Edify Energy

Darlington Point Solar Farm

Preliminary Environmental Assessment

245766-00

Issue | 12 April 2017

Job number 254766-00

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Contents

Acronyms and Abbreviations

AC	Alternating current
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ARI	Average Recurrence Interval
BSAL	Biophysical Strategic Agricultural Land
CEMP	Construction Environmental Management Plan
Cwth	Commonwealth
CLM Act	*Contaminated Land Management Act 1997*
Crown Lands Act	*Crown Lands Act 1989*
DPSF	Darlington Point Solar Farm
DP&E	Department of Planning and Environment
DoEE	Department of the Environment and Energy
DER	Distributed Energy Resources
Edify Energy	Edify Energy Pty Ltd
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
GWh	Gigawatt hours
ha	Hectares
Heritage Act	*Heritage Act 1977* (NSW)
HV	High voltage
IAP2	International Association for Public Participation
ISEPP	State Environmental Planning Policy (Infrastructure) 2007 (NSW)
km	kilometres
kV	kilovolt
LEP	Local Environment Plan
LGA	Local Government Area
LV	Low voltage

m	Metres
MIA	Murrumbidgee Irrigation Area
MNES	Matters of National Environmental Significance
MVA	Mega volt amps
MW	Megawatts
Murrumbidgee LEP	Murrumbidgee Local Environmental Plan 2013
NEM	National Electricity Market
NESA	National Energy Security Assessment
NPW Act	*National Parks And Wildlife Act 1974* (NSW)
Native Vegetation Act	*Native Vegetation Act 2003*
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
PCT	Plant Community Type
PEA	Preliminary Environmental Assessment
POEO Act	*Protection of the Environment Operations Act 1997*
PPA	Power purchase agreement
PV	Photovoltaic
RET	Renewable Energy Target
Roads Act	*Roads Act 1993*
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
SSI	State Significant Infrastructure
TMP	Traffic Management Plan
TSC Act	*Threatened Species Conservation Act 1995*
WARR Act	*Waste Avoidance and Resource Recovery Act 2001*
WM Act	*Water Management Act 2000*

1 Introduction

1.1 Overview

Edify Energy Pty Ltd (Edify Energy) is proposing to develop, construct and operate a large-scale solar farm approximately 10 km south of Darlington Point within the Murrumbidgee Local Government Area (LGA) in Western NSW. The Darlington Point Solar Farm (DPSF) has the potential to accommodate up to 275 megawatts (MW) alternating current (AC) of solar generated electricity and would connect to the adjacent TransGrid Darlington Point 330 kV substation and supply power via the National Electricity Market (NEM). The DPSF would be located wholly on private land historically used for grazing and identified for Edify Energy by its development partner, Solar Choice. Long term option agreements for use of this land have already been negotiated with the landowners. The DPSF has an estimated capital investment value of $365 million.

1.2 Purpose of this Preliminary Environmental Assessment

This Preliminary Environmental Assessment (PEA) has been prepared to support the DPSF project application submitted to the NSW Department of Planning and Environment (DP&E), and to help guide the Secretary's Environmental Assessment Requirements (SEARs).

The PEA provides an overview of the proposal, describes the existing environmental features in the study area, identifies the key potential environmental issues, and outlines the statutory planning approval framework. It also details the consultation that has already been carried out in the community and with key stakeholders.

1.3 The proponent

Edify Energy is an Australian renewable energy development and investment company. Edify Energy specialise in large-scale renewable energy, particularly solar projects, across their entire life-cycle including development, financing, construction management and asset management. To date, Edify Energy has three committed large-scale solar PV projects in Australia; two in far north Queensland and one in central Victoria.

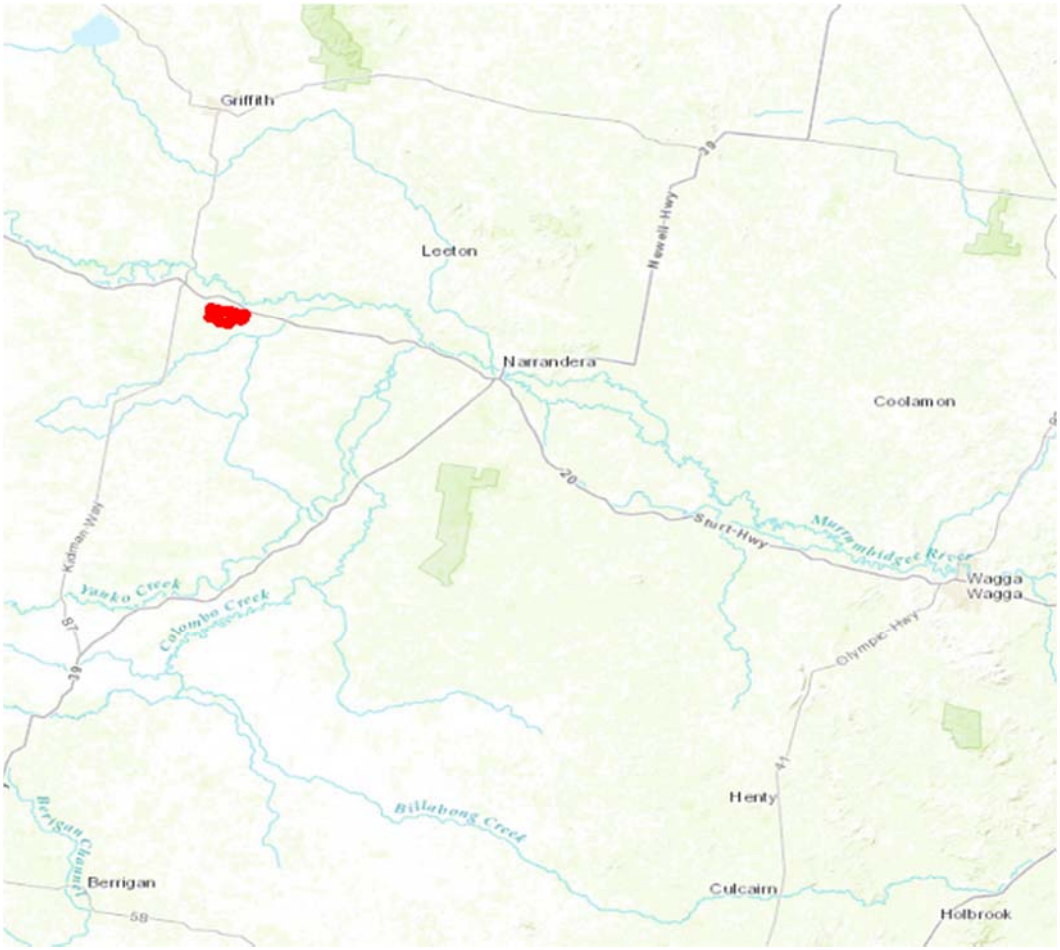
1.4 Local context

Darlington Point is a township comprised of around 1,016 people (2011 Census) situated in the Murrumbidgee Shire LGA. Darlington Point is approximately 30 km south of Griffith and 140 km west of Wagga Wagga, as shown in Figure 1-1.

Darlington Point was first established as a river crossing town with pastoral leases. Irrigation has enabled the development of intensive fruit, vegetable, grain and rice production. The district is an important part of the Murrumbidgee Irrigation Area (MIA) food bowl, exporting outstanding produce all over the world (Murrumbidgee Council, 2017).

The north-south running state road Kidman Way (B87) is the main road through Darlington Point and connects the town to Griffith and Jerilderie. The east-west running national Sturt Highway (A20) intersects with Kidman Way just south of Darlington Point, affording an excellent transport network to the region.

Figure 1-1 Regional context



2 The proposal

2.1 Proposed site

The site of the proposed DPSF is approximately 975 hectares (ha) and is located around 10 km south of Darlington Point and 15 km north-east of Coleambally. The site is situated on land adjacent to TransGrid's 330 kV Darlington Point substation at Donald Ross Drive.

Specifically, the site is comprised of:

- Lot 160 of DP 821551 (referred to as 'Anderson property')
- Lots 41, 42 and 64 of DP 750903, Lot 2 of DP 542215 and Lots 18, 35 and 36 of DP 750903 (referred to as 'Tubbo Station').

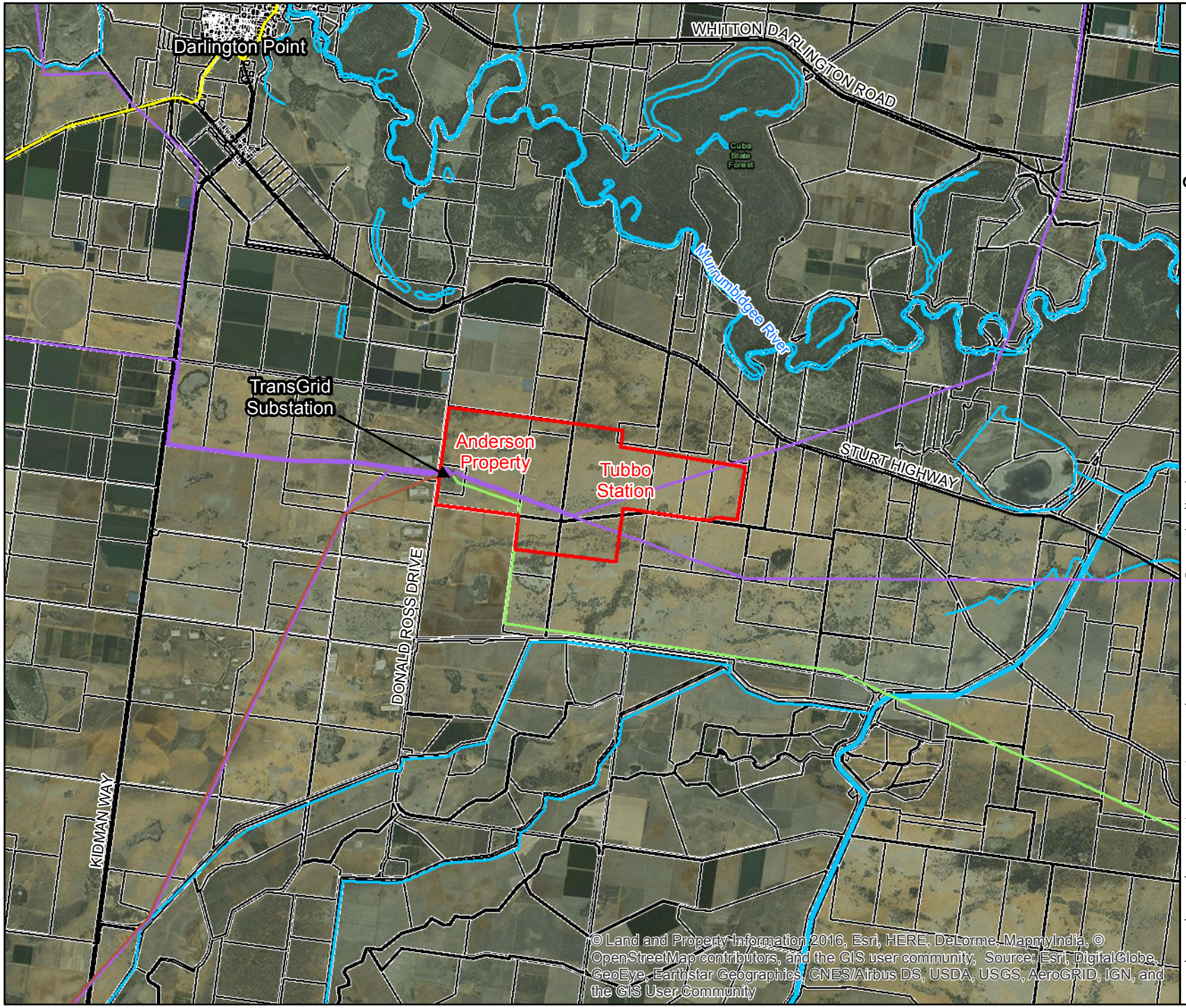
The site is zoned RU1 - Primary Production under the Murrumbidgee Local Environmental Plan 2013 (Murrumbidgee LEP) and is largely comprised of flat, open grasslands with some discrete pockets of remnant native vegetation. Historically the site has not been intensively farmed for agriculture and the properties have been used long-term for livestock grazing (sheep at Tubbo Station and cattle at the Anderson property). A 330 kV and two 132 kV TransGrid overhead transmission lines cross the site from west to east, and an 11 kV Essential Energy overhead transmission line runs north-south near the eastern boundary of the site. The easements for the transmission lines will not be impacted by the DPSF development footprint, which will respect the minimum allowable distances for construction adjacent to transmission lines and towers.

Following discussions with TransGrid in March 2017 and guidance provided in the Transgrid publication titled "Our Connection Process – Getting You Connected", it has been confirmed that the DPSF development footprint will also comprise the TransGrid substation to allow for augmentation works, once approved, to be undertaken to the 132 kV infrastructure, facilitating connection to the DPSF.

The TransGrid substation is located at Lot 2 DP 628785 and is also zoned RU1 - Primary Production. The DPSF site directly adjoins the TransGrid substation on three sides.

The site is surrounded by land zoned RU1 - Primary Production accommodating farming, agribusiness and some private residences. A series of poultry farms owned by Baiada Poultry Pty Ltd are situated on land leased to it by Arrow Funds Management to the west of the site, on the other side of Donald Ross Drive. Some workers' accommodation is provided at the Baiada farms, the nearest of which is located around 100 m to the west of the DPSF site. The nearest private residence is located around 800 m to the north of the site.

The proposed site is shown in Figure 1-2. Photos taken at the site have been provided in Appendix A.



Proposed site boundary

Rail line

Roads

Rivers

Overhead TransGrid transmission lines:

132 kV

220 kV

330 kV

Cadastre

Issue	Date	By	Chkd	Appd
1	10/04/2017	GJK	KC	LH

Kilometers

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Client

Edify Energy

Job Title

Darlington Point Solar Farm

Drawing Title

Figure 1-2 Proposed Site

Scale at A4	Drawing Status
1:100,000	**Draft**

Coordinate System

GDA 1994 MGA Zone 55

Job No	Fig No
254766	**1.2**

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2.2 Proposal description

The proposed site has the potential to accommodate up to 275 MW (AC) of solar generated electricity, including the provision, at a future date, for battery technology for energy storage and resupply during peak demand.

A detailed infrastructure layout will be developed following the completion of further environmental and technical investigations, however key features of the DPSF would include:

- Photovoltaic (PV) solar panels
- Steel mounting frames with piled foundations
- A single-axis tracking system
- Direct current (DC) / alternating current (AC) inverter stations
- Underground medium voltage electrical network
- A 33/132kV switchyard, to be located in close proximity to the existing TransGrid substation
- Internal access tracks for operational maintenance and housekeeping
- Security fencing
- Staff car park and small amenities building.

The DPSF would consist of a number of solar arrays comprising PV solar panels mounted on frames with a single-axis tracking system to follow the sun and optimise energy generation. The arrays would be arranged in a series of long rows (see Figure 2-1 overleaf). The rows would interconnect to form a block of likely either 2.5 MW (AC) or 5 MW (AC). Each block would contain an inverter station (see Figure 2-2 overleaf), comprising an inverter and a transformer, to convert DC to AC and step up the output voltage level. Electrical connections would be constructed between the arrays as well as to associated protection and monitoring equipment and central inverters.

The steel mounting frames and inverter stations would be installed on piles and sit above ground level and design flood levels. This would also ensure retention of existing grassland and habitats.

The DPSF would connect into the TransGrid 132 kV power infrastructure and would supply electricity as part of the NEM. Works within the TransGrid substation could include installation of an additional 132/330 kV transformer, switchgear and extension to the 132kV bus-bar. Any augmentation works to the TransGrid Darlington Point substation would occur within the current TransGrid substation fence boundary and/or on the adjacent land to be owned by Edify Energy.

Figure 2-1 Example array arrangement

Figure 2-2 Example inverter station

Ground disturbance would be kept to a minimum. The solar farm design will follow the existing contours of the land and the level of the site would not be altered. The one minor exception is that the proposed new 132 kV switchyard (an area of approximately 50 x 50 m) would likely need to be benched to match the level of the TransGrid substation.

Existing vegetation is mostly grassland which may need to be slashed depending on seasonal growth, however areas of denser remnant native vegetation would likely be protected and retained.

The main site access would be via an existing unsealed farm access track off Donald Ross Drive, located around 20 m north of the TransGrid substation boundary fence and 3 km south of the Sturt Highway. This access would be modified in accordance with the requirements of Murrumbidgee Council. The project switchyard, staff car park and amenities office would all be located close to the site access point, limiting the need for access tracks across the site. The amenities building would have associated water and septic sewerage/ waste connections.

Subject to staging (discussed below) construction is expected to take around 9-12 months and it is anticipated that the peak workforce would comprise approximately 200 personnel. Options to sustainably accommodate construction personnel are being investigated with initial conversations already held with Murrumbidgee Council. Edify Energy has also been approached by a member of the local community, via its project website, who intends to develop a new motel facility in Darlington Point.

Subject to planning approval, construction of the DPSF could commence in early 2018 to be generating electricity by the Summer 2018/19 peak period. It is Edify Energy's preference is to build the full 275 MW in one stage, however dependent on the availability of PPAs (power purchase agreements), the project may be built in individual stages.

It is expected that during operation, sheep grazing would continue on the Tubbo Station property and this could also be extended to the Anderson property. As demonstrated at other large-scale solar farms, including for example Mount Majura in the ACT, it is expected that grassland areas would either not be materially disturbed or rapidly grow back and continue to grow under and around the solar arrays which are well spaced to avoid near shading while tracking the sun. Operational activities would include routine inspections, grassland management to prevent overgrowth including bushfire risk management, and repair and replacement of equipment as required. It is expected that the DPSF would employee five full-time personnel.

The proposed life of the project is 30 years, at which time it will either be decommissioned or continued to operate subject to planning and lease agreements. Decommissioning would involve the removal of all above ground infrastructure, returning the site to its existing land capability.

3 Proposal justification and need

3.1 Strategic need

3.1.1 Australian renewable energy target

The large-scale renewable energy target (RET) is an Australian Government policy which commenced in 2001 to ensure that at least 20% of Australia's electricity consumption comes from renewable sources by 2020. Following review, the RET was confirmed in early 2015 as 33,000 gigawatt hours (GWh) by 2020. To meet the RET, around 6,700 GW of new renewable energy capacity is needed.

3.1.2 COP21 commitments

At the COP21 climate talks in Paris in December 2015, the Australia Government committed to (and has now ratified) an emissions target of a 26-28% reduction by 2030 compared to 2005 levels. Prime Minister Malcolm Turnbull announced at the end of 2016 that the Australian climate and energy policies will be reviewed this year (2017) to make sure the 2030 targets are met.

3.1.3 NSW Renewable Energy Action Plan

The NSW Government's Renewable Energy Action Plan was released in 2013 in support of the Australian Government's RET and to guide renewable energy development in NSW to achieve maximum benefits to the State. The Renewable Energy Action Plan comprises 24 actions to achieve the three goals of:

- Attract renewable energy investment and projects
- Build community support for renewable energy
- Attract and grow expertise in renewables.

3.1.4 NSW Climate Change Policy Framework

The NSW Government has also recently developed a draft NSW Climate Change Policy Framework in support of Australia's COP21 commitments and to demonstrate action on climate change. The NSW Climate Change Policy Framework is still in its infancy (published October 2016), however long term objectives include achieving net zero emissions by 2050, and enabling NSW to become more resilient to a changing climate. This includes implementing emission savings policies and taking advantage of opportunities to grow new industries in NSW, such as 'advanced energy', including combined renewables and storage.

3.1.5 Security of supply

In Australia, energy security is defined as "*the adequate, reliable and competitive supply of energy to support the functioning of the economy and social development*" (Australian Government, 2011). A National Energy Security Assessment (NESA) carried out in 2011 found that while Australia's energy security was deemed 'moderate', significant amounts of new capacity would be needed over the medium to long term to compensate for the retirement of emissions intensive coal plants and to help achieve emissions reduction targets.

3.2 Options and alternatives

The DPSF development process has considered the following options:

- A 'do nothing option'
- Different technology options
- Alternative sites
- Different generating capacities.

The 'do nothing' option would not help achieve the strategic goals and targets set by the Australian and NSW governments around renewable energy, climate change and emissions, as listed in Section 3.1 above.

Single axis tracking modules have been proposed to take advantage of the good solar resource and maximise output energy over a longer period each day, including generating large volumes of power during the late afternoon summer peaks when demand on the NEM is at its greatest. The comparison of fixed tilt and single axis tracking technology would be further assessed during detailed design to understand potential energy yields across the site.

The proposed DPSF site was selected due to:

- Access to large areas of flat, open terrain historically used for grazing, reducing the need for major earthworks and site preparations
- Location in Darlington Point, which has been identified by TransGrid a favoured transmission node for large-scale solar PV and is one of only a small number of transmission nodes in rural/ broadacre NSW with exceptionally large grid capacity
- Close proximity to the Darlington Point substation, eliminating the need for additional overhead transmission easements and replication of costly infrastructure
- Favourable solar resource with an annual average of 7.8 hours' sunshine a day
- Excellent road access to the site off Donald Ross Drive, via the Sturt Highway and/or Kidman Way, which allows easy supply of plant and equipment during construction
- Positive support from Council, community, and stakeholders.

Alternative sites in the Murrumbidgee region would likely require development on valuable pastoral and cropping land, and supplementary overhead transmission infrastructure traversing across private properties and road corridors. The opportunity to avoid these land impacts was the principal reason for selecting the proposed site.

An in-feed capacity study undertaken by Jacobs in April 2017 confirmed with reasonably certainty that 275 MW AC can be accommodated via a connection to 132 kV transmission infrastructure at the Darlington Point substation. The exact method and point of connection is being developed in conjunction with TransGrid in parallel with this planning application and the detailed infrastructure layout developed will confirm the generating capacity of the DPSF.

3.3 Proposal benefits

Construction and operation of the DPSF would provide the following benefits:

- Contribution of approximately 275 MW AC to the Australian RET
- Provision of a clean energy source, with enough power to supply around 130,000 homes each year for 30 years through the NEM (based on typical NSW household electricity consumption specified by Origin Energy in 2016)
- Assisting the RET and Paris Agreement obligations, as well as NSW's own transition to net zero emissions and accelerate advanced energy technology
- Provision of around 200 jobs during peak construction and about five full-time jobs during operation, with an emphasis on local content
- Potential for direct and indirect investment into the Murrumbidgee Shire during construction.

Edify Energy's development intent is to maximise direct benefits to the local community. Opportunities for additional community benefits would be further explored throughout the planning and development process.

4 Consultation

Edify Energy has commenced implementation of its Stakeholder and Community Engagement Program for the DPSF. Development of the program was guided by the International Association for Public Participation's (IAP2) Core Values and Public Participation Spectrum.

The objectives of the engagement program are to:

- Consult with decision makers to ensure their requirements are met
- Consult with key stakeholders during preparation of the Environmental Impact Statement (EIS) so their issues and opportunities can be considered
- Inform the broader community about the project and provide opportunities for their questions to be answered and their issues and opportunities to be considered
- Position Edify Energy as a 'good neighbour' and progressive and reputable large scale solar farm developer and operator.

The following sections detail the consultation that has been carried out with stakeholders and the community to-date, as well as the proposed on-going and future consultation activities and tools.

Consultation tools which have been utilised to-date include:

- A briefing pack – a slide pack was prepared comprising key project facts and maps to assist with key stakeholder meetings
- A project fact sheet – a hard copy fact sheet was prepared for distribution to community members and key stakeholders during consultation activities, and now accessible on the following website
- Project webpage – a dedicated project page has been established on the Edify Energy website announcing the project and providing key information.

4.1 Government agency and key stakeholders

Consultation has been carried out with a range of government agencies and key stakeholders. These stakeholders were identified as those involved in the planning approval or grid connection process, and those who may have a keen interest in the strategic planning of the project. They include:

- Murrumbidgee Shire Council
- TransGrid
- NSW Department of Planning and Environment
- NSW Office of Environment and Heritage
- NSW Renewable Energy Advocate, Amy Kean.

Table 4-1 provides a general summary of the consultation and any specific issues raised by these stakeholders. Edify Energy will continue to consult with these stakeholders and others throughout the planning approval process as required.

Table 4-1 Summary of agency and stakeholder consultation

Agency / stakeholder	Summary
Murrumbidgee Shire Council	A meeting with Murrumbidgee Shire Council administrator, Austin Evans and members of the Local Representation Committee (LRC) was held in the Coleambally Council Chambers to introduce the project and key team members. Council expressed their full support for the project and has provided this in a letter to Edify Energy (see Appendix B). Two issues Council would like considered in the planning process include flood management and construction workforce accommodation. Edify Energy will work collaboratively with Council as the project progresses to keep Council and the community informed and adequately address any issues.
TransGrid	Consultation with TransGrid has been undertaken in accordance with their network connection guidelines. TransGrid has confirmed that Edify Energy will need to obtain their own environmental approvals and licences for any upgrades required to TransGrid infrastructure in order to facilitate connection to the DPSF. Therefore, the Darlington Point substation has been included within the development footprint. In parallel with the planning application, Edify Energy will continue to work closely with TransGrid to finalise the DPSF electrical connection.
NSW Department of Planning and Environment (DP&E)	Preliminary meetings have been held with DP&E to introduce the project and key team members, discuss the planning framework and timing of key project milestones, and identify the key project issues for consideration. Follow-up meetings and consultation will be held with DP&E throughout the planning process as required.
NSW Office of Environment and Heritage (OEH)	Preliminary conversations have taken place with OEH regarding historic flood events and biodiversity values at the site. Further consultation will be undertaken with OEH during the EIS process as required.
NSW Renewable Energy Advocate, Amy Kean	A meeting was held with Amy Kean to introduce the project and key team members. Amy expressed her full support for the project in order to achieve the strategic goals established by the NSW Government around renewable energy, emissions reduction, and grid stability.

4.2 Community engagement

On-going consultation has been carried out with the proposed DPSF site landowners and farm managers, who are strong supporters of the proposal. Edify Energy has received letters of consent from landowners of both the Anderson property and Tubbo Station.

In early April 2017, consultation was also carried out with the immediate neighbours and adjacent land users and some other community members who expressed interest. This included a mix of face-to-face meetings and phone conversations for those not available to meet at their properties, as summarised below:

- Face-to-face meeting with the directors of the Cavaso farming operation, located some 1700 m from the northern boundary of the DPSF site
- Telephone conversation with the owner of the private residence situated on Donald Ross Drive some 800 m to the north
- Face-to-face meeting with the proprietor of the Terra Nova farmstead, located some 1700 m from the southern boundary of the DPSF site
- Face-to-face meeting with the manager of the Tubbo Estate, whose homestead is located around 1650 m from the north-western site boundary and who will continue grazing operations on the remaining 30,000 acres of the Tubbo Estate
- Telephone conversation with the Regional Manager of Baiada Poultry, who operate the poultry farms on the western side of Donald Ross Drive
- Telephone conversation with Arrow Funds Management Limited, which owns the land presently leased to Baiada Poultry
- Face-to-face meeting with the proprietor of the Darlington Point Caravan Park
- Telephone conversation with the proponent of a planned new motel facility in Darlington Point.

All of the above-mentioned discussions were very positive, and to-date, community concerns have been limited to:

- Potential impacts to water flow during flood events
- Opportunities for neighbours and community members to connect their facilities directly to the DPSF.

No levees, major earthworks or levelling is proposed at or around the site, with the exception of the proposed new 132 kV switchyard which will be benched to match the level of the TransGrid substation. Edify Energy will assess drainage and flooding as part of the EIS to meet the project SEARs.

The structure of the NEM unfortunately does not readily allow local community members to either directly connect to or procure electricity directly from the DPSF. All the electricity produced by the DPSF would be transmitted though the transmission network and traded via the NEM. However, as recently quoted in reference to other similar large-scale solar PV projects by Parliamentary Secretary for Renewable Energy, Adam Marshall MP, “renewable projects would bring down electricity prices for everyone over the long term”.

Edify Energy and its project partners are willing to engage in separate discussions with community members to understand any additional upside potential to the local community in line with our experiences elsewhere.

4.3 Ongoing and future consultation

Edify Energy will continue to keep the community and key stakeholders informed about the progress of the DPSF.

The key consultation tools are likely to include:

- The project webpage, which will be updated at key stages of the project and include a “Contact Us” form to provide an ongoing communication channel and enable people to contact the project team
- Project fact sheets, which will be distributed amongst the community at key stages
- Stakeholder/landowner meetings to discuss the project and key issues as required
- Media releases, which will be prepared at key milestones and may be included in local and/or more widespread media sources
- Community information sessions, which will be held during preparation of the EIS to provide a chance for community members to learn about the project, ask questions and provide feedback.

Other tools may be utilised as required.

The Stakeholder and Community Engagement Plan will be a live document that will be reviewed and updated by Edify Energy and ARUP in response to feedback received and to ensure consultation is undertaken in accordance with any requirements listed in the SEARs.

In accordance with the NSW planning framework, on completion the EIS will be placed on public exhibition for a minimum of 30 days in accordance with DP&E requirements, to provide stakeholders and the community with an opportunity to review and provide feedback on the proposal. Following exhibition of the EIS, all comments received would be recorded and addressed in a Submissions Report to the DP&E detailing how each issue raised has or would be considered.

5 Statutory and planning framework

5.1 *Environmental Planning and Assessment Act 1979*

The *Environmental Planning and Assessment Act 1979* (EP&A Act), Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) and associated environmental planning instruments (including State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs)) provide the framework for the assessment of environmental impacts and approval of development in NSW.

5.1.1 State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) identifies development that is classified as State Significant Development (SSD) or State Significant Infrastructure (SSI). Clause 20 of Schedule 1 of this SEPP states that the following is considered SSD:

> *Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:*
>
> *(a) has a capital investment value of more than $30 million, or*
>
> *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance.*

As the DPSF will have a capital investment cost estimate of more than $30 million, the proposal classifies as “State Significant Development” and is subject to assessment under Part 4 of the EP&A Act.

SSD projects are major projects that require preparation of an EIS in accordance with the bespoke project SEARs, and approval from the Minister for Planning and Environment.

5.1.2 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) aims to facilitate the effective delivery of infrastructure across the State.

Clause 34(7) of ISEPP states that development for the purpose of a solar energy system may be carried out by any person with consent on any land (except land in a prescribed residential zone). The DPSF is not located in a prescribed residential zone and is therefore permissible with consent.

5.1.3 Murrumbidgee Local Environmental Plan 2013

The Murrumbidgee LEP sets out the framework for the planning and development of land within the Murrumbidgee Shire. Even though the DPSF proposal is considered SSD and will be determined by the Minister for Planning and Environment, the land uses and objectives prescribed in the Murrumbidgee LEP have still been considered.

The DPSF site is located on land zoned RU1 - Primary Production. The objectives of zone RU1 as stated in the Murrumbidgee LEP are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base
- To encourage diversity in primary industry enterprises and systems appropriate for the area
- To minimise the fragmentation and alienation of resource lands
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Although electricity generation is not listed as permissible on land zoned RU1 under the Murrumbidgee LEP, clause 34(7) of ISEPP allows development for the purpose of a solar energy system on any land with consent, including land zoned RU1.

During operation, sheep grazing would continue on the Tubbo Station property and could also be extended to the Anderson property, preserving, in part, the historical land use. The site would not be rezoned and on decommissioning would be returned to its full existing land capability.

Murrumbidgee Council is supportive of siting the DPSF at the proposed location. Edify Energy will work collaboratively with Council throughout the design, assessment, and development process and into construction and operations.

5.2 Other relevant NSW legislation

Other NSW Acts that have been considered are summarised in Table 5-1.

Table 5-1 Other NSW legislation

Legislation	Applicability to the project
Crown Lands Act 1989	Part 3 of the *Crown Lands Act 1989* (Crown Lands Act), requires an assessment to satisfy the Minister for Lands prior to any reservation, dedication, sale, lease, licence or permit affecting Crown land in NSW. An easement prescribed as Crown land runs along the northern boundary of the Anderson property at the DPSF site. There is no intention to impact this land, however consultation with the Department of Industry - Lands would be undertaken if and as required throughout development of the DPSF.

Roads Act 1993	Approval from the roads authority (Roads and Maritime Services and/or Murrumbidgee Local Government) would be required under Section 138 of the *Roads Act 1993* (Roads Act) to erect a structure or carry out a work in, on or over a public road. Murrumbidgee Council and Roads and Maritime Services would both be consulted regarding the use of roads during construction and site access points as required.
Native Vegetation Act 2003	Pursuant to Section 89J of the EP&A Act, an authorisation referred to in Section 12 of the *Native Vegetation Act 2003* (Native Vegetation Act) to clear native vegetation is not required for State Significant Development. The potential impact on native vegetation is discussed in Section 6.2.1 of this PEA.
Threatened Species Conservation Act 1996	If a proposal is likely to impact on threatened species, populations or ecological communities listed under the *Threatened Species Conservation Act 1995* (TSC Act) an assessment is required. Pursuant to Section 79B of the EP&A Act, for State Significant Development concurrence by the Chief Executive of the Office of Environment and Heritage is not required for development that is likely to significantly affect a threatened species, population, or ecological community, or its habitat. The potential to impact threatened species, populations and ecological communities listed under the TSC Act is discussed in Section 6.2.1 of this PEA.
National Parks and Wildlife Act 1974	The *National Parks and Wildlife Act 1974* (NPW Act) outlines the approval requirements for work in the vicinity of Aboriginal heritage and provides for the protection of flora and fauna. Pursuant to Section 89J of the EP&A Act, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act is not required for State Significant Development. The potential to impact Aboriginal heritage and native fauna and flora are discussed in sections 6.2.4 and 6.2.1 respectively.
Heritage Act 1977	Development or activities cannot be carried out which may affect an item listed on the State Heritage Register without approval under Section 60 of the *Heritage Act 1977* (Heritage Act). Pursuant to Section 89J of the EP&A Act, an approval under Part 4 or an excavation permit under Section 139 of the Heritage Act is not be required for State Significant Development. The potential to impact non-Aboriginal heritage items is discussed in Section 6.3 of this PEA.
Contaminated Land Management Act 1997	Section 60 of the *Contaminated Land Management Act 1997* (CLM Act) imposes a duty on landowners to notify OEH, and potentially investigate and remediate land if contamination is above levels set by the Environmental Protection Authority (EPA). The potential for contamination at the site is discussed in Section 6.3 of this PEA.
Water Management Act 2000	Water use approval, water management work approval and activity approvals are required under Sections 89, 90 and 91 of the *Water Management Act 2000* (WM Act). Pursuant to Section 89J of the EP&A Act, these approvals are not required for State Significant Development. The potential to impact water resources is outlined in Section 6.3 of this PEA.

Protection of the Environment Operations Act 1997	The *Protection of the Environment Operations Act 1997* (POEO Act) is the key piece of legislation for environmental protection in NSW. The POEO Act also clearly outlines pollution offences relating to land, water, air and noise pollution and includes a duty to report pollution incidents. Solar energy generation does not fall within the definition of electricity generation under Schedule 1 of the POEO and therefore does not require an environmental protection licence (EPL).
Waste Avoidance and Resource Recovery Act 2001	The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) introduces a scheme to promote extended producer responsibility for the life-cycle of a product. The WARR Act outlines the resource management hierarchy principles of priority as: • Avoidance of unnecessary resource consumption • Resource recovery (including reuse, reprocessing, recycling and energy recovery) • Disposal. Resource and waste management is discussed in Section 6.3 of this PEA.

5.3 Commonwealth legislation

5.3.1 *Environmental Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is administered by the Commonwealth Department of the Environment and Energy (DoEE) and provides for the regulation of environmental impacts on Matters of National Environmental Significance (MNES). Any proposed action that will have or is likely to have a significant impact on MNES under the EPBC Act should be referred to the DoEE for determination as to whether it is considered to be a "controlled action" or not. If the action is controlled (potential for a significant impact to a MNES), environmental assessment and / or approval will be required under the EPBC Act.

The EPBC Act identifies the following nine MNES:

- World Heritage properties
- National heritage places
- Ramsar wetlands of international significance
- Threatened species and ecological communities
- Migratory species
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mining)
- Water resources (in relation to coal seam gas development and large coal mining development).

Of the above MNES, only threatened species and ecological communities potentially occur at the site. This is described further in Section 6.2.1 of this PEA.

Detailed flora and fauna studies carried out during the preparation of the EIS would confirm whether impacts to MNES would be likely to occur as a result of the proposed development.

5.3.2 *Native Title Act 1993*

The *Native Title Act 1993* (Native Title Act) provides a legislative framework for the recognition and protection of native title rights. Native title is the recognition that some Indigenous people continue to hold rights to their land and waters, which come from their traditional laws and customs.

The Native Title Act sets up processes to determine where native title exists, how future activity impacting upon native title may be undertaken, and to provide compensation where native title is impaired or extinguished.

When a native title claimant application is registered by the National Native Title Tribunal, the people seeking native title recognition gain a right to consult or negotiate with anyone who wants to undertake a project on the area claimed.

The National Native Title Tribunal does not identify any Native Title applications or determinations that affect the site. Further review of Native Title considerations will be undertaken during the EIS.

6 Preliminary environmental assessment

6.1 Methodology

This preliminary environmental assessment has been conducted to assist in the identification of key environmental matters that would require a more detailed assessment within an EIS.

The assessment has considered both the construction and operation phases of the proposal and is based on desktop review and preliminary ecological site inspection. From this preliminary assessment, some environmental matters were deemed to be key issues on the basis that they have the potential, without appropriate mitigation measures, to have a significant impact on the environment.

A summary of the key environmental issues is provided in Section 6.2, and identifies the issues that require further environmental assessment as the project progresses, as well as possible mitigation measures for these key issues. The potential impacts and management of other (less significant) issues are discussed in Section 6.3.

The study area for this preliminary assessment is the proposed site, including the TransGrid substation, and where relevant, surrounding areas that may experience impacts from the project.

6.2 Assessment of key issues

6.2.1 Biodiversity

Preliminary biodiversity considerations at the site have been identified through desktop reviews and ecological site inspections carried out by qualified ecologists from Biosis Pty Ltd and Environmental Property Services. The site inspections were undertaken in February 2017 and April 2017 respectively, to map native vegetation cover and assess suitability of the site for NSW and Commonwealth listed threatened species, populations and ecological communities.

Vegetation types

The combination of landscape features, soil types and land use history underpin the vegetation types and habitat conditions observed. Four vegetation types were identified in the field according to the NSW Plant Community Type (PCT) classification system, including (see Figure 6-1):

- Black Box grassy open woodland of rarely flooded depressions, south western NSW (MR518, PCT16)
- Yellow Box - White Cypress Pine grassy woodland on deep sandy-loam alluvial soils of the eastern Riverina and western NSW South West Slopes Bioregions (MR649, PCT75)
- Weeping Myall open woodland of the Riverina and NSW South Western Slopes Bioregions (MR639, PCT26)
- Plains Grass grassland on alluvial dark grey clays of central NSW (MR589, PCT45).

The site has a long grazing history and this is reflected in the dominance of grassland across the site. The woodland areas contain important fauna habitat features such as large old growth trees with hollows, fallen timber and seasonally wet depressions.

Threatened species and ecological communities

Based on the ecological field assessments, the following threatened biota is known, or has the potential to occur at the site and may require further consideration:

- Weeping Myall Woodlands (potential EPBC Act, Endangered threatened ecological community (TEC); TSC Act, Endangered Ecological Community (EEC))
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (TSC Act, EEC)
- Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions (TSC Act, EEC).
- A range of woodland-dependent birds that are listed under the EPBC and TSC Acts, such as:
    - Superb Parrot, *Polytelis swainsonii* (EPBC Act, Vulnerable; TSC Act, Vulnerable)
    - Bush Stone-curlew, *Burhinus grallarius* (TSC Act, Endangered)
    - Grey-crowned Babbler, *Pomatostomus temporalis* (TSC Act, Vulnerable).
- Plains Wanderer (*Pedionomus torquatus*) habitat associated with native grasslands (EPBC Act, Critically Endangered; TSC Act, Endangered).
- Several threatened mammal and frog species that are listed under the EPBC and TSC Acts, such as:
    - Yellow-bellied Sheathtail-bat, *Saccolaimus flaviventris* (TSC Act, Vulnerable)
    - Inland Forest Bat, *Vespadelus baverstocki* (TSC Act, Vulnerable),
    - Southern Bell Frog, *Litoria raniformis* (EPBC Act; Vulnerable; TSC Act),
    - Sloane’s Froglet, *Crinia sloanei* (TSC Act, Vulnerable).
- A range of threatened woodland and grassland native plant species that are listed under the EPBC and TSC Acts, in particular:
    - Mossgiel Daisy, *Brachyscome papillosa* (EPBC Act, Vulnerable; TSC Act, Vulnerable)
    - Slender Darling Pea, *Swainsona murrayana* (EPBC Act, Vulnerable; TSC Act, Vulnerable)
    - Lanky Buttons, *Leptorhynchos orientalis* (TSC Act, Endangered)
    - Winged Peppercress, *Lepidium monoplocoides* (TSC Act, Endangered).

Potential impacts

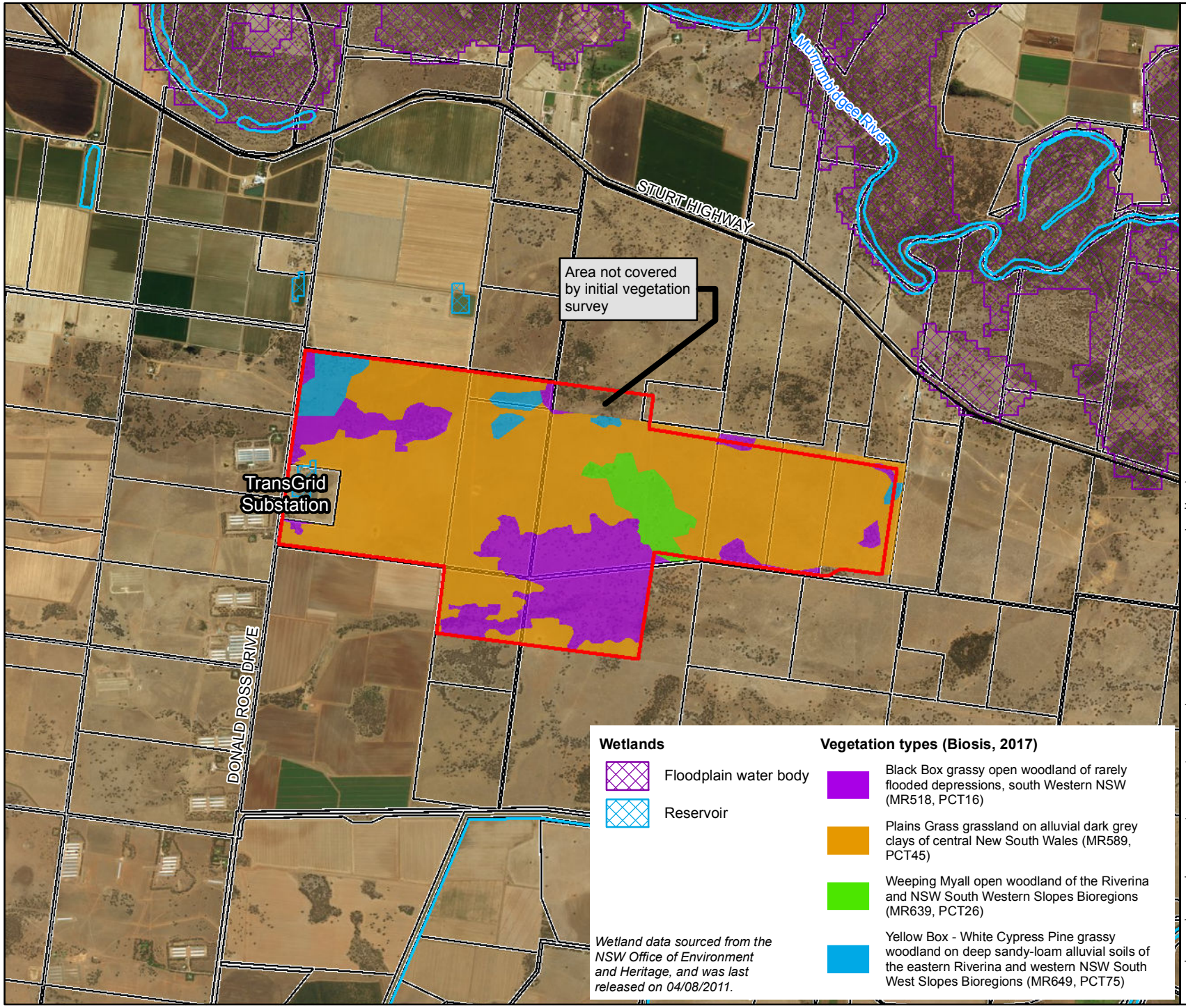
Grassland areas would need to be controlled during construction, however the detailed infrastructure layout would minimise impacts on native woodland vegetation, through avoidance of larger patches of Weeping Myall, Yellow Box, and Black Box woodland, and location of ancillary facilities in existing disturbed areas. As demonstrated at other large-scale solar farms, including Mount Majura in the ACT, it is expected that grasses would grow back under and around the solar arrays.

Further assessment

Further ecological assessment would be undertaken for the EIS, to confirm ecological constraints at the site and to avoid or minimise impacts on threatened biota. This would include:

- Detailed flora and fauna studies including refined vegetation mapping, habitat assessment and biometric data collection in accordance with the NSW Framework for Biodiversity Assessment
- Vegetation assessment against EPBC TEC criteria
- Assessment of the compatibility between native grasses and solar farm development and operation, for consideration in the assessment of offset requirements.

The above assessments would be informed and undertaken in accordance with the project SEARs.



Proposed site boundary

Roads

Rivers

Cadastre

Issue	Date	By	Chkd	Appd
1	10/04/2017	GJK	KC	LH

Kilometers

0 0.5 1 1.5 2

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Client

Edify Energy

Job Title

Darlington Point Solar Farm

Drawing Title

Figure 6-1 Vegetation Types at the Site

Scale at A4	Drawing Status
1:50,000	**Draft**

Coordinate System

GDA 1994 MGA Zone 55

Job No	Fig No
254766	**6.1**

Z:\SYD\Projects\254000\254766-00 Darlington Point Solar Farm EIS\Work\Internal\GIS\Workspace\PEA_Report\Veg_and_Wetlands.mxd

6.2.2 Traffic and access

Existing environment

The site can be accessed from the west via Donald Ross Drive off the Sturt Highway.

The Sturt Highway is a national highway, 947 km in length. The Sturt Highway is the primary route between Sydney and Adelaide and runs in an east-west direction from an intersection with the Hume Highway near Gundagai in NSW to the northern outskirts of Adelaide. As a national highway, the Sturt Highway supports a high volume of traffic, including heavy vehicles.

Kidman Way is a State road, 644 km in length, which runs in a north-south direction between Bourke and the Newell Highway at Jerilderie. The Newell Highway continues south and provides a connection to Melbourne, the closest port of entry to the project.

Donald Ross Drive is a council road about 8 m wide with little vegetation overhang. Donald Ross Drive services the TransGrid substation as well as other local industries, including the Baiada Poultry farms.

The Sturt Highway, Kidman Way and Donald Ross Drive are considered to be of a suitable standard for construction traffic access to the DPSF.

Potential impacts

The main site access would be via an existing unsealed farm access track off Donald Ross Drive, located around 20 m north of the TransGrid substation boundary fence and 3 km south of the Sturt Highway. This access would be modified in accordance with the requirements of Murrumbidgee Council.

It is likely that construction materials and equipment would be sourced from both Adelaide and Melbourne and would be delivered via the Sturt Highway, Kidman Way and Donald Ross Drive. Other sources and strategies to deliver materials and equipment to the site would be determined at a later date.

Due to the high number of site deliveries required, particularly in the peak period, construction vehicles may have some impacts on local traffic. While it is not yet known where construction personnel would be housed, strategies to reduce construction traffic have already started to be considered.

During operation, traffic generation would be minimal and therefore unlikely to impact on local traffic.

Further assessment

Construction traffic impacts will be assessed in the EIS, with consideration to existing traffic volumes on surrounding roads and in consultation with Murrumbidgee Council and surrounding land users.

Design of the detailed infrastructure layout will include consideration of any improvements required to the existing access.

A Construction Environmental Management Plan (CEMP) prepared for the project would include a bespoke Traffic Management Plan (TMP) that would include traffic management measures to minimise impacts on local traffic.

6.2.3 Flooding and hydrology

Existing environment

The proposed DPSF site is located on flat land approximately 1.6 km south of the Murrumbidgee River. There are no mapped watercourses within the site. There are some small wetlands mapped directly west and north of the site, and other wetland areas are mapped further north, adjacent to the Murrumbidgee River (see Figure 6-1).

The Coleambally Irrigation Area is located to the south of the study area. Water is diverted to the irrigation area from the Murrumbidgee River, through supply channels.

Parts of the site have been subject to inundation as a result of recent and historic major flood events. The most recent flood event affecting the site was in 2012. Conversations with OEH suggest this corresponds to around a 70 year Average Recurrence Interval (ARI) flood. A previous flood event in 1974 also impacted the site and, as per conversations with OEH, has recently been assessed as being around a 90 year ARI flood.

The TransGrid substation site has been benched and built-up slightly for flood protection. Mapping shows it was not affected during the 1974 flood event.

Potential impacts

No levees, major earthworks or levelling is proposed at or around the site, with the exception of the proposed new 132 kV switchyard which will be benched to match the level of the TransGrid substation. Development of the DPSF would not comprise a significant increase in non-permeable surfaces, as areas under the panels would remain vegetated and site access tracks would remain unsealed.

The solar arrays are likely to be spaced about 7 - 8 m apart to eliminate any shadowing impacts, with the panels raised above extreme flood levels. This configuration should allow water to flow freely across the site, as per the current conditions.

The DPSF would be designed to ensure the solar panels are situated above 100 year ARI flood levels.

Further assessment

A flood impact assessment will be carried out as part of the EIS to meet the requirements of the SEARS and to determine the design requirements of the DPSF.

6.2.4 Aboriginal heritage

Existing environment

A search of the NSW Aboriginal Heritage Information Management System (AHIMS) carried out by Biosis in February 2017 identified 64 Aboriginal archaeological sites within 10 km of the site. Two registered sites are located within the proposed DPSF site boundary, including:

- 49-5-0029 (earth mound)
- 49-5-0030 (culturally modified tree).

It should be noted that the AHIMS database reflects Aboriginal sites that have been officially recorded and included in the database, however does not preclude the potential for other sites to be present on site.

A review of the soil landscape revealed the site is located on the Murrumbidgee depression plains and the Murrumbidgee scalded plains soil landscapes. Both of these are known to be soil landscapes on which Aboriginal heritage sites occur. Further, the study area is located approximately 5 km from the Murrumbidgee River, an easily accessible and permanent water source.

During the ecology site visit, four possible culturally modified trees were identified, in addition to the sites registered on AHIMS.

Potential impacts

The two AHIMS registered Aboriginal sites identified at the site are located in the more densely vegetated areas that would be retained, and therefore the sites are not proposed to be disturbed. Further assessment of the site as outlined below will be undertaken to confirm the potential cultural heritage values at the site. Design of the DPSF would endeavour to avoid any impacts to Aboriginal heritage sites of significant value.

Further assessment

A more detailed Aboriginal heritage assessment would be undertaken for the EIS to understand any archaeological and cultural heritage constraints at the site and to avoid or minimise impacts on known heritage values. This would include:

- An Aboriginal Cultural Heritage Assessment in accordance with the requirements of the NPW Act. This assessment would be undertaken in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW, 2010) and the project SEARS
- Consultation with the Aboriginal community as required for the project in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010) and the project SEARS.

6.2.5 Land compatibility

Existing environment

As outlined in Section 5.1.3, the DPSF site is located on land zoned RU1 - Primary Production under the Murrumbidgee LEP. Historically the Anderson property has been used for cattle grazing, however the property owner has recently retired the land from this use. The Tubbo Station land is currently used for sheep grazing as part of a wider business operation.

A search of the NSW Government's MinView undertaken in April 2017 confirmed that the site is not subject to any current or historic mining or exploration licences and is not subject to any known mineral commodities.

A desktop review of land mapped as Biophysical Strategic Agricultural Land (BSAL) confirmed that the site is not located in a region deemed as BSAL.

Potential impacts

Edify Energy has negotiated an option to purchase the Anderson property and an option to lease the Tubbo Station land. The Edify Energy Tubbo Station lease option only comprises a small percentage of the sizable Tubbo Estate.

During operation, sheep grazing would continue on the Tubbo Station property and could also be extended to the Anderson property, preserving, in part, the historical land use. The site would not be rezoned and on decommissioning would be returned to its full existing land capability.

Alternative sites would likely require development on valuable pastoral and cropping land, and additional overhead transmission infrastructure traversing across private properties and road corridors. The opportunity to avoid these land impacts was the principal reason for selecting the proposed site.

Further assessment

The suitability of the site and the impact on strategic land values would be further considered in the EIS as guided by the project SEARs.

6.2.6 Cumulative impacts

Potential impacts

Cumulative impacts could be experienced by the community if construction or operation of the project coincides with construction or operation of other local developments. Other major projects and developments in the area known at this time include the expansion of Baiada Poultry's operations in Griffith and the employment of a significant number of staff for the construction period, and the proposal of the Coleambally Solar Farm about 12 km south-west of the DPSF.

Key cumulative impacts during construction could include:

- Increased construction vehicle traffic on local roads causing congestion and delay
- Pressure on local accommodation and services to house and support construction staff, and managing socio-economic outcomes after construction.

As it is expected that the DPSF would employee five full-time personnel and associated vehicle movements would be minimal, cumulative impacts during operation would be limited.

Following TransGrid announcing capacity at the Darlington Point substation, and nearby substations at Griffith and Balranald, and large-scale solar farms becoming commercially viable, an influx of solar proposals has been seen in the Riverina area. This has been seen as a positive outcome and welcomed by the Murrumbidgee Council and community.

Further assessment

A review of potential cumulative impacts would be undertaken for the EIS.

Options to sustainably accommodate construction personnel would be investigated at a later stage and in close consultation with Murrumbidgee Council. Careful consideration would be undertaken in the planning of the DPSF to ensure the towns of Darlington Point and Coleambally are not significantly disrupted during construction periods and we will work with the Council to explore opportunities for positive longer term outcomes where possible. This would be further discussed in the EIS.

Cumulative impacts would be incorporated into the project CEMP to ensure they are adequately managed by the construction contractor.

6.3 Other environmental issues

Other environmental issues that are relevant to the development, but are not considered key issues, are described in Table 6-1 below. These considerations would also be subject to further assessment as part of the EIS, and would be managed through appropriate mitigation and management measures.

Table 6-1 Other environmental issues

Issue	Existing environment	Potential impacts	Further assessment required
Non-Aboriginal Heritage	A desktop review and database searches identified that the proposed site is located within the Tubbo Station local heritage listing under the Murrumbidgee LEP.	The proposed development would result in development of a different land use within the mapped boundary of the Tubbo Station local heritage listing.	A heritage assessment would be conducted as part of the EIS, in accordance with the NSW Heritage Manual and the project SEARs. This would include consideration of the potential impacts to the Tubbo Station local heritage listing.
Noise and vibration	Handheld noise monitoring carried out in April 2017 confirmed that existing noise levels are low and in line with typical rural settings. The background noise is predominantly influenced by road traffic, particularly frequent heavy vehicle movements on the Sturt Highway, neighbouring agribusiness practices, and the TransGrid substation. Receivers expected to be sensitive to changes in noise levels include private residences and workers accommodation provided at the Baiada farms. The nearest workers accommodation is located around 100 m to the west of the site, and the nearest private residence is located around 800 m from the site.	During construction, the main source of noise is expected to be from traffic movements, construction of the project switchyard, and installation of equipment at the TransGrid substation. Once in operation, it is not anticipated that the DPSF would generate noise emissions significant enough to be audible at neighbouring properties. The additional equipment installed at the TransGrid substation and the DPSF switchyard may generate some noise emissions, however it is not expected to be audible above the current substation background noise.	A noise and vibration impact assessment would be conducted as part of the EIS to determine the likely noise impacts to surrounding land uses and identify any required mitigation measures.

Visual amenity	The current landscape of the site generally comprises flat, open grassland and lightly timbered country with some more densely vegetated areas. Sensitive viewpoints are expected to be those from neighbouring residential properties. There are a number of airfields in the area including Dallas Airfield approximately 12 km north-east, Coleambally Airfield approximately 25 km south-west of the site, and Griffith Airport approximately 40 km north.	While vegetation around the perimeter of the site would be retained, some of the DPSF infrastructure could be visible from certain viewpoints, including from Donald Ross Drive and neighbouring properties. PV panels are designed to absorb light, and therefore it is expected that the chosen PV panels would be finished with a non-reflective coating. As such, the DPSF is not expected to pose a risk to aviation in the area. Night lighting may be required during construction for any special circumstance out hours work, however during operation at the site night lighting would only minimal, and therefore unlikely to affect neighbouring properties or aviation. The additional infrastructure to be installed at the TransGrid substation would be located on either the eastern or northern side of the site and would blend in with the existing substation infrastructure.	Subject to flood-risk management, the PV panels will be situated as close to ground level as is practicable for ease of installation and maintenance. A more detailed visual assessment would be conducted for the EIS, which would confirm sensitive receivers and viewpoints, and determine the impacts to visual amenity from these locations. Any mitigation measures would be identified in the EIS and included in the project Operational Environmental Management Plan (OEMP).

Soils and geology	Soil mapping (Office of Environment and Heritage) identifies that the majority of the site is grey, brown and red clays, with some red brown earths mapped in the northwest portion. Land and Soil Capability mapping for the site indicates that with respect to acid sulphate soils, the land has very slight to negligible potential. With respect to salinity the land has moderate limitations, capable of sustaining high impact land uses. The site is mapped as being 'groundwater vulnerable' under the Murrumbidgee LEP.	Minor excavations and vegetation removal would be required during construction which would disturb soil at the site. This may cause temporary erosion, sedimentation or dust generation. Soil may also be compacted as a result of construction of operation at the site.	A soils and geology assessment would be conducted as part of the EIS to identify potential impacts, the chance for encountering groundwater during construction, and any required mitigation measures. Measures to prevent erosion and sedimentation and contamination of groundwater would be specified in the project CEMP.
Contamination	Due to historic agricultural activities at the site there is the potential for contamination to exist (such as from sheep or cattle dips or from storage of chemicals). The TransGrid substation site also has potential to contain contaminants from past and present equipment and operations.	Should contamination be encountered at the site during construction, works in this area would cease and management undertaken in accordance with relevant the Waste Classification Guidelines (DECCW, 2009) and the CLM Act. As there would be minimal storage of chemicals or other contaminants at the site during construction and operation, the risk of contamination as a result of the development is low.	Further assessment and site investigations during the EIS will confirm if there is contamination likely present at the site. A management process for contaminated land would be specified in the project CEMP.

Air quality	The site is located in a rural setting and the ambient air quality is expected to be good. A search of the National Pollutant Inventory (NPI) undertaken in April 2017 identified that there are 11 facilities reporting to the NPI in the s area. Ten of these are poultry farms located on Ringwood Road and Donald Ross Drive to the west of the site, with ammonia being the emission type. The other facility reporting to the NPI in the area is Coleambally Depot, identified as petroleum product wholesaling. Other sources of air pollution in the study area are likely to include the surrounding roads and dust generation from rural activities.	During construction, traffic movements, the slashing of grassland, and minor vegetation removal may result in minor increases in emissions and dust. There are not expected to be any emissions during operation of the DPSF.	Air quality impacts would be considered in the EIS and mitigation measures (such as dust control during construction) would be specified in the CEMP.
Resource use and waste	The primary waste stream currently at the site is expected to include green waste from vegetation management. No resources are proposed to be removed from the site during construction. Solar resource will be harvested during operation.	Resources during construction are likely to include materials for built elements, fuel for vehicles and equipment, and water for dust suppression. Waste streams are expected to include construction materials, grasses and vegetation, soils, and general waste. During operation, resource use and waste streams are expected to be minimal.	Resource use and waste management measures will be further discussed in the EIS with consideration of the WARR Act.

Socio-economic	The development is located in a rural setting surrounded by pastoral and other agribusiness activities.	The community may be temporarily affected by additional traffic movements during construction. There would also be pressure on local accommodation and services to house and support construction staff. It is expected that construction and operation of the DPSF would also result in beneficial social and economic outcomes in the community.	Socio-economic impacts and benefits will be assessed in the EIS, including measures related to workforce planning and measures to minimise amenity impacts during construction.
Electromagnetic fields (EMF)	EMF are produced wherever electricity is used or transmitted. The existing TransGrid substation, along with the 330 kV, 132 kV and 11 kV transmission lines traversing the site are expected to be a source of EMF.	The solar electricity generating equipment, the switchyard, and the additional infrastructure required at the TransGrid substation are all expected to contribute to EMF at the site. EMF generated from the project are expected to be below the limits stated in the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), therefore not having an adverse impact on human health.	The generation of EMF and the potential health effects will be assessed as part of the EIS.
Bushfire risk	The NSW Rural Fire Service Bushfire Mapping Tool identifies that the site is not in a bush fire prone area. However grasses and vegetation at the site may pose some risk.	The project is not likely to increase the bushfire risk in the area.	Bushfire risk at the site will be further considered in the EIS and a Bushfire Management Plan would be developed as part of the project OEMP.

7 Conclusion

The DPSF proposal has been developed through consideration of a number of options and alternatives, and consultation has commenced with key stakeholders and the community.

The proposed site has the potential to accommodate up to 275 MW (AC) of solar generated electricity, including the provision, at a future date, for battery technology. Subject to planning approval, construction of the DPSF could commence in early 2018 to be generating electricity by the Summer 2018/19 peak period. The DPSF may be constructed as a single 275 MW project, or in individual stages.

This PEA has outlined the planning approval pathway for the project and has considered the potential impact of the proposed development on a number of environmental and social values.

Key environmental issues have been identified as:

- Biodiversity
- Construction traffic
- Flooding and hydrology
- Cultural heritage
- Cumulative impacts.

Design of the DPSF will be developed in order to minimise environmental, cultural, business and community impacts while maximising electricity output to help achieve the strategic goals and targets set by the Australian and NSW governments around renewable energy, climate change and emissions.

The benefits of the proposal would include:

- Contribution of approximately 275 MW AC to the Australian RET
- Provision of a clean energy source, with enough power to supply around 130,000 homes each year for 30 years through the NEM (based on typical NSW household electricity consumption specified by Origin Energy in 2016)
- Assisting the RET and Paris Agreement obligations, as well as NSW's own transition to net zero emissions and accelerate advanced energy technology
- Provision of around 200 jobs during peak construction and about five full-time jobs during operation, with an emphasis on local content
- Potential for direct and indirect investment into the Murrumbidgee Shire during construction.

Edify Energy's development intent is to maximise direct benefits to the local community. Opportunities for additional community benefits would be further explored throughout the planning and development process.

An EIS will be prepared for the proposed infrastructure layout design in accordance with the project SEARs. The EIS will detail the measures for inclusion in the project construction and operational environmental management plans in order to minimise social and environment impacts.

8 References

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Appendix A

Site photographs

Photograph 1 From north-east corner looking west towards the Darlington Point substation

Photograph 2 From the eastern boundary of the Darlington Point substation looking along the 132 kV transmission easement

Photograph 3 From the eastern boundary of the TransGrid substation looking east along the 330 kV transmission easement

Photograph 4 At the TransGrid substation showing the spare 132 kV bay and gantry

Appendix B

Murrumbidgee Council letter of support

Murrumbidgee
COUNCIL

Darlington Point Office
21 Carrington Street
PO Box 5
DARLINGTON POINT NSW 2706

Telephone: 02 6960 5500

Coleambally Office

39 Brolga Place
COLEAMBALLY NSW 2707

Telephone: 02 6954 4060

Jerilderie Office
35 Jerilderie Street
PO Box 96
JERILDERIE NSW 2716

Telephone 03 5886 1200

01.13

7 April 2017

Mr Andy Winter
Edify Energy

andy.winter@edifyenergy.com

Dear Andy

Edify Energy Development – Letter of Support

Murrumbidgee Council confirms contact with Edify Energy with regard to their solar farm development proposal within Council's Local Government Area. Council is aware that a project of this scale will bring considerable economic stimulus to our region, both during and after the construction.

Following a review of the preliminary information on the project, Council offers its support in principle to Edify Energy and offers no objection providing the prescribed planning approval process is followed.

Yours faithfully

Austin Evans
ADMINISTRATOR