STATE SIGNIFICANT DEVELOPMENT ASSESSMENT
Sunraysia Solar Farm (SSD 7680)

1. BACKGROUND

Sunaraysia Solar Two (the Applicant) proposes to develop a new solar farm near Balranald (see **Figure 1**).

1.1 Project setting

The Sunraysia Solar Project (the project) would be located off Yanga Way on a 1,000 hectare (ha) site, approximately 17 kilometres (km) south of Balranald.

The site is slightly undulating and consists mostly of cleared agricultural land that has been used for cropping and grazing over several decades. A Crown Land Travelling Stock Reserve bounds the site to the east.

There are very few landowners in close proximity to the site. The closest residence is located 1.4 km to the south.

The region has traditionally relied on agricultural activities including dryland and irrigated cropping, wool production, and lamb and beef production. More recently, agricultural production has diversified to include horticulture, viticulture, organic vegetables, fruit and nuts, and timber harvesting.

Balranald has recently been identified as a 'region of interest' for renewable energy projects because it has good solar resources and spare capacity on the electricity network. There is a Transgrid substation located 2 km north of the site within the Travelling Stock Reserve.

Figure 1: *Project Site Location*

1.2 Project description

The proposed project involves the construction of a new solar farm with an initial capacity of 200 megawatts (MW). It also involves any upgrading or decommissioning of infrastructure and equipment in the future. While the capacity of the proposed solar farm 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 environmental impact statement for the project (see **Appendix B**).

Table 1: *Major components of the project*

Aspect	***Description***
Project summary	The project includes: • approximately 750,000 solar panels supported by approximately 100,000 piles driven or screwed into the ground; • approximately 100 photovoltaic boxes or skids, each of them containing an inverter and a 22 kilovolt (kV) or 33 kV transformer; • one delivery/substation in a container or on a 'skid' platform; • staff amenities and offices; • internal access tracks for site maintenance vehicles and car parking; • perimeter security fencing; and • a 2 km long, 220 kV overhead power line connecting to the existing Transgrid substation.
Project area	Approximately 1,000 ha, including an 816 ha development footprint.
Site entry	The site would be accessed via a single entry point from Yanga Way.
Road upgrades	Key road works for the project would involve an upgrade of the intersection between the access track and Yanga Way.
Operational life	• The expected operational life of the initial infrastructure is 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 and belowground infrastructure.
Construction and decommissioning traffic and timeframe	• The total construction period would last for 12 to 14 months, and would comprise: - a peak traffic period of 9 months (up to 53 truck and 100 other vehicle trips); and - a non-peak period of 5 months (up to 32 truck and 50 other vehicle trips). • Construction hours would be limited to Monday to Friday 7 am - 6 pm, and Saturday 8 am - 1 pm. • Traffic during decommissioning or replacement of equipment would be similar to, or less than that predicted for construction.
Hours of operation	• The solar farm would operate during the day. • Operations and maintenance would be undertaken by site staff from Monday to Friday 7 am to 6 pm and Saturday 8 am to 1 pm.
Employment	• Up to 60 workers would be required during the first month of construction rising to 250 workers during the construction peak. • The project would provide two full time equivalent operational jobs.
Capital investment value	$275 million

1.3 Relationship to proposed Limondale Solar Farm

The project is adjacent to the Limondale Solar Farm (SSD 8025), which is a proposed new 240 MW capacity solar farm located on a 1,000 ha site directly to the north of the project.

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.

The cumulative worst-case traffic volumes for the two projects would peak at 97 truck movements and 500 other vehicle movements per day during construction.

The Department has also considered the provision of accommodation for workers associated with the two solar projects and the Balranald Minerals Sands Mine, which has been approved but not yet constructed.

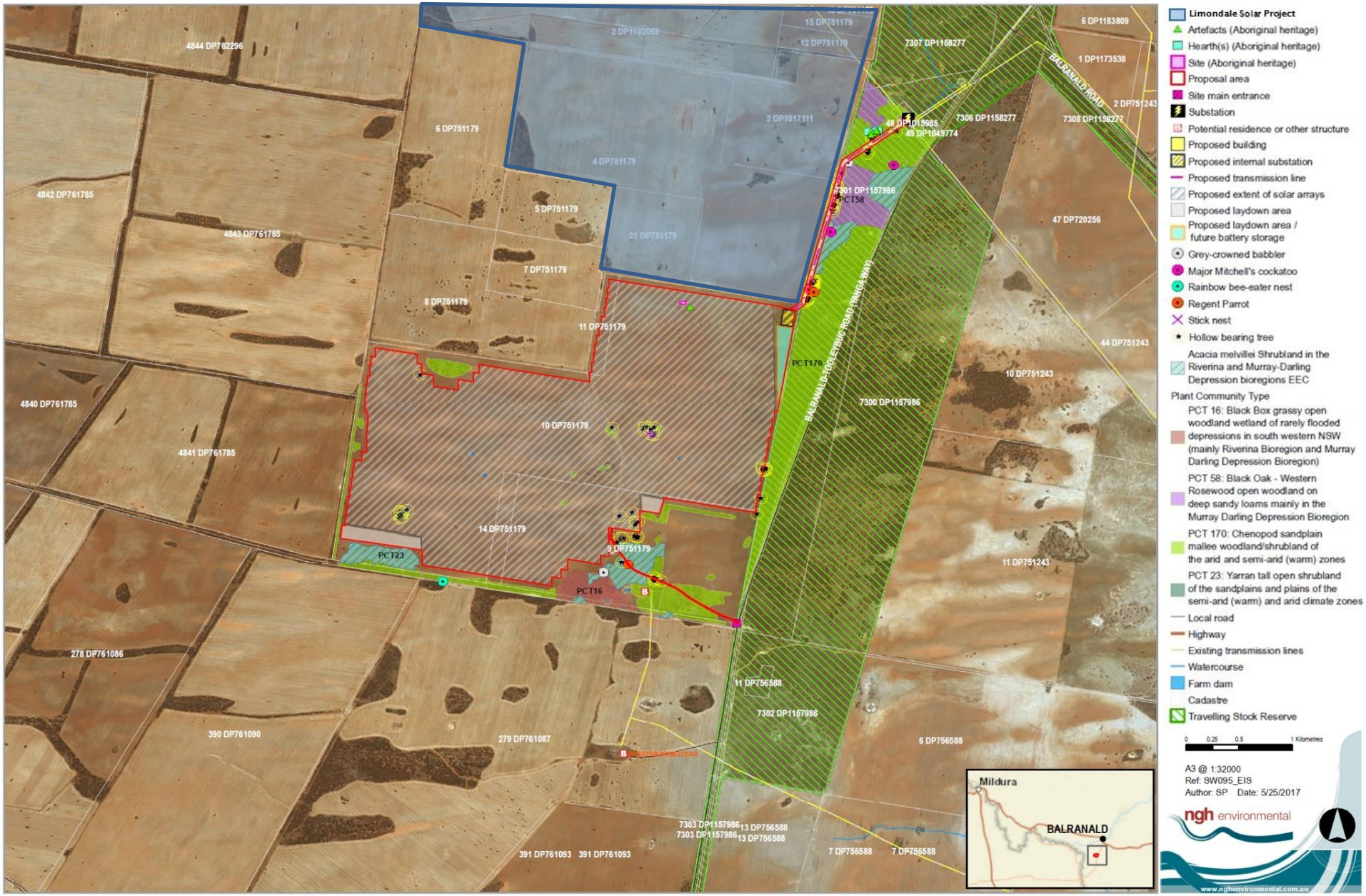

Figure 2: *Project Constraints Plan*

1.4 Strategic context

In 2015, the vast majority of energy in NSW was derived from fossil fuels, including 86% from coal and gas, and only 14% was derived from renewable energy sources. 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 renewable energy 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 6,000 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.

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

With an initial capacity of 200 MW, the project would generate enough power for around 76,300 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

Under the *State Environmental Planning Policy (SEPP) (State and Regional Development) 2011*, the project is classified as State Significant Development (SSD) as it is an electricity generating activity with a capital investment value of more than $30 million.

Consequently, the Minister for Planning is the consent authority for the development. However, under the Minister's delegation of 16 February 2015, the Executive Director, Resource Assessments and Business Systems, may determine the development application as there were no objections and no political donations have been reported.

2.2 Environmental planning instruments

The provisions of the *Balranald Local Environmental Plan (LEP) 2010* 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 notified Transgrid about the proposed development, and it has confirmed that there is capacity to accommodate the Sunraysia Solar Project.

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.

SEPP No. 44 – Koala Habitat Protection does not apply to land within the Balranald LGA.

2.3 Other approvals

Under the *Roads Act 1993*, the project requires approvals from the Roads and Maritime Services (RMS) and Balranald Shire Council (Council) for the proposed road upgrades. Under Section 89K of the EP&A Act, the assessment of the impacts of these upgrades is integrated into the planning approval process, and the conditions of these approvals must be consistent with the conditions of any development consent.

The Department has consulted with both RMS and Council during the approval process. They support the project subject to conditions, and these conditions have been incorporated into the proposed conditions of consent.

3. CONSULTATION

The Department publicly exhibited the EIS from 4 February 2017 until 5 March 2017, and received eleven submissions on the project. These included nine from public authorities and two from members of the public.

The Department inspected the project site and the Limondale Solar Farm site, and met with Council and agency representatives on 4 and 5 April 2017.

The Department also met with the owner of the nearest residence. While this neighbour did not make a written submission, he requested that the Department consider the potential for erosion and run-off. The Department has considered these matters in **Section 4.6** of this report.

None of the agencies objected to the project. The Roads and Maritime Services, Office of Environment and Heritage and Department of Primary Industries initially raised some concerns with aspects of the project. However, these issues were resolved and the agencies are satisfied with the recommended conditions.

The former Division of Resources and Energy supports the project as it aligns with NSW Government policy to increase renewable energy generation, jobs and investment in the State.

Both public submissions supported the project as a low impact option for providing renewable energy into the NSW electricity market.

The recommendations from other public authorities are discussed in the relevant sections of this report.

4. ASSESSMENT

The Department has undertaken a comprehensive assessment of the merits of the project.

In accordance with Section 79C of the EP&A Act, the Department has considered the following in its assessment of the project:

- applicable environmental planning instruments;
- the environmental, social and economic impacts of the development, including the EIS and Response to Submissions;
- all submissions received, including advice from public authorities;
- the suitability of the site for the project;
- relevant provisions of the EP&A Act and Regulations; and
- the public interest, including the encouragement of ecologically sustainable development.

This report provides a detailed discussion of the four key issues below, including the compatibility of the proposed and existing land uses, the impact on biodiversity, the potential traffic-related impacts and local contributions.

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 issues in **Table 2**.

4.1 Compatibility of proposed land use

Provisions of the Balranald LEP
The site is located wholly within the RU1 Primary Production zone under the Balranald LEP.

The RU1 zone includes various land uses that are both permitted with consent and without consent. As a solar farm is not expressly listed as permitted with consent 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 Balranald LEP expressly references the Infrastructure SEPP and acknowledges that electricity generating works and solar energy systems are regulated by the Infrastructure SEPP, rather than the LEP. As described above, 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*;
- *supporting rural communities*; and
- *minimising fragmentation and alienation of resource lands*.

The project site is located in an area that has traditionally relied upon agriculture. The introduction of solar energy generation would contribute to a more diverse local industry, thereby supporting the local economy and community.

Thirdly, the proposed solar farm would help Council meet is broader goals around sustainability, climate change and the future economic growth of the region. The *Balranald Economic Development Strategy* (2012) referred to Balranald as a "*shire in decline*" and identified renewable energy projects as a key opportunity for future economic investment. The Balranald Community Strategic Plan also emphasises the importance of environmental sustainability and identified solar energy projects as a potential growth area in the future.

Potential impacts on agricultural land
The project site is located in south-western NSW in an area that has traditionally relied upon agriculture. The proposed Sunraysia and Limondale Solar Farms have a combined development footprint of approximately 1,600 ha. Both sites currently support cropping and grazing.

While the agricultural output from the sites would be reduced by the development of the solar farms, the land represents a very small fraction of the agricultural output of the Balranald area. The combined loss of agricultural cropping land from the two projects would result in a negligible reduction in the overall productivity of the region.

Furthermore, the inherent agricultural capability of the land would not be affected by the projects due to the relatively low scale of the developments. The land would be used for grazing during operations and could be returned to agricultural use after the projects are decommissioned.

Neither the Department of Primary Industries (DPI) – Agriculture nor Council considers that operation of the projects would compromise the long-term use of the land for agricultural purposes.

The potential loss of a small area of cropping land in the Balranald 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 Balranald region. In addition, the Department has recommended suitable conditions to maintain the productivity of the agricultural land during the construction, operation and decommissioning of the project.

4.2 Biodiversity

Most of the project site is highly disturbed and comprises crops and exotic groundcover. However, there are several isolated patches of remnant native vegetation, and the Travelling Stock Reserve is largely covered by moderate to good quality native vegetation.

The Applicant has designed the project to avoid the large patches of good quality native vegetation, including EEC, in the north west, south west and south east of the site (see **Figure 2**).

Notwithstanding this, 12.11 ha of native vegetation comprising four distinct plant community types would be cleared for the project. This includes 1.26 ha of Acacia melvillei shrubland, a plant community listed as an Endangered Ecological Community (EEC) under the *Threatened Species Conservation Act 1995* (TSC Act).

This vegetation provides potential habitat for four species of threatened fauna, including the Grey-crowned Babbler, Major Mitchell's Cockatoo, Regent Parrot and Rainbow Bee-eater. Targeted surveys for other threatened flora and fauna species predicted to occur in the proposal area were conducted, but the habitat is considered marginal for these species and they are considered unlikely to be affected by the proposal.

Most of the clearing (7.22 ha), including clearing of the EEC, would be for the transmission line within the Travelling Stock Reserve. OEH and the Department inspected the site and agree that the proposed transmission line route minimises the amount of clearing required.

The Department accepts that clearing is unavoidable given the Balranald substation is surrounded by native vegetation, and has recommended conditions requiring the impacts to be offset in accordance with *NSW Biodiversity Offsets Policy*.

The Applicant has calculated the offset credits in accordance with the *Framework for Biodiversity Assessment* (FBA) and has also identified potential offset areas onsite which sit outside the development footprint. OEH and the Department are satisfied that the offset credit requirements (391 ecosystem credits) have been correctly calculated using the FBA, and that sufficient credits would be available in the proposed offset areas.

The Department has recommended a condition requiring the Applicant to prepare a Biodiversity Management Plan prior to commencement of development. This Plan should outline the proposed monitoring, management and rehabilitation measures that would be implemented throughout the life of the development.

Subject to the retirement of the required biodiversity offset credits and implementation of a Biodiversity Management Plan, the Department and OEH are satisfied that the project could be undertaken in a manner that maintains or improves the biodiversity values of the locality over the medium to long term.

4.3 Traffic and Transport

There would be minimal traffic to and from the solar farm during the operation of the development. Consequently, the only material traffic impacts would occur during construction, decommissioning and major infrastructure upgrades.

The construction period would be up to 14 months, with a peak lasting around 9 months. During the construction peak, there would be up to 53 heavy vehicles and 100 light vehicles visiting the site daily. One large convoy would be required to transport the substation equipment.

Project traffic during decommissioning and major infrastructure upgrades would be similar to construction traffic levels, however for shorter durations.

Throughout the life of the development, access to the site would be from an entry point off Yanga Way and then along an existing track, which would be upgraded for the development.

The RMS initially recommended that the Sunraysia and Limondale Solar Farms share a single site entry point off Yanga Way. However, this was subsequently rejected as the closest viable shared route would require clearing of substantial amounts of additional vegetation through the Travelling Stock Reserve.

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

- upgrade the intersection of the site entry point and Yanga Way in accordance with RMS requirements;
- prepare and implement a Traffic Management Plan with a particular focus on traffic during construction, decommissioning and upgrading, in consultation with RMS and Council; and
- limit the size of vehicles accessing the site to 19 metres.

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.

4.4 Local contributions

In its submission, Council requested consideration be given to a voluntary planning agreement to provide funding for local initiatives.

A consent authority has a right to monetary contributions from a developer under sections 94 and 94A of the *Environmental Planning and Assessment Act 1979* when a development is likely to require the provision of, or increase the demand for, public amenities and public services within the area.

While this project would involve an increase of traffic volumes during construction and upgrading periods, there would be no increased demand on Council's public amenities or services as the requisite road upgrades would be undertaken at the expense of the Applicant. The Applicant would also be required to repair any damage on the road network resulting from project-related traffic.

Following consultation with Council, the Department is satisfied that there would be no increased demand on Council's public amenities or services nor any requirement for developer contributions.

However in its Response to Submission, the Applicant committed to supporting the development of the Balranald Discovery Centre and a scholarship program to be co-administered by the Balranald Central School. Under the recommended conditions, the Applicant is required to fulfil these commitments as it must carry out the development in accordance with the Response to Submissions.

4.5 Accommodation and employment

In its submission, Council requested that consideration be given to maximising the use of the available accommodation in town and employing locals where possible, to deliver maximum benefits to the local community.

However, Council also raised concerns about a possible under-supply of accommodation in town, and possible adverse impacts on tourism should construction of the Limondale Solar Farm or mining of the nearby Balranald Minerals Sands Mine occur at the same time as construction of the project.

The Department notes that conditions of approval for the Balranald Minerals Sands Mine require the proponent of that project to construct an accommodation facility for the mine workers. This accommodation facility must be constructed in Balranald town if reasonable and feasible, or on the mine site if it is not feasible to construct in town.

Given the uncertainties in relation to the timing of the various projects and consequent availability of accommodation in the town, the Department has recommended a condition requiring the Applicant to prepare an Accommodation and Employment Strategy in consultation with Council.

This Strategy requires the Applicant to investigate options for maximising local accommodation and employment and to propose a strategy to facilitate the accommodation of the construction workforce, including the potential to seek local development consent for a workers camp in the local government area.

Subject to the preparation and implementation of the Accommodation and Employment Strategy, the Department is satisfied that the provision of accommodation for workers can be adequately managed.

4.6 Other Issues

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

Table 2: *Other issues*

Issue	*Consideration*	*Recommendations*
Visual	• The proposed solar farm is a relatively low-lying development with panel heights of 2.3-3.4 m. • The PV panels are designed to absorb rather than reflect the sun's energy, and the Department is satisfied that the project would not cause a noticeable glare compared to other roofs or building surfaces. • One residence located 1.4 km to the south of the site, users of the Travelling Stock Route, and users of Yanga Way approaching from the south would be able to see the solar farm. However, views would be partially obstructed by existing vegetation. • The Department is satisfied that there would be no significant visual impacts on the surrounding residences, significant vistas or road users.	• Ensure that external lighting is minimised and complies with the relevant Australian Standards. • Prohibit any signage or advertising on the development, unless for safety purposes.
Noise	• The proposed construction, upgrading and decommissioning activities are predicted to comply with the noise management levels in the *Interim Construction Noise Guideline* (ICNG). • There would be negligible noise during operation.	• 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.
Water	• The project would require approximately 110 megalitres (ML) of water during construction, (primarily for dust suppression) and approximately 0.5 megalitres per year during operation (primarily to wash the solar panels). • Up to 40 ML of rain water would be captured and stored on site under harvestable rights. However the bulk of the water would be delivered to the site by truck. • DPI Water is satisfied that the project would not have any impact on water supply and demand in the region. • Any potential erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques.	• Prohibit water pollution. • Undertake activities in accordance with OEH's *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) manual. • Prepare Stormwater Plans for the site to the satisfaction of Council, and in accordance with Council's guidelines.
Heritage	• Given the highly disturbed nature of the project site, the Department and OEH are satisfied that the project is unlikely to result in any significant impacts on the heritage values of the locality. • An Aboriginal heritage site comprising several artefacts was identified within the transmission line easement during field surveys. The site was considered to have moderate scientific value, and the Applicant has revised the transmission line route to avoid it. • Two other Aboriginal heritage sites were also identified within the Project site. These have low significance due to the existing highly disturbed nature of the site and surrounds. • The project would involve earthworks that would likely require the removal or displacement of these items. • The Applicant would be required to record, analyse and relocate all heritage items that would be disturbed by the development, in consultation with the Aboriginal stakeholders.	• Cease works and notify the NSW Police and OEH if human remains are identified over the life of the project. • Complete a Chance finds protocol. • Protect items outside the disturbance area from impact.

Issue	Consideration	Recommendations
Mineral Resources	• The transmission line would extend into land over which a mineral exploration licence exists. • The Department is satisfied the project is unlikely to have significant impacts on future mineral exploration and that future exploration and/or mine development could be designed to co-exist with the solar farm.	• No recommendations.
Hazards	• The project is well below the National Health and Medical Research Council standards for electro-magnetic fields. • There are fire risks associated with all large solar farm developments. These risks can be suitably controlled through the implementation of standard fire management procedures. DPI asked for an Emergency / Bushfire Management Plan to be prepared for the development outlining how these risks would be managed. • The Rural Fire Service advised that the site should be maintained to Asset Protection Zone Standards and appropriate measures be put in place to prevent the spread of fire off site.	• Prepare an Emergency Response Plan in consultation with the DPI, Rural Fire Service and Fire & Rescue NSW. • Ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bushfire Protection 2006* (or equivalent);

5. CONCLUSION

The Department has assessed the development application, the Environmental Impact Statement, the submissions, the Applicant's Response to Submissions, and additional information provided by the Applicant and relevant government agencies (see **Appendices B, C, D** and **E**). The Department has considered the objects of the EP&A Act and the relevant considerations under section 79C in its assessment of the project.

The Department considers the project site to be appropriate for a solar farm as it has good solar resources and available capacity on the existing electricity network. In addition, the site is very flat and has been largely cleared for agricultural uses. There are very few landowners in close proximity to the proposed solar farm and none of the nearby landowners have objected to the project.

The project would not result in any significant reduction in the overall agricultural productivity of the region. Additionally, the project 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.

The Department believes the project would assist in transitioning the electricity sector from coal and gas-fired power stations to renewable energy sources. It would generate up to 450,264 MWh of electricity annually, which would power about 76,316 homes and save up to 432,253 tonnes of greenhouse gas emissions per year. It is therefore consistent with the goals of the Commonwealth *Renewable Energy Target* and the NSW *Renewable Energy Action Plan*.

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 conditions.

6. RECOMMENDATION

It is recommended that the Executive Director:

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

15/6/17

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15/6/17

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APPENDIX A:

Recommended Conditions of Consent

See website at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7680

APPENDIX B:

Environmental Impact Statement

See website at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7680

APPENDIX C:

Submissions

See website at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7680

APPENDIX D:

Response to Submissions

See website at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7680

APPENDIX E:

Additional Information

See website at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7680