

STATE SIGNIFICANT DEVELOPMENT ASSESSMENT *Currawarra Solar Project (SSD 8437)*

EXECUTIVE SUMMARY

RES Australia proposes to develop a new 195 megawatt solar farm near Deniliquin in the southwest of NSW.

The Department publicly exhibited the development application and received submissions from eight Government agencies and 16 from the general public. None of the government agencies objected to the project, however all 16 public submissions were objections. The key concerns raised in objections and considered in the Department’s assessment are potential impacts to agricultural land and amenity impacts.

The Department considers that the project would not significantly reduce the overall agricultural productivity of the region, nor would it inhibit the use of irrigation infrastructure on other sites within the region. Further, the Department is satisfied that the project would not affect the future use of the site’s irrigation channels, and the site could be returned to agricultural uses in the future.

In relation to amenity impacts, the Department notes that a vegetation buffer would be established that would effectively screen views of the project and mitigate visual impacts from residences. The potential noise and traffic impacts would be short-term, minor in nature and could be managed in accordance with strict conditions on construction hours, road upgrades, and a comprehensive Traffic Management Plan.

In summary, the Department considers the site to be suitable for a large-scale solar farm as it has good solar resources, is highly disturbed and has been cleared for agricultural purposes, and is close to the existing electricity network. The project is consistent with both the Commonwealth’s *Renewable Energy Target* and NSW’s *Climate Change Policy Framework* as it would contribute 195 MW of renewable energy to the National Electricity Market, and increase the diversity of supply. The Department considers that the project would result in benefits to the State of NSW and the local community, and is therefore in the public interest.



Figure 1: Regional Context

1. BACKGROUND

RES Australia (the Applicant) proposes to develop a new 195 MW solar farm approximately 25 kilometres (km) northeast of Deniliquin in the Edward River local government area (see **Figure 1**).

1.1 Project setting

The project is located on a 620 hectare (ha) site bounded by Mayrung Road to the south, Russells Road to the west and Sunny Pines Road to the east.

The site is relatively flat and has been largely cleared for agricultural purposes. It is currently used for irrigation cropping and grazing and comprises a network of irrigation and drainage channels, and a large farm dam. The site is located in the NSW Murray basin, and the Murray River is approximately 35 km south of the site.

The proposed development footprint within the site is 472 ha and has been designed to largely avoid site constraints including remnant vegetation. There are three dwellings within 1 km of the site, with the nearest located approximately 270 metres (m) to the southwest of the site.

1.2 Project description

The project involves the construction of a new solar farm with a generating capacity of 195 MW and battery storage capacity of 44 MW hours. It also involves any upgrading or decommissioning of infrastructure and equipment in the future. While the capacity of the project may increase over time as technology improves, the footprint of the development would not increase.

The key components of the project are summarised in **Table 1**, depicted in **Figure 2** and described in detail in the project environmental impact statement (EIS) (see **Appendix B**).

Table 1: Major components of the project

Aspect	Description
<i>Project summary</i>	<p>The project includes:</p> <ul style="list-style-type: none"> • approximately 654,200 solar panels and approximately 42 inverter stations (up to 3 m in height); • a lithium-ion battery storage facility, with up to 22 battery housing containers (up to 3 m in height); • an onsite substation and associated underground and overground cabling connection to TransGrid's 132kV transmission network; • internal access tracks, staff amenities, temporary laydown areas, maintenance and equipment buildings, site offices, onsite car parking, security fencing; and • vegetation screening along the boundaries of the site.
<i>Project area</i>	620 ha (with a 472 ha development footprint)
<i>Subdivision</i>	Minor subdivision of 106 DP 756305 to facilitate substation development.
<i>Access and site entry</i>	The majority of project traffic would travel to the site from the east via Finley, along the Riverina Highway. The site would be accessed from four separate entry points located on Mayrung Road, Sunny Pines Road and Russells Road.
<i>Road upgrades</i>	<ul style="list-style-type: none"> • Intersection of the Riverina Highway and Lakers Road. • Lakers Road a minimum of 50 m from its intersection of the Riverina Highway to a standard that allows two-way heavy vehicle movements. • Intersections of all Council-controlled roads.
<i>Construction traffic and timeframe</i>	<ul style="list-style-type: none"> • The total construction period would last up to 18 months, and would comprise: <ul style="list-style-type: none"> - a peak traffic period of up to 3 months (up to 254 light vehicle and 65 heavy vehicle movements a day, including over dimensional vehicles); and - a non-peak traffic period of approximately 15 months (up to 100 light vehicle and 9 heavy vehicle movements a day, including over dimensional vehicles). • Construction hours would be limited to Monday to Friday 7am - 6pm, and Saturday 8am - 1pm
<i>Operational life</i>	<ul style="list-style-type: none"> • The expected operational life of the infrastructure is approximately 30 years. However, the project may involve infrastructure upgrades that could extend the operational life. • The project also includes decommissioning at the end of the project life, which would involve removing all above ground infrastructure.
<i>Hours of operation</i>	The solar farm would only operate during daylight hours. Daily operations and maintenance by site staff would be undertaken Monday to Friday 7am - 6 pm, and Saturday 8 am - 1 pm.
<i>Employment</i>	Up to 200 full time equivalent construction jobs and 4 full time equivalent operational jobs.
<i>CIV</i>	\$287 million

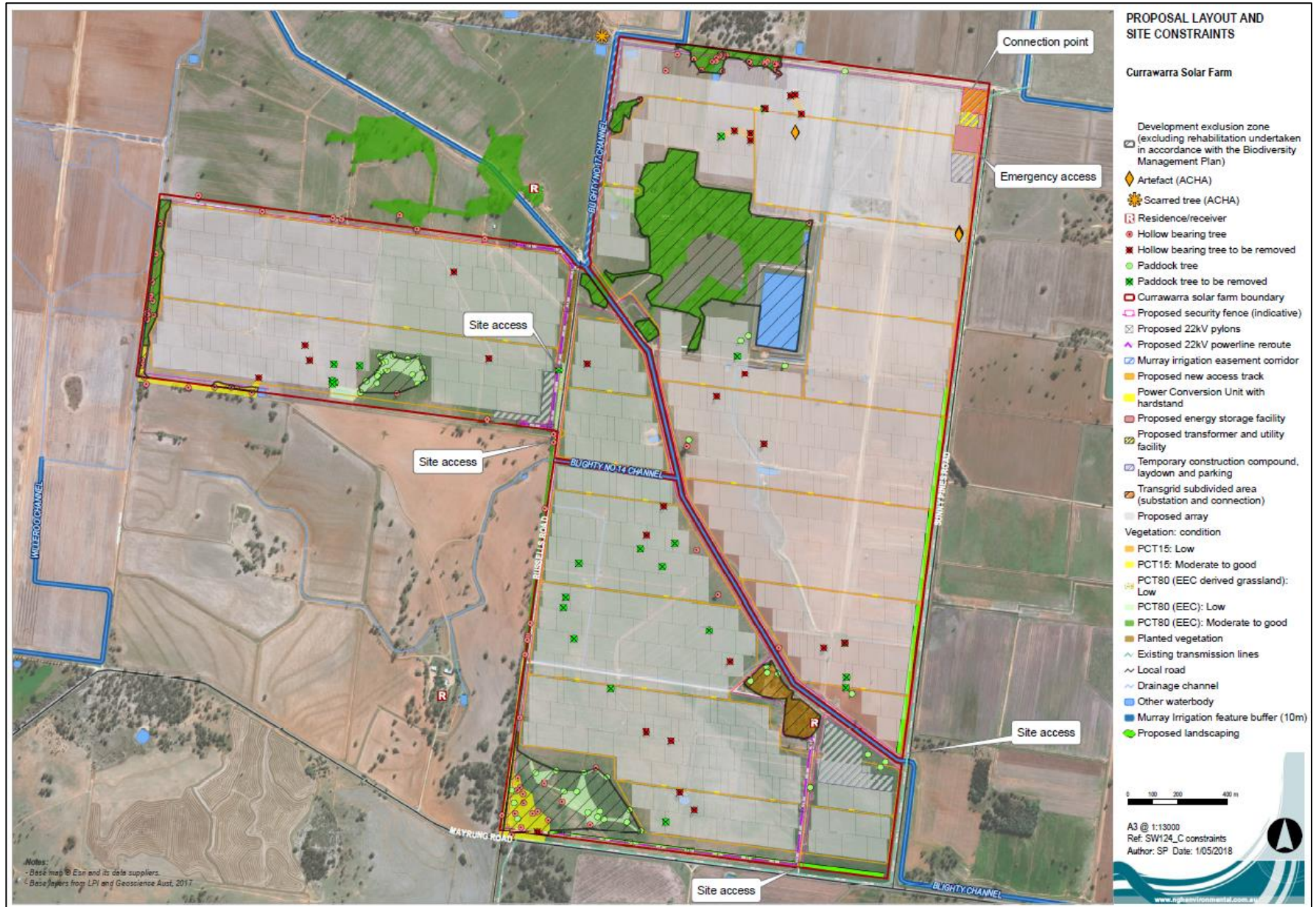


Figure 2: Project Layout

1.3 Relationship to proposed Tarleigh Park Solar Project

The project is located approximately 18 km north of the proposed Tarleigh Park Solar Project (SSD 8436), which is a 90 MW capacity solar farm located on a 250 ha site.

As there is uncertainty around the timing of the two projects, the Department has assessed the potential cumulative impacts of both projects on the basis that construction may occur concurrently and both projects may be operational at the same time.

1.4 Strategic context

In 2016, NSW derived approximately 19.6% of its energy from renewable sources. The rest was derived from fossil fuels, including 75.8% from coal and 4.6% from gas. However, there are currently no plans for the development of new coal power stations in NSW, and the development of renewable energy sources, like wind and solar farms, is experiencing rapid growth.

This is highlighted in the recently released *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review), which outlines a strategic approach to ensuring an orderly transition from traditional coal and gas fired power generation to generation with lower emissions. It notes that Australia is heading towards zero emissions in the second half of the century.

The *United Nations Framework Convention on Climate Change* (UNFCCC) has adopted the Paris Agreement, which aims to limit global warming to well below 2°C, with an aspirational goal of 1.5°C. Australia's contribution towards this target is a commitment to reduce greenhouse gas emissions by 26% to 28% below 2005 levels by 2030.

One of the key initiatives to deliver on this commitment is the Commonwealth Government's *Renewable Energy Target* (RET). Under this target, more than 20% of Australia's electricity would come from renewable energy by 2020. It is estimated that an additional 5,400 MW of new renewable energy capacity will need to be built by 2020 to achieve the *Renewable Energy Target*.

The *NSW Climate Change Policy Framework*, released in November 2016, sets an aspirational objective for NSW to achieve net zero emissions by 2050. The NSW Government also has a *Renewable Energy Action Plan*, which promotes the development of renewable energy in NSW.

In March 2018, the NSW Government identified 10 potential Energy Zones across three broad regional areas, including the New England, Central West and South West regions of NSW. The identified energy zones are aimed at encouraging "investment in new electricity infrastructure and unlocking additional generation capacity in order to ensure secure and reliable energy in NSW." The project would be located within the proposed South West Energy Zone.

NSW is currently leading Australia in large-scale solar development, with four major operational projects, including one of the largest solar farms in Australia.

With a capacity of 195 MW, the project would generate enough electricity to power up to 72,000 homes, and is therefore consistent with both the Commonwealth's *Renewable Energy Target* and NSW's *Renewable Energy Action Plan*.

2. STATUTORY CONTEXT

2.1 State Significant Development

The project is classified as SSD under Section 4.38 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is because it triggers the criteria in Clause 20 of Schedule 1 of *State Environmental Planning Policy (SEPP) (State and Regional Development) 2011*, as it is development for the purpose of electricity generating works with a capital investment value (CIV) of more than \$30 million.

Consequently, the Minister for Planning is the consent authority for the development. However, under the Minister's delegation of 11 October 2017, the Executive Director, Resource Assessments and Business

Systems, may determine the development application as there were less than 25 objections, Council has not objected and a political donations disclosure statement has not been made.

2.2 Environmental planning instruments

The provisions of the *Conargo Local Environment Plan (LEP) 2013* are discussed in **section 4.1** of this report.

Under the *SEPP (Infrastructure) 2007*, the project is permissible as it involves development for the purposes of electricity generating works. In accordance with the Infrastructure SEPP, the Department has given written notice of the project to TransGrid as the electricity supply authority for the area.

In accordance with *SEPP No. 33 – Hazardous and Offensive Development (SEPP No. 33)* the Applicant completed a Preliminary Hazard Analysis for the battery storage facility. The Department's consideration of this analysis is discussed in **section 4.3** of this report.

The Department has considered the provisions of *SEPP No. 55 – Remediation of Land*. A preliminary assessment of the land found no contaminated land within the project site, and the Department is satisfied the site is suitable for the development.

2.3 Integrated and other approvals

Under Section 4.41 of the EP&A Act, a number of other approvals are integrated into the SSD approval process, and consequently are not required to be separately obtained for the proposal. Under Section 4.42 of the EP&A Act, a number of further approvals are required, but must be substantially consistent with any development consent for the proposal e.g. approvals for the intersection works under the *Roads Act 1993*.

The Department has consulted with the relevant government authorities responsible for the integrated and other approvals, considered their advice in its assessment of the project, and included suitable conditions in the recommended conditions of consent to address these matters (see **Appendix A**).

3. CONSULTATION

The Department publicly exhibited the EIS from 21 November 2017 until 21 December 2017, advertised the exhibition in the Albury Border Mail and Deniliquin Pastoral Times, and received submissions from eight Government agencies and 16 members of the general public. A summary of the key issues raised in submissions is provided below. A full copy of the submissions is provided in **Appendix C**.

The Department inspected the site and met with local community members on 4 and 5 December 2017.

The Applicant provided a response to all matters raised in submission on the project (see **Appendix D**).

3.1 Agency advice

The **Office of Environment and Heritage (OEH)** initially raised concerns about the management and mitigation of Aboriginal heritage items on site, and aspects of the biodiversity assessment. Following receipt of additional information, OEH has no objection to the project, subject to recommended conditions. These recommendations have been incorporated into the conditions of consent.

Edward River Council (Council) initially raised concerns on aspects of the project including potential amenity impacts (visual and dust), proposed landscaping, site access arrangements, worker accommodation, bushfire mitigation, and ongoing agricultural viability of the site. These matters have been addressed by the Applicant in the response to submissions and are discussed in **section 4**.

The **Department of Industry - Lands and Water (Dol L&W)** requested additional information on water usage and storage, agricultural land classification and decommissioning. This was provided by the Applicant, and Dol L&W has no residual concerns, providing the Crown road associated with the site is closed and its administration transferred. The Applicant has committed to this in writing as part of this project.

RMS did not object to the proposal, provided that the Applicant develop a Traffic Management Plan and complete intersection upgrades. These are required in the recommended conditions.

Local Lands Services (LLS) acknowledged that biodiversity impacts had been addressed in the EIS and advised it had no further comment.

The **Division of Resources and Geoscience** noted that the site is not subject to any mineral, petroleum or coal titles.

The **NSW Rural Fire Service** (RFS) recommended bushfire management conditions, which have been incorporated into the recommended conditions where appropriate.

Fire and Rescue NSW (FRNSW) recommended the Applicant develop an Emergency Response Plan including specific risk avoidance and emergency management measures, and this is included in the recommended conditions.

3.3 Public submissions

All 16 submissions from the general public were objections. 14 of the 16 objections came from residents in the locality. The key issues in these objections related to land use compatibility and the amenity impacts of the project, including visual, noise and traffic. Many people raised concerns that it would sterilise agricultural land that has been enhanced for irrigation. These matters are addressed in **section 4.1** and **4.2** of this report.

Two objections raised general concerns about the broader impacts of large-scale solar farms (and other renewable energy projects) on energy security and pricing. These matters are addressed in **section 4.4** of this report.

4. ASSESSMENT

The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of three key issues, including potential impacts to agricultural land, amenity impacts (including traffic, noise and visual), and the energy storage facility.

The Department has also considered the full range of potential impacts associated with the project and has included a summary of the conclusions relating to these impacts in **section 4.4**.

4.1 Compatibility of proposed land use

Provisions of the Conargo LEP

The site is located wholly within the RU1 Primary Production zone under the Conargo LEP.

The RU1 zone identifies land uses that are permitted with and without consent. As a solar farm is not expressly listed as permitted with or without consent, it is a prohibited land use under a strict reading of the LEP zoning table.

However, based on a broader reading of the LEP, and consideration of the objectives of the RU1 zone and other Council strategic documents, the Department is satisfied that there is no clear intention to prevent the development of a solar farm on the project site.

Firstly, the Conargo LEP expressly references the Infrastructure SEPP and acknowledges that electricity generating works are regulated by the Infrastructure SEPP, rather than the LEP. Notwithstanding, a solar farm is permitted with consent under the Infrastructure SEPP.

Secondly, the project is consistent with the objectives of the RU1 zone, particularly in relation to:

- encouraging diversity in primary industry enterprises; and
- minimising fragmentation and alienation of resource lands.

The proposed development would have limited impacts on the agricultural productivity of the land; the site could be easily returned to agricultural land in the future once the project is decommissioned, and managed grazing could occur during operations. Further, Council supports the development of the project, subject to the implementation of suitable environmental mitigation measures.

Thirdly, while land use in the Edward River local government area still comprises dryland agriculture and grazing, the region has diversified with the use of irrigation to produce a range of broadacre and horticultural crops. The proposed solar farm would encourage a new element of agricultural enterprise and contribute to a more diverse local industry.

Finally, the project is consistent with the Department's *Riverina Murray Regional Plan 2036* which identifies the development of renewable energy generation as a future growth opportunity for the region.

Potential impacts on agricultural land

The project site is located in the Murray Irrigation Area of NSW where agriculture is the major economic driver. However, the site is not mapped as Biophysical Strategic Agricultural Land.

The Department acknowledges the project site is located in an established irrigation region, and the site comprises purpose built irrigation infrastructure, such as lateral irrigators, irrigation and drainage channels.

The agricultural output from the site would be reduced by the development of the solar farm, however the land area to be taken up by the solar farm represents a very small fraction of the agricultural output of the Murray Irrigation area. The combined loss of irrigation cropping land from this project and the nearby Tarleigh Park Solar Project would result in a negligible reduction in the overall productivity of the region.

The Department notes the capability of irrigation and drainage channels located on site would be affected during the life of the project, but considers nothing would prevent the future use of these channels following decommissioning of the project. In addition, the Department is satisfied that the project would not affect the use of irrigation and drainage channels for irrigators or landowners located upstream or downstream of the project site.

The Department also notes that portable irrigation infrastructure currently located on site, such as a lateral irrigator, would be relocated to another area of land that is currently farmed by the host landowner, and therefore the capability of this infrastructure would not be lost.

The region's key irrigation provider, Murray Irrigation Limited, supplies irrigation water to approximately 724,000 ha of agricultural land within southern NSW. The loss of 620 ha of land from the project would result in a negligible reduction (0.09%) in the overall productivity of the Murray Irrigation Area.

Furthermore, the inherent agricultural capability of the land would not be affected by the project due to the relatively low scale of the development. Managed grazing may be used to maintain the height of ground cover during operations and the land would be returned to agricultural use following decommissioning.

Neither DoI L&W, LLS nor Council has raised concerns that the operation of the project would compromise the long-term use of the land for agricultural purposes.

The potential loss of a small area of irrigation cropping and grazing land in the region must be balanced against:

- the broader strategic goals of the Commonwealth and NSW governments for the development of renewable energy into the future;
- the environmental benefits of solar energy, particularly in relation to reducing greenhouse gas emissions; and
- the economic benefits of solar energy in an area with good solar resources and capacity in the existing electricity infrastructure.

Based on these considerations, the Department is satisfied that the proposed solar farm represents an effective and compatible use of the land within the region. In addition, the Department has recommended suitable conditions to maintain the productivity of the agricultural land during the construction and operation of the project and to reinstate the agricultural capability of the land following the decommissioning of the project.

4.2 Amenity

Traffic and transport

The main transport route to be used for the project is via the Riverina Highway, Lakers Road, Moonee Swamp Road, Mayrung Road, Russells Road and Sunny Pines Road. Construction traffic travelling from Deniliquin would also utilise Conargo Road. As the site is intersected by irrigation and drainage channels, it would be accessed via four separate site entry points located on Mayrung Road, Russells Road and Sunny Pines Road.

Riverina Highway is a State road that serves as a key transport route for traffic travelling to local, regional and interstate locations. Conargo Road is an RMS-regulated regional road. Moonee Swamp Road, Mayrung Road and Sunny Pines Road are Council-controlled roads and comprise both sealed and non-sealed surfaces, mostly utilised by local traffic. Russells Road is an unsealed Crown road, and the proposed ownership transfer of this road is discussed in **section 4.4**.

The main increase in traffic volumes associated with the project would occur during the 18 month construction period, which would include a peak period of 3 months. The estimated peak daily vehicle movements during construction would be 319 vehicle movements per day, comprising 254 light vehicles (cars) and 65 heavy vehicles (trucks) movements. Traffic during operations would be negligible.

The Department acknowledges the main transport route has been designed to avoid the Mayrung Public School, however a portion of the route along Mayrung Road forms part of the local school bus run. Consequently, the Applicant has committed to implementing measures to avoid significant traffic impact or delay during school bus operating periods. This would include using shuttle buses and car pooling to transport construction personnel.

RMS recommended that Basic Right Turn (BAR) and Basic Left Turn (BAL) treatments are constructed at the intersection of the Riverina Highway and Lakers Road. In addition, RMS advised that Lakers Road is widened and sealed for at least 50 m from its intersection with the Riverina Highway.

Council has also recommended the Applicant construct suitable treatments for all Council-controlled road intersections along the transport route.

The Department has recommended conditions of consent requiring the Applicant to:

- undertake the relevant road upgrades prior to the commencement of construction;
- ensure the length of vehicles accessing the site does not exceed 26 m (except for one over dimensional vehicle) and the number of vehicles does not exceed the volumes predicted in the EIS; and
- prepare and implement a Traffic Management Plan in consultation with RMS and Council.

Subject to the recommended conditions, the Department, RMS, and Council are satisfied that the project would not result in significant impacts on road network capacity, efficiency or safety.

Visual

The proposed solar farm is a relatively low-lying development with a maximum solar panel height of up to 3 m. The maintenance buildings and the energy storage facility buildings located in the northeast of the site, would stand at a maximum height of 6.5 m and 3.5 m, respectively. These structures are considered a similar size to agricultural sheds commonly utilised in the local area.

The photovoltaic panels are designed to absorb rather than reflect sunlight and the project would not cause noticeable glint or glare compared to other building surfaces. The low height of the infrastructure would limit the visual impact from most viewpoints.

Three residences are located within 1 km of the project site, including two within 500 m of the proposed project boundary. Existing trees scattered between the residences and the project boundary restrict views of the project site, and a vegetation screening buffer is proposed at strategic locations around the site to further screen views of the project from these surrounding residences.

The Department has recommended conditions of consent requiring the Applicant to:

- establish and maintain vegetation buffers to screen nearby residences;
- ensure that external lighting is minimised and complies with the relevant Australian Standards; and
- prohibit any signage or advertising on the development, unless for safety purposes.

Subject to the establishment of buffers, there would be no significant visual impacts on nearby residences or road users.

Noise

The proposed construction, upgrading and decommissioning activities would largely comply with the noise management levels in the *Interim Construction Noise Guideline* (ICNG). However, there would be short-term

exceedances at two residences when construction works occur at the site boundary adjacent to these residences.

These exceedances are predicted to be up to 12 dB(A) above the noise affected criterion of 40 dB(A). The noise levels would only be for a limited period and would remain well below the highly affected noise level of 75dB(A) in the ICNG.

In addition, the noise assessment assumed that the three most significant noise sources were operating concurrently, which means that the predicted noise levels represent a worse-case scenario. It is likely that the actual construction noise impacts would be less than that predicted.

The Department is satisfied that any noise impacts would be limited to standard operating hours during the construction period and would be short-term. The Department considers construction noise can be minimised by implementing the noise mitigation work practices set out in Tables 5 and 8 of the ICNG. These include scheduling activities to minimise noise, using quieter equipment, informing the immediately surrounding landowners and establishing a complaints handling procedure.

There would be negligible noise during operation.

The Department has recommended conditions of consent requiring the Applicant to:

- minimise the noise generated by any construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG;
- restrict construction hours to Monday to Friday 7 am - 6 pm, and Saturday 8 am - 1 pm; and
- prepare and implement a Construction Noise Management Plan.

4.3 Energy storage

In response to increasing demands for dispatchable energy, the Applicant is proposing an on-site energy storage facility, comprising up to 8250 lithium-ion battery cells. The facility is proposed within a cleared and fenced 1 ha area in the northeast of the project site. The facility would include up to 22 purpose-built containers (3.5 m high) to house the batteries.

The Applicant's hazard assessment in the EIS assessed risks associated with development and operation of lithium-ion batteries in accordance with *SEPP No.33 - Hazardous and Offensive Development*. The assessment concluded the proposed control measures would minimise the risks from handling, storage and operation of the batteries.

The Applicant intends to implement suitable energy storage hazard prevention and mitigation measures including (but not limited to):

- minimum separation distances of 5 m between battery containers;
- a 10 m asset protection zone comprising of gravel (or similar non-combustible ground cover) around the facility;
- an integrated fire suppression system in each container; and
- automated monitoring of voltage and temperature, including alarm and shutdown response systems; and
- integrated fire detection and fire suppression systems.

The Department has carefully assessed the proposed energy storage facility in consultation with its hazards unit and relevant Government agencies. The Department notes that the facility would be located away from residences and environmentally sensitive landscapes. Subject to the recommended conditions and implementation of the mitigation measures in the EIS, the Department is satisfied that the risks associated with the facility would be minimal.

4.4 Other issues

The Department's consideration of other issues is summarised in **Table 2**.

Table 2: Other issues

Issue	Consideration	Recommendations
Energy Security	<ul style="list-style-type: none"> • Two submissions raised concerns that the project, or a combination of the project and a range of other renewable 	<ul style="list-style-type: none"> • No specific conditions required.

Issue	Consideration	Recommendations
	<p>energy projects, could have an adverse impact on energy security in NSW, and increase electricity prices.</p> <ul style="list-style-type: none"> In particular, these submissions contend that renewable energy projects may force the closure of baseload energy suppliers (e.g. coal and gas), leading to higher energy prices as the remaining baseload suppliers may increase prices at times renewable energy cannot be generated. The Department acknowledges and understands the broad concerns raised in these submissions, however any evaluation of these issues must have regard to the broader strategic context. Firstly, NSW forms part of the National Electricity Market (NEM). The NEM is complex and is governed by a robust statutory framework at both the Commonwealth and State level which covers the regulation of electricity generation, distribution and pricing. Secondly, there is strong policy support at both the Commonwealth and State level for the increased development of renewable energy projects to ensure that a greater proportion of electricity is generated by renewable sources, and to reduce greenhouse gas emissions associated with any electricity generation. Thirdly, the Department notes that long-term energy policies are being informed by recommendations in the <i>Independent Review into the Future Security of the National Electricity Market</i>, which provides a blueprint for ensuring Australia's energy systems remain affordable, reliable, sustainable and secure. In the Department's view, the likelihood of the project having an adverse impact on energy security or electricity prices in NSW is extremely low, given that it would only add 195 MW of capacity to the NEM, which at this stage has a total generation capacity of over 54,000 MW. Further, any incremental or cumulative impacts associated with the potential intermittency of renewable energy projects could be mitigated through the operation of the NEM. 	
Biodiversity	<ul style="list-style-type: none"> The project site is mostly cleared agricultural land that has been laser levelled and heavily modified by past disturbances and utilised for irrigation cropping, sheep and goat grazing. Nevertheless, patches of remnant native vegetation remain on the site, including some patches of Western Grey Box woodland, which is listed as an Endangered Ecological Community (ECC) under the <i>Biodiversity Conservation Act 2016</i> (BC Act). The project layout has been designed to avoid EECs and largely minimise disturbance to native vegetation. However, approximately 6.27 ha of native vegetation would be cleared from within the development footprint, and associated with road intersection upgrades on and off the project site. The native vegetation that would be cleared is mainly comprised of low condition paddock trees. The Applicant has calculated the ecosystem offset credits in accordance with the <i>Framework for Biodiversity Assessment</i>, and OEH is satisfied these have been correctly calculated. The loss of 6.27 ha of native vegetation would require 115 ecosystem credits be retired. The proposed clearing would involve the removal of 19 hollow-bearing trees, which can contain breeding habitat for the Major Mitchells Cockatoo and Superb Parrot (both listed as threatened under the BC Act). Neither species were observed utilising or nesting within the hollow-bearing trees. 	<ul style="list-style-type: none"> Retire the required biodiversity offset credits in accordance with the <i>NSW Biodiversity Offset Policy for Major Projects</i> within one year of the commencement of construction. Undertake additional surveys of threatened species during the key breeding period of spring and summer. Remove hollow-bearing trees during spring to early summer to avoid the main breeding period for hollow-dependent fauna. Prepare a Biodiversity Management Plan prior to commencement of construction.
Heritage	<ul style="list-style-type: none"> Site surveys identified three stone artefacts comprising two Aboriginal heritage sites within the project site. Both sites were assessed as having low scientific value due to the highly disturbed nature of the site. Notwithstanding, the three artefacts would be salvaged prior to construction commencing and relocated to an area within the project site outside of the development footprint. 	<ul style="list-style-type: none"> Cease works and notify the NSW Police and OEH if human remains are identified over the life of the project. Prepare a Chance Finds Protocol.

Issue	Consideration	Recommendations
	<ul style="list-style-type: none"> Two Aboriginal scarred trees and two European survey marker trees were recorded outside of the development footprint and would not be affected by the proposal. 	<ul style="list-style-type: none"> Protect all heritage items on site from any impact.
Water and Erosion	<ul style="list-style-type: none"> Several irrigation and drainage channels, managed and owned by Murray Irrigation Limited, intersect and border the site. The Applicant is not proposing to construct any crossings over these channels, and would preserve all channel infrastructure located on the site. The project would require around 21.6 megalitres (ML) of water during construction and decommissioning (mainly for dust suppression). Water demands would be met via potable water purchased from the host landowner's from existing irrigation supply channels (and additional water could also be trucked to site). Any potential erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques. 	<ul style="list-style-type: none"> Prohibit water pollution. Prepare and implement a Stormwater Plan and a Flood Response Plan. Undertake activities in accordance with OEH's <i>Managing Urban Stormwater: Soils and Construction</i> (Landcom, 2004) manual.
Workforce Accommodation	<ul style="list-style-type: none"> The construction workforce for the 18-month construction period would be up to 200 people. The workforce would be sourced from the local and wider region including the surrounding local government areas. To ensure there would be sufficient accommodation to house construction employees, the Applicant would be required to develop an Accommodation Strategy. 	<ul style="list-style-type: none"> Prepare an Accommodation and Employment Strategy for the project in consultation with Council.
Other hazards	<ul style="list-style-type: none"> The project would comply with the National Health and Medical Research Council standards for electro-magnetic fields. The fire risks can be suitably controlled through the implementation of standard fire management procedures. The Applicant has committed to managing the entire site as an Asset Protection Zone and preparing a bushfire management plan, in accordance with <i>Planning for Bushfire Protection 2006</i>. 	<ul style="list-style-type: none"> Ensure that the development complies with the relevant asset protection requirements Prepare an Emergency Response Plan in consultation with RFS.
Subdivision	<ul style="list-style-type: none"> The Applicant has proposed to subdivide Lot 106 DP 756305 to facilitate development of the project substation. However, the excised lot (1 ha) for the substation would be under the minimum lot size of 40 ha and is prohibited under a strict reading of the LEP. Notwithstanding, development consent for the project as a whole can be granted despite the subdivision component of the application being prohibited by the LEP (under section 4.38(3) of the EP&A Act). In this case, the Department is satisfied that the subdivision should be approved as part of the project as it would not result in the addition of any dwelling entitlements on the subdivided lots. In addition, the Department notes the subdivision forms part of the overall project, of which is consistent with key objectives of the RU1 zone as it would encourage diversity in primary industry enterprises and minimise conflict between land uses. 	<ul style="list-style-type: none"> Subdivide the proposed lots subject to information is provided in accordance with requirements of section 157 of the <i>Environmental Planning and Assessment Regulation 2000</i>.
Crown roads	<ul style="list-style-type: none"> Dol L&W advised that the Crown road impacted by the project should be purchased and closed prior to the commencement of activities, as Crown lands require tenure before any works can be undertaken on them. The Applicant has confirmed that the Crown road adjoining the site would be purchased and closed prior to the commencement of construction. 	<ul style="list-style-type: none"> Crown road to be purchased and closed by the Applicant, in consultation with Dol L&W, prior to the commencement of construction.

5. CONCLUSION

The Department has assessed the development application EIS, submissions, and Response to Submissions, and additional information provided by the Applicant and relevant government agencies. The Department has also considered the objectives and relevant considerations under section 4.15 of the EP&A Act.

The Department considers the site to be suitable for a solar farm as it has good solar resources and available capacity on the existing electricity network. In addition, the site is relatively flat and has been largely cleared for agricultural purposes.

The project has been well-designed to largely avoid areas with conservation value or hazards, particularly in relation to high value native vegetation. Any residual impacts would be minor and can be managed through the recommended conditions of consent.

The project would not result in any significant reduction in the overall agricultural productivity of the region. Additionally, the site could be easily returned to agricultural uses after the project is decommissioned and the inherent agricultural capability of the land would not be affected.

Importantly, the project would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources. It would generate up to approximately 430,000 MW of clean electricity annually, which is enough to power up to 72,000 homes and save up to 413,000 tonnes of greenhouse gas emissions per year. It is therefore consistent with the goals of the Commonwealth's *Renewable Energy Target* and NSW's *Climate Change Policy Framework*.

The Department is satisfied that the project achieves a reasonable balance between maximising the efficiency of the solar resource development and minimising the potential impacts on surrounding land users and the environment. The project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community through job creation and capital investment.

On balance, the Department believes that the project is in the public interest and should be approved, subject to the recommended conditions of consent.

6. RECOMMENDATION

In accordance with section 4.38 of the EP&A Act it is recommended that the Executive Director, Resource Assessments and Business Systems, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **approves** the SSD application for the Currawarra Solar Project (SSD 8437); and
- **signs** the attached development consent and recommended conditions of consent (**Appendix A**).

Recommended by:

 15/05/18

Tim Stuckey
A/Senior Environmental Assessment Officer
Resource and Energy Assessments

Recommended by:

 16/5/18

Clay Preshaw
Director
Resource and Energy Assessments

7. DECISION

The recommendation is: Approved / Not approved by:

 18/5/18

David Kitto
Executive Director
Resource Assessments and Business Systems
as delegate of the Minister for Planning

APPENDIX A:

Recommended Conditions of Consent

See website at http://majorprojects.planning.nsw.gov.au/?action=view_job&job_id=8437

APPENDIX B:

Environmental Impact Statement

See website at http://majorprojects.planning.nsw.gov.au/?action=view_job&job_id=8437

APPENDIX C:

Submissions

See website at http://majorprojects.planning.nsw.gov.au/?action=view_job&job_id=8437

APPENDIX D:

Response to Submissions

See website at http://majorprojects.planning.nsw.gov.au/?action=view_job&job_id=8437