – Attachment C) and the draft ecological chapter of the Development Application (Attachment D).

Table 9. Migratory species listed under the EPBC Act assessed as having potential to occur within the Port Augusta REP Project Site.

Species (and EPBC status)	Description
Apus pacificus **(Fork-tailed Swift) - Migratory (Marine)**	The Fork-tailed Swift is of Asian origin. The species is almost exclusively aerial during its stay in Australia. This species can be classed as common throughout its range and is frequently observed ahead of large storm fronts, hawking for insects. It mostly occurs over inland plains but sometimes above foothills or in coastal areas. It is an Australian summer visitor. It is considered a possible fly-over species in relation to the project area.
Ardea alba **(Great Egret, White Egret) - Migratory (Wetland)**	The Great Egret has been reported in a wide range of wetland habitats (e.g. inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). It prefers shallow water, particularly when flowing, but may be seen on any watered area, including damp grasslands. Great Egrets can be seen alone or in small flocks, often with other egret species, and roost at night in groups. It is partially migratory, with northern hemisphere birds moving south from areas with cold winters. Populations across Australia are considered to fluctuate in size in recognition of the highly variable availability of suitable wetland habitat. The species occupies individual sites erratically, and often in highly variable numbers, across a wide geographic area. It may potentially occur at wetlands within the broader area, flying over the project area infrequently or using the project area occasionally to travel between sites. It is expected that this species could occur as an infrequent visitor to the site, with generally low numbers of individuals across the region.
Ardea ibis **(Cattle Egret) - Migratory (Wetland)**	The Cattle Egret utilises grasslands, woodlands and wetlands with a preference for moist areas with tall grass, or shallow open wetlands, and wetland margins. It is common in northern Australia, but uncommon in most of their range in southern Australia. Suitable habitats exists within and near the project area. The species is known to move freely between preferred habitat types. It is expected that this species is likely to occur as an infrequent visitor to the site, with generally low numbers of individuals across the region.
Arenaria interpres **(Ruddy Turnstone) - Migratory (Wetland)**	The Ruddy Turnstone is a migratory wading species which is a common visitor to Spencer Gulf during its routine non breeding migration (Sept-Mar). The species prefers rockier coastline in southern Australia but is also observed on tidal mudflats and mangroves. It feeds around coastal lagoons and occasionally in low vegetation in saltmarsh or in grassy areas above the tideline. The species has recent records within the coastal zone near the project area (DENR 2010). This coastal species could be a possibly fly-over.
Calidris acuminata **(Sharp-tailed Sandpiper) - Migratory (Wetland)**	The Sharp-tailed Sandpiper is commonly found during the Australian winter. This species occurs throughout much of the Gulf regions in South Australia on passage from breeding grounds in Siberia. It prefers muddy edges of shallow fresh or brackish wetlands with inundated or emergent sedges, saltmarsh or other low vegetation. There are recent records of this species along the coast in proximity to the project area (DENR 2010). This coastal species could be a possibly fly-over.
Calidris alba **(Sanderling) - Migratory (Wetland)**	The Sanderling is almost always found on the coast, mostly on open sandy beaches where they forage in the wave-wash zone. This species is likely to be found in the Port Paterson area during the non-breeding season (Australian winter). Large areas of suitable beach are located along the western coast for this species. This coastal species could be a possibly fly-over.
Calidris canutus **(Red Knot, Knot) - Migratory (Wetland)**	The Red Knot inhabits intertidal mudflats, sandflats and sheltered sandy beaches. It forages at the edge of the water or in flats exposed at low tide. This species is common, with key migratory coastal zones being identified around Port Pirie in SA (DOE 2015). As such, it would be expected that the species frequents Port Paterson regularly. This coastal species could be a possibly fly-over.
Calidris ruficollis **(Red-necked Stint) - Migratory (Wetland)**	The Red-necked Stint is mostly found in sheltered coastal areas. It forages on bare wet mud on intertidal mudflats, sandflats or in very shallow water (DOE 2015). This species has recent records in the Biological Database of South Australia (DENR 2010) and was observed in coastal zone during the EBS 2012 survey (EBS Ecology 2013). Coastal species. This coastal species could be a possibly fly-over.
Hydroprogne caspia **(Caspian Tern) – Migratory**	The Caspian Tern has been recorded within 5 km of project area (DENR 2010) but not on EPBC Protected Matters Report given it is considered a fairly common migratory species. Its habitat is usually coastal, preferring sheltered estuaries, inlets, bays, lagoons with muddy or sandy shores. It also extends inland to temporary floodwater

	and large rivers. This coastal species could be a possibly fly-over.
Limosa lapponica **(Bar-tailed Godwit) - Migratory (Wetland)**	The Bar-tailed Godwit is typically found in coastal habitats such as intertidal sandflats, banks, mudflats, lagoons and bays. It is sometimes found in nearby saltmarsh. It is rarely found in inland wetlands or areas of short grass such as paddocks. It is considered an infrequent visitor or possibly fly-over.
Limosa limosa **(Black-tailed Godwit) - Migratory (Wetland)**	The Black-tailed Godwit is most often found in Northern Australian coastal waters. It is commonly found foraging in sheltered coastal areas with large intertidal mudflats or sandflats. Vagrants may be rarely found in the Port Paterson region.
Merops ornatus **(Rainbow Bee-eater) - Migratory (Terrestrial)**	The Rainbow Bee-eater occurs in open forests, woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland. Often, but not always, the species is located in close proximity to permanent water. The Rainbow Bee-eater is distributed across much of mainland Australia and has the ability to undertake long-distance movements. Individuals generally travel north over the winter months. The breeding season for the Rainbow Bee-eater extends from August to January. The nest is located in an enlarged chamber at the end of long burrow or tunnel that is excavated, in flat or sloping ground, in the banks of rivers, creeks or dams, in roadside cuttings, in the walls of gravel pits or quarries, in mounds of gravel, or in cliff-faces. Nesting areas are often re-used, and banding studies indicate that at least some migrant birds return to the same nesting area each year. A number of individuals were observed through the Port Paterson site during field surveys, however none were observed to be nesting at the site. A pair was noted a number of times in the same location indicating that they maybe breeding within broader project area, with many more observations located throughout the project site. This species is likely to utilise various habitats across the project area.
Pandion haliaetus **(Osprey) - Migratory (Wetland)**	The Osprey is a medium size raptor that usually occurs singularly or in pairs. It occurs in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. It requires extensive areas of open fresh, brackish or saline water for foraging. The breeding population of Osprey in SA is small and fragmented. Breeding sites have not been recorded for Spencer Gulf for 50 years. Individuals are more resident and sedentary around breeding territories. The species is vulnerable to development impacts and human disturbance. This predominantly coastal species is considered a possible fly-over in relation to the project area.
Pluvialis squatarola **(Grey Plover) – Migratory**	The Grey Plover has recent records within 5 km of project area (DENR 2010) but was not on EPBC Protected Matters Report. It occurs almost entirely in coastal areas, some spending the non-breeding season in SA. It inhabits sheltered embayments, estuaries and lagoons with mudflats and sandflats, and is occasionally found on rocky coasts with wave-cut platforms or reef-flats. It also occurs around near-coastal lakes, salt-lakes and swamps. It usually forages of mudflats. This coastal species could be a possibly fly-over.
Puffinus carneipes **(Flesh-footed Shearwater) - Migratory (Marine)**	The Flesh-footed Shearwater mainly occurs in the subtropics over continental shelves and slopes and occasionally inshore waters. This coastal species could be a possibly fly-over.
Tringa stagnatilis **(Marsh Sandpiper) - Migratory (Wetland).**	The Marsh Sandpiper has been recorded in and around Whyalla, which is identified as a key area for the species along Spencer Gulf. It lives in permanent or ephemeral wetlands of varying salinity. The species forages in the shallow water at the edge of wetlands. The species is likely to be restricted to the coast, but could infrequently use ephemeral water sources on site and is considered a possible fly-over.
Tringa nebularia **(Common Greenshank) – Migratory**	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats. It uses both permanent and ephemeral terrestrial wetlands and forages and roosts in shallow ponds and at the edge of wetlands. Birds are mostly present between August and April, though some data suggested birds have remained in SA through the winter months. This species has recent records within 5 km of project area (DENR 2010) but was not included in the Protected Matters Report given it is considered a fairly common migratory species. The species would generally be found in the coastal area (outside of the project area) but is considered a possible fly-over species.

Information generally sourced from DOE (2015).

Nature and extent of likely impact

Coastal areas bordering the Port Augusta REP could constitute Important Habitat for Migratory species, as defined under the Draft Significant Impact Guidelines for 36 Migratory Shorebird Species (Commonwealth of Australia 2009a); there is a current lack of data available to confidently undertake tests of significance.

The proposed action is not anticipated to have a significant impact on any listed migratory species because it is not expected to:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species;
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

It is acknowledged that there is a general lack of available information on migratory bird movement, which makes it difficult to assess the potential impact of the proposed action. The main risks to migratory bird species are considered to be:

- collision with turbines/associated infrastructure if they fly-over the site at heights which correspond with the rotor-swept area, and
- potential disturbance leading to temporary or permanent habitat loss associated with construction and site activities.

Most of the migratory species are coastal. The proposed action will not impact on coastal habitats. The project area is not considered a preferred habitat for coastal species. The Rainbow Bee-eater (terrestrial migratory) may utilise habitats across the project site. Impact to this species is minimised because clearance is generally restricted to areas of degraded condition, and woodland habitat has been avoided, where possible.

There are a number of ephemeral creeklines within the project area which could be utilised by migratory and wetland bird species on an infrequent basis. Avoidance of ephemeral creeklines and surface waters has been embedded into the project design. The development will not impact on surface water availability or flow regimes and hence it is considered there will be no impact on water availability for fauna species utilising the project area. Some run-off and pooling of surface water could occur adjacent to new infrastructure (e.g. access tracks) however this will be negligible and localised.

Most wind farm bird mortality recorded is of migrating birds. Australia has few night-migrating birds (which are at greater risk of collision with turbines) but observations have shown that it does still have periodically high bird congregations which may be susceptible to collisions with wind turbines.

The coastline adjacent to the Port Augusta REP is considered to contain important habitat for shorebirds. A widely accepted measure to mitigate potential impacts of disturbance and direct collision for migratory shorebirds is to implement a buffer zone between turbine placement and important habitat areas. Wind turbines are situated at least 1.5 km from the coast line to minimise potential impact on shorebirds. There is currently no evidence that shorebirds move through the project area during their period of residence, or that the area is an important flyway for migratory shorebirds. It is likely that shorebirds would remain within 500 m of the edge of shore habitats, unless moving to an alternative habitat. If migratory birds did cross the wind farm site, they could come into contact with turbines, particularly during ascent or descent.

The layout of the wind farm is such corridors between rows of turbines are approximately 1.2 km (E-W) and 500 m (N-S), enabling birds to avoid turbines. The collision of migratory shorebirds with turbines is likely to be an irregular event and involve a very small number of shorebirds, and therefore is unlikely to result in significant disruption to the population. If migratory shorebirds are found to fly over the project area on a regular basis, the potential impact could be ongoing and cumulative.

None of the migratory species were observed flying at at-risk heights during surveys of the site. The Rainbow Bee-eater displays apparent avoidance behaviour and generally flies around canopy height. The following migratory bird species are considered most susceptible to collision due to the flight behaviours and potential to fly at at-risk heights:

- Great Egret
- Cattle Egret
- Osprey (see Attachment D).

Although the possible birds strike rate is expected to be low, the effect could be significant for long-lived species with limited individuals and low reproduction rates, such as Osprey. Ongoing survey of this and other migratory bird species will assist in determining site utilisation and the risk presented by the wind farm.

3.1 (f) Commonwealth marine area

(If the action is <u>in</u> the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

Description
There are no Commonwealth marine areas within or near the project area.

Although there is no requirement to assess the impacts of the project on the listed marine species (given the project will not impact on a Commonwealth marine area), a review of the birds listed as marine under the EPBC Act is included in the draft Ecological Chapter of the Development Application for the project (see Attachment D). In particular, the White-bellied Sea-eagle (listed Marine) was observed at Port Paterson and is a species considered at potential risk of collision associated with the wind farm development (see Attachment C and D).

Nature and extent of likely impact

The proposed action will not directly or indirectly impact any Commonwealth marine areas.

3.1 (g) Commonwealth land
(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

Description
One Commonwealth area was highlighted in the EPBC Protected Matters Search as potentially occurring within the vicinity of the project area; Australian National Railways Commission. It is understood that the Commonwealth land referred to is the Port Augusta-Port Pirie Railway Line. The rail corridor runs parallel with the A1 Port Augusta Highway, which separates the eastern and western sides of the project area. The project area does not include the rail corridor. There is an overhead electrical line that will pass over the rail corridor to an electrical substation, otherwise all other infrastructure falls outside of the Commonwealth land.

Nature and extent of likely impact

The proposed action will not have any direct or indirect impacts on this Commonwealth land. The overhead cable line to a nearby substation will not involve any impact to the rail corridor. Therefore, no significant impacts this Commonwealth land are anticipated as a result of the proposed action.

3.1 (h) The Great Barrier Reef Marine Park

Description
The Great Barrier Reef Marine Park is not within or near the project area.

Nature and extent of likely impact

The proposed action will not directly or indirectly impact the Great Barrier Reef Marine Park.

3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development

Description
The proposed action is not a coal seam gas development or coal mining development.

Nature and extent of likely impact

The project will not impact on water resources and is not related to coal seam gas or coal mining.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

3.2 (a)	**Is the proposed action a nuclear action?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))		

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))		

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	X	No
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))		

3.3 Other important features of the environment

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

3.3 (a) Flora and fauna

Flora

In addition to the nationally listed flora species that could occur (see Section 3.1d), nine state threatened flora species have records within 5 km of the project area (DENR 2010) of which EBS Ecology considers five of the species as possibly occurring within the project area (see Attachment D).

126 flora species were recorded during ecological surveys of the site, including 23 exotic flora species. No flora species of national conservation significance or of state conservation significance were recorded. A full list of species is provided in Attachment C.

A map showing the location of threatened flora records within the vicinity of the project area in provided in Attachment A.

Fauna

In addition to the nationally listed fauna species that could occur (see Section 3.1d), 15 state threatened fauna species have records within 5 km of the project area and could potentially occur. A full list of fauna species with records within 5 km of the project area (DENR 2010) is provided in the Attachment C.

Targeted fauna survey was undertaken for birds and bats within the survey area and the surrounding coastal zone. Eighty-one fauna species were recorded, 71 of which were birds. Of the 71 native species of birds recorded, five listed species were recorded within the project area:

- Elegant Parrot (*Neophema elegans*) - rare in SA;
- Gilbert's Whistler (*Pachycephala inornata*) - rare in SA;
- Rainbow Bee-eater (*Merops ornatus*) – migratory EPBC;
- Shy Heathwren (*Calamanthus cautus*) - rare in SA.

In general, a high diversity of bird species was recorded in Woodland and Acacia shrubland associations. All areas of remnant Eucalyptus woodland are considered of high habitat value for native fauna species.

A total of 17 species of wader/ waterbird were observed to the west of the project site within a mangrove/mudflat tidal zone. The following listed species were recorded:

- Australian Pied Oystercatcher (*Haematopus longirostris*) - rare in SA;
- Eastern Curlew (*Numenius madagascariensis*) - critically endangered and migratory EPBC, vulnerable in SA;
- Intermediate Egret (*Ardea intermedia*) - rare in SA;
- Red-necked Stint (*Calidris ruficollis*) - migratory EPBC;
- Sooty Oystercatcher (*Haematopus fuliginosus*) - rare in SA and
- White-bellied Sea-eagle (*Haliaeetus leucogaster*) – marine EPBC, endangered in SA.

The Wedge-tailed Eagle (*Aquila audax*) does not have a conservation rating under legislation, however this species as well as other large raptor species are considered particularly at risk in relation to wind farm developments, due to their flight

characteristics and low reproductive rates. A single Wedge-tailed Eagle nest was recorded, which was inactive. The nest was positioned within a *Eucalyptus brachycalyx* (Gilja). A Wedge-tailed Eagle was observed approximate 1 km to the north of the nest.

Six bat species were recorded, none of which had a conservation rating. Bat species were recorded from areas of remnant Eucalypt woodland, Acacia woodland and edges of Chenopod shrubland.

A map showing the location of threatened fauna records within the vicinity of the project area in provided in Attachment A.

3.3 (b) Hydrology, including water flows

There are a number of ephemeral drainage lines, particularly in the eastern section of the project area. There are a handful of small surface water bodies mapped within the project area (DEWNR 2015).

3.3 (c) Soil and Vegetation characteristics

The project area falls within the Interim Biogeographical Regionalisation of Australia (IBRA) region of Gawler and in the IBRA sub-region of Gawler Lakes. Gawler Lakes IBRA sub-region has a moderate level of native vegetation remnancy, with 62% (or 1,271,089 ha) covered with native vegetation. Of this, 2% (30,615 ha) is formally protected (DEWNR 2015).

The Gawler Lakes sub-region is characterised by an undulating upland plain underlain by quartzite and sandstone, with shallow loamy soils. It encompasses the Woomera plateau, which is characterised by the absence of trees and tall shrubs, except on floodplains, where *Acacia aneura* (Mulga), *Alectryon oleifolius* ssp. *canescens* (Bullock Bush) occasional *Eucalyptus camaldulensis* (Red gums) and other species may be found. The gibber-covered areas are either bare or carry a scattered growth of *Halosarcia* sp. (Samphire) and *Sclerolaena* sp. (Bindyi). The depositional plains to the south and south-west of the plateau are covered with deep calcareous earths characteristically carrying an open *Acacia papyrocarpa* (Myall) woodland with a *Maireana sedifolia* (Bluebush) understorey, or red Aeolian sand sheets and dunes with open mulga shrubland or low woodland of *Casuarina pauper* or *Callitris glaucophylla* (DEWNR 2015).

Native chenopod shrubland persists across most of the project area but is degraded due to a long grazing history. Pockets of remnant mallee and woodland persist (EBS Ecology 2013).

The soils within the project area range from calcareous on the western side of the project area to moderately calcareous loam and loam over pedaric red clay further inland (DEWNR 2015).

3.3 (d) Outstanding natural features

There are no outstanding natural features within the project area. The coast line of the Upper Spencer Gulf located to the west of the project area supports an extensive inter-tidal zone.

3.3 (e) Remnant native vegetation

Fourteen broad vegetation associations were defined within the project site representing Shrubland, Mallee and Woodland (Table 9). The condition of native vegetation associations ranged from very poor to good, based on the quality of the understorey vegetation. A map of the vegetation associations and condition is provided in Attachment A, with additional information on each vegetation association included in Attachment C.

The dominant vegetation type was chenopod shrubland with over 72% of the footprint consisting of *Maireana pyramidata* Shrubland and over 9% consisting of *Maireana sedifolia* | *M. pyramidata* Low Open Shrubland over *Sclerolaena* spp. These areas had been heavily grazed over a long period of time and were in a degraded condition. Woodland associations occupied 2% of the area.

Table 9. Vegetation Associations located within the proposed Port Augusta Renewable Energy Park Project Area.

Vegetation association		Condition Range
1	*Eucalyptus socialis +/- E. brachycalyx +/- E. oleosa +/- Melaleuca lanceolata Open Mallee over Maireana pyramidata +/- Rhagodia ulicina*	Poor
2	*Atriplex vesicaria/Scaevola spinescens +/- Maireana pyramidata +/- Rhagodia spinescens Low Open Shrubland*	Very Poor to Poor
3	*Acacia papyrocarpa Very Open Low Woodland over Maireana pyramidata +/- Maireana sedifolia*	Very Poor to Moderate
4	*Maireana pyramidata Low Open Shrubland*	Very Poor to Poor
4	*Maireana pyramidata Low Open Shrubland* – s708	Very Poor
5	*Acacia victoriae ssp. victoriae Very Open Shrubland in drainage lines and depressions*	Very Poor to Poor
6	*Maireana pyramidata / Sclerolaena divaricata Low Open Shrubland*	Poor
7	*Maireana sedifolia / M. pyramidata Low Open Shrubland*	Very Poor to Poor
8	*Alectryon oleifolius Open Shrubland over Maireana pyramidata*	Poor to Moderate
9	*Eucalyptus oleosa +/- E. brachycalyx +/- E. gracilis Open Mallee over Maireana pyramidata*	Poor to Good

	+/- M. sedifolia	
10	*Myoporum platycarpum / Acacia papyrocarpa / Acacia victoriae ssp. victoriae Open Woodland*	Very Poor to Poor
11	*Tecticornia spp. +/- Maireana pyramidata Low Open Shrubland*	Very Poor to Moderate
12	*Acacia papyrocarpa +/- Senna artemisioides ssp. coriacea +/- Senna artemisioides ssp. filifolia +/- Senna artemisioides ssp. petiolaris Open Shrubland over Maireana pyramidata and M. sedifolia*	Moderate to Good
13	*Atriplex vesicaria / Tecticornia spp. Open Shrubland*	Very Poor to Moderate
14	*Acacia victoriae ssp. victoriae / Acacia oswaldii Very Open Shrubland*	Very Poor to Poor
	Total Area	

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)
The site is characterised by low relief. The altitude ranges from <10 m ASL on the coastal (western) side of the project area increasing inland to around 140 m ASL.

3.3 (g) Current state of the environment
Most of the project area is covered with native vegetation which has been heavily grazed over a long period and is generally in a degraded condition with moderate weed infestation. Erosion was evident along creeklines. Common feral animals such as foxes, cats, rabbits and mice are expected to occur within the project area. For further information refer to the flora and fauna assessment (EBS Ecology 2013 – see Attachment C).

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values
There are no Commonwealth Heritage Places on or near the project area. During the anthropological survey, it was determined by the Traditional Owners that the majority of the proposed infrastructure associated within the Project Site was clear of anthropologically significant areas. The Cultural Heritage report is contained in Attachment E.

3.3 (i) Indigenous heritage values
The archaeological site assessment identified no new archaeological sites and no known Aboriginal sites intersect with the proposed infrastructure within the Project Site. No new European heritage sites were recorded during the heritage works. The Cultural Heritage report is contained in Attachment E.

3.3 (j) Other important or unique values of the environment
There are no protected areas or wetlands of national significance within the project area however:

- The nearest formally protected area is Winninowie Conservation Park approximately 10 km south of the project area (DEWNR 2015).
- The marine waters to the west of the project area fall within the Upper Spencer Gulf Marine Park; the waters above Point Paterson are zoned for habitat protection and the section of waters from and below Point Paterson are zoned as sanctuary (DEWNR 2012).
- The Upper Spencer Gulf is a recognised Wetland of National Importance containing a variety of coastal and marine habitats including saltmarsh, tidal flats and some of the largest stands of mangroves in South Australia. These habitats form important nesting and feeding sites for local and migratory shorebirds. The region is also characterised by sheltered beaches, rocky shoreline, headland reefs, near-shore patch reefs and the most extensive seagrass meadows in South Australia (DEWNR 2012).
- Spencer Gulf is recognised as a region of international importance for shorebirds. The region hosts major non-breeding concentrations of species that use southern Australia such as the Curlew Sandpiper and Red-necked Stint (Bamford et al. 2008).
- A coastal strip on the north-east of Spencer Gulf extending from Ward Point near Port Germein in the north to Tickera Point in the south is recognised by BirdLife International as an Important Bird Area (IBA). This is approximately 50 km south of the project area. The IBA consists of intertidal sand and mudflats used by shorebirds as feeding habitat. There are also extensive areas of mangroves and salt marshes. This stretch of coast has only been surveyed twice, both times supporting more than 1% of the world population of Red-necked Stints and regionally significant numbers of a range of other shorebirds including red knots, sharp-tailed sandpipers, banded stilts, pied oystercatchers, Australian shovelers and fairy terns. Moderate numbers of shorebirds have been recorded further north to Port Augusta but the stretch identified as an IBA is generally believed to be the most important length of coast (BirdLife International 2015). Monitoring sites were established at Winninowie and the Port Augusta Salt fields in 2014 as part of the Shorebird 2020 Count project (see Attachment A) (BirdLife International 2015) which will provide a better indication of shorebird utilisation of the coastal strip in proximity to the project area.

The proposed action is not anticipated to have impact outside of the project area.

3.3 (k) Tenure of the action area (eg freehold, leasehold)

The project area is located on freehold land. The A1 Augusta Highway, Horrocks Pass Road and other public roads cross through the project area.

3.3 (l) Existing land/marine uses of area

Land use for land parcels within the project site is formally classified as Agriculture and Livestock (DEWNR 2015). The principal land use throughout the project site is livestock grazing.

3.3 (m) Any proposed land/marine uses of area

The existing land uses of the project area will not be altered for the construction of the wind farmother than within those areas designated for wind farm infrastructure. Intention is to continue grazing in the solar farm though will depend on the construction and O&M strategies adopted.

4 Environmental outcomes

Provide descriptions of the proposed environmental outcomes that will be achieved for matters of national environmental significance as a result of the proposed action. Include details of the baseline data upon which the outcomes are based, and the confidence about the likely achievement of the proposed outcomes. Where outcomes cannot be identified or committed to, provide explanatory details including any commitments to identify outcomes through an assessment process.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015* (http://www.environment.gov.au/epbc/consultation/policy-guidance-outcomes-based-conditions), including about environmental outcomes to be achieved, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included.

General commitments to achieving environmental outcomes, particularly relating to beneficial impacts of the proposed action, CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, and conditions of approval, if your proposal proceeds to these stages).

The proposed action is not expected to result in improved environmental outcomes for any matters of national significance. Even though benefical impacts of the proposed developments cannot be taken into account they were presented at the open day and are included in board 8 benefits in Attachment H

5 Measures to avoid or reduce impacts

Note: If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:
- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

Provide information about the level of commitment by the person proposing to take the action to achieve the proposed environmental outcomes and implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:
- clearly form part of the referred action (eg be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

More general commitments (eg preparation of management plans or monitoring) and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

No significant impacts are anticipated on any matters protected under the EPBC Act as a result of the construction and operation of the proposed wind farm. The potential risks to flora and fauna associated with the Port Augusta Renewable

Energy Park Project have/will be minimised by the following approach and review and implementation of the relevant recommendations outlined in the Flora and Fauna Assessment (EBS Ecology 2013 – see Attachment C):

- Planning and design
- Operational Management
- Offset and Rehabilitation

The benefits of the project were presented at the Open Day and are included in board 8 in Attachment H

Planning and Design

- The infrastructure layout was designed in consideration of areas deemed to be of ecological significance within the project area based on advice from environmental consultants (see EBS Ecology 2013 – Attachment C). This is the most important and influential mitigation measure to prevent significant impacts to native vegetation and conservation significant flora and fauna species.
- The development footprint has been designed to minimise the required clearance of vegetation. The clearance of vegetation will be confined to the construction footprint and will be subject to approval by the Native Vegetation Council.
- High quality native vegetation and important habitats have be avoided as far as practically possible. Most of the infrastructure will be placed in degraded chenopod shrubland. This vegetation association is widely available within and outside of the project area.
- Impact on native vegetation will be minimised by limiting site disturbance and construction activities to native vegetation in the lowest practicable condition rating.
- Woodland habitat has been avoided and where possible, buffered, to minimise impacts on flora and potential interactions of birds and bats with turbines.
- Known nest sites for at-risk birds species have been buffered to minimise turbine interactions.
- Existing tracks and access points have been used where possible to minimise the required construction footprint, however widening of some tracks may be required, in addition to the creation of new tracks for access to infrastructure.
- There will be no direct impact on coastal habitats to the west of the project area.
- There will be no direct impact on surface water bodies. Impact of ephemeral creeklines has been avoided where possible. Site track routes have been designed to minimise watercourse crossings. Engineering solutions will be used at up to six locations where proposed access tracks cross ephemeral drainage lines, to maintain natural water flow and avoid or minimise potential environmental impacts.
- The coastline adjacent to the Port Augusta REP site is considered to contain important habitat areas for shorebirds. A widely accepted measure to mitigate potential impacts of disturbance and direct collision for migratory shorebirds is to implement a buffer zone between turbine placement and important habitat areas (Commonwealth of Australia 2009b). Wind turbines are situated at least 1.5 km from the coast line to minimise potential impact on shorebirds. There is currently no evidence that shorebirds move through the project area during their period of residence, or that the project area is an important flyway for migratory shorebirds.
- Micro-siting of proposed infrastructure will be undertaken by a qualified ecologist prior to construction to further ensure significant vegetation, species and habitat features are avoided.

Operational Management

It is a condition of the Planning Approval that prior to work commencing on site, a Construction Environment Management Plan (CEMP) must be submitted to the satisfaction of the SA Environment Protection Authority (EPA) and the measures contained in the CEMP must be implemented during the construction and rehabilitation phases of the work. The CEMP must include, as a minimum:

a) Soil Erosion and Drainage Management Plan (SEDMP) prepared according to the EPA's Stormwater Pollution Prevention Code of Practice (for the Building and Construction Industry), March 1999; and
b) Measures to manage potential dust and noise emissions, solid and liquid wastes and concrete wastes from construction works.

EBS Ecology undertook a risk assessment in relation to flora and fauna (see draft Ecological Chapter – Attachment D). A number of operational control measures have already been developed to minimise potential ecological impacts associated with site operations, as detailed in Attachment D.

A CEMP and associated operating procedures will be prepared prior to the commencement of site works and will include, among other things:

- Recommendations for ongoing monitoring of at-risk species
- protocols for marking the designated clearance envelope and sensitive areas to be avoided
- protocols for vehicle access
- weed management and monitoring strategies to ensure weed species are not introduced to or spread throughout the site during construction and operation
- staff training regarding site protocols and expectations
- protocols for recording species sightings

- thresholds for adopting additional management measures should impacts be identified.

In specific relation to EPBC listed flora, no EPBC listed flora species are known to occur within the project area. If any listed species are subsequently detected, measures will be adopted to avoid and monitor impact; such measures will be outlined in the CEMP.

In specific relation to EPBC listed fauna and migratory fauna, no significant impact is anticipated. However, should any such species be detected within the project area, these will be recorded, and measures will be adopted to avoid or mitigate impacts. Such measures will be outlined in the CEMP. Response measures will be established to manage unexpected events, such as high rates of bird mortality. A monitoring program will be established to identify if there are any significant risks, particularly in relation to bird collision.

Offset and Rehabilitation
The proposed vegetation clearance will be offset by a Significant Environmental Benefit (SEB) as required under the *Native Vegetation Act 1991*. A Significant Environmental Benefit will be negotiated with the Native Vegetation Council that will lead to protection or restoration of native vegetation in the region. In addition, the rehabilitation of defined work areas not required for operational reasons will be undertaken following construction, to ensure any impact of the development is further minimised.

6 Conclusion on the likelihood of significant impacts

6.1 Do you THINK your proposed action is a controlled action?

✓	No, complete section 6.2
	Yes, complete section 6.3

6.2 Proposed action IS NOT a controlled action.
The proposed action is NOT considered to be a controlled action as:
- no significant impacts to any listed threatened species or communities are anticipated
- no significant impacts to any listed migratory species are anticipated
- no significant impacts to any wetlands of international importance are anticipated
- the project site is not located near a Commonwealth marine environment, world heritage property, or places of registered National Heritage
- it is not a nuclear or Commonwealth action
- it is not a coal seal gas or large coal mining development.

As identified in Section 3.1 (d) and 3.1 (e) threatened and migratory species have been identified as occurring or potentially occurring within the project area. No nationally threatened ecological communities were identified within the project area.

Listed threatened species
Based on the nature of the proposed action and the significant impact criteria outlined in the EPBC Act Policy Statement 1.1 – Significant Impact Guidelines (Commonwealth of Australia 2013), the project is unlikely to have a significant impact on threatened species as the proposed action is not anticipated to:
- lead to a long-term decrease in the size of the populations of any of the threatened species
- reduce the area of occupancy of any of the species
- fragment an existing population into two or more populations
- adversely affect habitat critical to the survival of any of the species
- disrupt the breeding cycle of any of the species/populations
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that any of the species are likely to decline
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in any of the endangered or critically endangered species" habitat
- introduce disease that may cause any of the species to decline
- interfere with the recovery of the species.

Listed migratory species
Based on the nature of the proposed action and the significant impact criteria outlined in the EPBC Act Policy Statement 1.1 – Significant Impact Guidelines (Commonwealth of Australia 2013), the project is unlikely to have a significant impact on migratory species as the proposed action is not anticipated to:
- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or

- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

6.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)
	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

7 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** The Port Augusta Renewable Energy Park is being developed by DP Energy Australia Pty Ltd, part of the DP Energy Group. DP Energy is a leading renewable energy developer based in Cork, Ireland. The company is a family run business with over 20 years experience, of developing sustainable energy projects from alternative sources across Ireland, UK, Canada and Australia. It has managed the development and construction of a renewable energy project in all the above locations, with a track record of working closely with local stakeholders and communities, and brings the following expertise to this development: • an experienced team of development professionals, with project management, engineering and environmental skills; • a flexible, hands-on approach to development; • commercial freedom to develop the most cost effective technical solution for the site, through having no exclusive technology sub-contractor/supplier relationships or other development partnerships. • a flat management structure, with the directors/owners able to make decisions quickly and efficiently; • an ability to fund the pre-construction works including site surveys and consents.	✓	
7.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details** Not applicable		✓
7.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework** The action will be taken in accordance with DP Energy's sustainability policy and quality assurance policy which is included in Attachment J.	✓	
7.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** **Provide name of proposal and EPBC reference number (if known)** Not applicable		✓

8 Information sources and attachments

(For the information provided above)

8.1 References

BirdLife International (2015) Important Bird Areas factsheet: Spencer Gulf. Downloaded from http://www.birdlife.org on 02/09/2015.

Bamford, M, Watkins D, Bancroft W, Tischler G and and Wahl J (2008) Migratory Shorebirds of the East Asian-Australiasian Flyway: Population Estimates and Internationally Important Sites. Wetlands International –Oceania. Canberra, Australia.

Commonwealth of Australia (2009a) Draft Significant impact guidelines for 36 migratory shorebird species; Migratory species - EPBC Act policy statement 3.21. Australia Government Department of the Environment, Water, Heritage and the Arts.

Commonwealth of Australia (2009b) EPBC Act Policy Statement 2.3 – Wind Farm Industry. Australian Government Department of the Environment, Water, Heritage and the Arts.

Commonwealth of Australia (2013) Matters of National Environmental Significance: Significant impact guidelines 1.1, Environment Protection and Biodiversity Conservation Act 1999. Department of the Environment.

Department of Environment and Natural Resources (2010) Biological Database of South Australia extract, November 2010, Government of South Australia.

Department of Environment Water and Natural Resources (2012) Upper Spencer Gulf Marine Park Management Plan 2012, Government of South Australia.

Atlas of Living Australia (2015). Records extracted within 5 km of Port Augusta REP project area and used to assess species' distributions. Website at http://www.ala.org.au. Accessed August 2015.

Department of Environment, Water and Natural Resources (2015) Naturemaps, http://spatialwebapps.environment.sa.gov.au/naturemaps/?viewer=naturemaps, Government of South Australia. Accessed 31 August 2015.

Department of the Environment (2015) Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed 2 Sep 2015.

EBS Ecology (2013) Port Augusta Renewable Energy Park - Flora and Fauna Assessment. Report prepared for DP Energy Australia Pty Ltd.

EBS Ecology (2015) Ecological Chapter for the Port Augusta Renewable Energy Park Development Application. Prepared for DP Energy Australia Pty Ltd.

8.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

Information contained within this referral document was derived from various sources, including those references listed in Section 8.1, as well as the following specific documents and sources:

- The Port Augusta Renewable Energy Project Development Application Report – prepared by DP Energy.
- Ecological survey reports and advice undertaken and provided by EBS Ecology
- Database review and analysis, including State and National flora and fauna databases.

All reports and studies used in this referral have been derived from reputable sources, and represent currently accepted information.

The various assessment approaches employed – field observation, consultation, expert knowledge and searches of flora and fauna databases – provides a suitably comprehensive representation of the conditions and potential impacts as included in this referral. Some assessment limitations were identified by EBS Ecology (see EBS Ecology 2013 – Attachment C). Inconspicuous species such as orchids may not have been visible at the time of the survey, and could potentially occur in the better quality remnant woodland patches.

8.3 Attachments

Indicate the documents you have attached. All attachments must be less than three megabytes (3mb) so they can be published on the Department's website. Attachments larger than three megabytes (3mb) may delay the processing of your referral.

		attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Attachment A
	GIS file delineating the boundary of the referral area (section 1)	✓	Attachment B
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	Attachment D
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	n/a	
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	✓	Attachment D – Draft Ecology chapter for development application. Attachment E Cultural Heritage report Attachment F – Visualisations Attachment G – Stakeholder and Community Consultation Attachment H Open Day information boards
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment C – Flora and Fauna Assessment
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Attachment I – EPBC Search
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)	✓	Attachment G – Stakeholder and Community Consultation
		✓	Attachment J – Sustainable & Quality policy

9 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[2].

Project title:

9.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

[2] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act[3], this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[4].

1. Name and Title:	David Blake, Director
2. Organisation (if applicable):	DP Energy Australia Pty. Ltd.
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	16 140 516 196
5. Postal address	4 Marshall Road, Lake Barrine, QLD Australia 4884
6. Telephone:	+61 (0) 7 40 952 877
7. Email:	david.blake@dpenergy.com
8. Name of designated proponent (if not the same person at item 1 above and if applicable):	n/a
9. ACN/ABN of designated proponent (if not the same person named at item 1 above):	n/a

COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

□ an individual; OR

□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

□ not applicable.

If you are small business entity you must provide

[3] *If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A,* EPBC Act*). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.*

[4] *If a person other than the person proposing to take action is to be nominated as the proponent, please contact the Referrals Gateway(1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

the Date/Income Year that you became a small business entity:	

Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).

COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:	□ not applicable.
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence. I agree to be the proponent for this action. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.
Signature	 Date Thursday, 26 November 2015

9.2 Person preparing the referral information (if different from 8.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	Dr Travis How
Title	Director/Principal Ecologist
Organisation	Environmental and Biodiversity Services Pty Ltd (trading as EBS Ecology)
ACN / ABN (if applicable)	105 535 822
Postal address	3/119 Hayward Avenue, Torrensville SA, 5031
Telephone	(08) 7127 5607
Email	travis.how@ebsecology.com.au
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence.
Signature	 Date Thursday, 26 November 2015

REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

HAVE YOU:

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than three megabytes (3mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)?

Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

All data will be provide under a Creative Commons license (http://creativecommons.org/licenses/by/3.0/au/)