Appendix A

ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Planning Services
Resource Assessments

Contact: Diana Charteris
Phone: (02) 9228 6331
Email diana.charteris@planning.nsw.gov.au

Our ref: SSD 7618

Mr Colin Liebmann
Smardi Enterprises Pty Ltd t/a Renewable Energy Consultancy
11 Lightcliff Avenue
LINDFIELD NSW 2070

Dear Mr Liebmann

Goonumbla Solar Farm (SSD 7618)
Environmental Assessment Requirements

I have attached the Environmental Assessment Requirements for the preparation of an Environmental Impact Statement (EIS) for the Goonumbla Solar Farm.

The requirements are based on the information you have provided to date, and have been prepared in consultation with the relevant Government agencies. I have attached a copy of the government authorities' comments for your information. I have also included a list of relevant guidelines that you may wish to refer to during the preparation of the EIS.

Please note that the Department may alter these requirements at any time, and that you must consult further with the Department if you do not lodge a development application and EIS for the project within the next two years.

If your proposal contains any actions that could have a significant impact on matters of National Environmental Significance, then it will also require approval under the Commonwealth's *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act).

This approval is in addition to any approvals required under NSW legislation. If you have any questions about the application of the EPBC Act to your proposal, you should contact the Department of the Environment in Canberra (6274 1111 or www.environment.gov.au).

Please contact the Department at least two weeks before you plan to submit the development application and EIS for the project. This will enable the Department to:

- confirm the applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- determine the required number of copies of the EIS.

It is important for you to recognise that the Department will review the EIS for the project before putting it on public exhibition. If it fails to adequately address these requirements, you will be required to submit an amended EIS.

Yours sincerely

Preshaw 16/5/16

Clay Preshaw
A/Director
Resource Assessments
as nominee of the Secretary

Environmental Assessment Requirements

State Significant Development

Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*

Application Number	SSD 7618
Proposal	Goonumbla Solar Farm which includes: • the construction, operation and decommissioning of a solar photovoltaic (PV) plant up to 150 MW; and • associated infrastructure, including a grid connection.
Location	60 Millers Lookout Road, Parkes
Applicant	Smardi Enterprises Pty Ltd t/a Renewable Energy Consultancy
Date of Issue	16 May 2016
General Requirements	The Environmental Impact Statement (EIS) for the development must comply with the requirements in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Reg). In particular, the EIS must include: • a full description of the development, including: – details of construction, operation and decommissioning; – a site plan showing all infrastructure and facilities (including site access location, site access routes, site compounds, laydown areas, substation, carpark and any other ancillary infrastructure that would be required for the development, but the subject of a separate approvals process); • a strategic justification of the development focusing on site selection and the suitability of the proposed site, including the permissibility of the proposal and the capacity of the existing electricity transmission network with consideration for other potential electricity generation projects; • an assessment of the likely impacts of the development on the environment, focusing on the specific issues identified below, including: – a description of the existing environment likely to be affected by the development; – an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice; – a description of the measures that would be implemented to avoid, mitigate and/or offset the impacts of the development (including draft management plans for specific issues as identified below); – a description of the measures that would be implemented to monitor and report on the environmental performance of the development; • a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS; and • the reasons why the development should be approved having regard to the biophysical, economic and social costs and benefits of the development. While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development. In addition to the matters set out in Schedule 1 of the EP&A Reg, the development application must be accompanied by: • a signed report from a suitably qualified person that includes an accurate estimate of the capital investment value of the development (as defined in clause 3 of the *Environmental Planning and Assessment Regulation 2000*); and • the consent in writing of the owner of the land (as required in clause 49(1)(b) of the *Environmental Planning and Assessment Regulation 2000*).

Specific Issues	The EIS must address the following specific issues: • **Constraints** – including a detailed map identifying the key environmental and other land use constraints that have informed the final design of the development, including but not limited to existing electricity transmission lines, the project site boundary, proposed infrastructure, site access, vegetation types, residences within 2 km of the project site, existing waterbodies, proposed perimeter planting and all identified Aboriginal heritage items. • **Biodiversity** – including an assessment of the likely biodiversity impacts of the development, particularly in regards to the Inland Grey Box Woodland Endangered Ecological Community (EEC), and any steps taken to avoid, mitigate or offset any identified impacts, having regard to the *NSW Biodiversity Offsets Policy for Major Projects*, and in accordance with the *Framework for Biodiversity Assessment*, unless otherwise agreed by the Department; • **Heritage** – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community; • **Land** – including an assessment of the impact of the development on agricultural land, flood prone land, any Crown roads and the Travelling Stock Reserve on Lot 7002 DP 94814, paying particular attention to the compatibility of the development with the existing agricultural land uses on and adjacent to the site both during operation and after decommissioning and consistency with the zoning provisions applying to the land; • **Visual** – including an assessment of the likely visual impacts of the development (including any glare, reflectivity and night lighting) on surrounding residences, scenic or significant vistas, air traffic and road corridors in the public domain, including a draft landscaping plan for on-site perimeter planting, with evidence to demonstrate it has been developed in consultation with affected landowners, particularly in regards to the landowner located at Lot 2 DP 807412; • **Noise** – including an assessment of the construction noise impacts of the development in accordance with the *Interim Construction Noise Guideline* (ICNG) and sub-station noise impacts in accordance with the *NSW Industrial Noise Policy* (INP), and a description of the measures that would be implemented to mitigate any impacts if the assessment shows construction noise is likely to exceed applicable criteria; • **Transport** – including an assessment of the site access route, site access point off of Pat Meredith Drive and likely transport impacts of the development on the capacity, condition, safety and efficiency of the local and State road networks, a description of the measures that would be implemented to mitigate any impacts during construction, a description of any proposed road upgrades developed in consultation with the relevant road authorities (if required), and a demonstration of consultation about potential cost sharing with the proposed Parkes Solar Farm project; • **Water** – including an assessment of the likely impacts of the construction, operation and decommissioning of the development on groundwater and surface water resources (including any nearby watercourses), annual volumes of surface water and groundwater required, details of water supply arrangements t and a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom 2004); • **Electromagnetic Interference** – an assessment of the proposed transmission line and substation against the International Commission on Non-Ionizing Radiation Protection (ICNIRP) *Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*; and • **Cumulative Impacts –** an assessment of the cumulative impacts with the proposed adjacent Parkes Solar Farm, including visual amenity, compatibility of land use, capacity of the electricity transmission network, traffic and construction noise impacts.
Consultation	In preparing the EIS for the development, you should consult with relevant local,

	State or Commonwealth Government authorities, infrastructure and service providers, community groups and affected landowners. In particular, you must undertake detailed consultation with affected landowners surrounding the development, and Parkes Shire Council. The EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS.

ATTACHMENT 1

Environmental Planning Instruments, Policies, Guidelines & Plans

Biodiversity	
	Framework for Biodiversity Assessment (OEH)
	NSW Biodiversity Offsets Policy for Major Projects (OEH)
	Threatened Species Assessment Guidelines - Assessment of Significance (OEH)
Electromagnetic interference	
	Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields (ICNIRP)
Heritage	
	Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH)
	Code of Practice for Archaeological Investigations of Objects in NSW (OEH)
	Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH)
	Guide to investigating, assessing and reporting on aboriginal cultural heritage in NSW (OEH).
	NSW Heritage Manual (OEH)
Land	
	Primefact 1063: Infrastructure proposals on rural land (DPI)
	Establishing the social licence to operate large scale solar facilities in Australia: insights from social research for industry (ARENA)
Noise	
	NSW Industrial Noise Policy (EPA)
	Interim Construction Noise Guideline (EPA)
	NSW Road Noise Policy (EPA)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RMS) & relevant Austroads Standards
Water	
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Floodplain Development Manual (OEH)
	Guidelines for Controlled Activities on Waterfront Land (DPI Water)
	Water Sharing Plans (DPI Water)
	Floodplain Management Plans (DPI Water)
	NSW Aquifer Interference Policy 2012 (DPI Water)
Waste	
	Waste Classification Guidelines (EPA)
Environmental Planning Instruments	
	State Environmental Planning Policy (State and Regional Development) 2011
	State Environmental Planning Policy (Infrastructure) 2007
	State Environmental Planning Policy (Rural Lands) 2008
	State Environmental Planning Policy No. 44 – Koala Habitat Protection
	State Environmental Planning Policy No. 55 – Remediation of Land
	Parkes Local Environmental Plan 2012

NSW GOVERNMENT | Department of Primary Industries

OUT16/19068

Ms Diana Charteris
Resource Assessments
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

diana.charteris@planning.nsw.gov.au

Dear Ms Charteris

Goonumbla Solar Farm (*SSD 7618*)
Request for Secretary's Environmental Assessment Requirements

I refer to your email dated 29 April to the Department of Primary Industries in respect to the above matter. Comment has been sought from relevant divisions of DPI. Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

DPI has reviewed the request and recommends that the following matters also be addressed in the SEARs:

- The SEARs should require consideration of the NSW Aquifer Interference Policy (2012)

- There is a crown road located within the footprint of the proposal that will be impacted by the proposed activities. The proponent should apply to close the Crown road or provide mitigation measures to minimise impacts.

- Crown Reserve Lot 7002 DP 94914 Travelling Stock Reserve managed by the Local Land Services has the potential to be impacted by the proposal. The proponent should consult with Local Land Services regarding any potential impacts of the proposal on Lot 7002 DP94814.

- Development of a Land Management Plan (LMP) that addresses issues during operation such as avoidance of erosion (wind and water) and weed infestation. The LMP should include annual monitoring procedures and suggested mitigation measures for these issues.
- A description of the landuses adjacent to the site and possible mitigation measures. For example, the proponent may need to consider stock management or screening required to deal with issues such as visual amenity.
- A Decommissioning Management Plan to be developed at the initial project development stage that includes:
  - A baseline study of the site including soil and land resources, current landuse and capability, to inform future land rehabilitation for the land to be returned to similar agriculture use.

- rehabilitation objectives and strategies for returning the land to agricultural production.

- Identify the risk to the solar panels from activities on adjacent farm land such as aerial spraying and dust creation.

- Annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.
- Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).
- The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased.
- A detailed and consolidated site water balance.
- Detail of proposed management of existing dams and works proposed within waterfront land.
- Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts. This is to include an assessment of potential flooding impacts from Ridgey Creek and any other watercourses due to the development both within the project site and off-site.
- Full technical details and data of all surface water modelling required to support the proposal.
- Proposed surface water and groundwater monitoring activities and methodologies.
- A statement of where each element of the SEARs is addressed in the EIS (i.e. in the form of a table).

Further detailed generic assessment requirements from DPI Water that may assist the proponent are included at **Attachment A**.

Yours sincerely

Mitchell Isaacs
Director, Planning Policy & Assessment Advice
16/5/2016

Attachment A

***Goonumbla Solar Farm* (SSD 7618)**
Request for Secretary's Environment Assessment Requirements
Detailed comments – DPI Water

DPI Water General Assessment Requirements for general projects

The following detailed assessment requirements are provided to assist in adequately addressing the assessment requirements for this proposal.

For further information visit the DPI Water website, www.water.nsw.gov.au

Key Relevant Legislative Instruments

This section provides a basic summary to aid proponents in the development of an Environmental Impact Statement (EIS), and should not be considered a complete list or comprehensive summary of relevant legislative instruments that may apply to the regulation of water resources for a project.

The EIS should take into account the objects and regulatory requirements of the *Water Act 1912* (WA 1912) and *Water Management Act 2000* (*WMA 2000*), and associated regulations and instruments, as applicable.

Water Management Act 2000 (WMA 2000)
Key points:

- Volumetric licensing in areas covered by water sharing plans
- Works within 40m of waterfront land
- SSD & SSI projects are exempt from requiring water supply work approvals and controlled activity approvals as a result of the *Environmental Planning & Assessment Act 1979 (EP&A Act)*.
- No exemptions for volumetric licensing apply as a result of the *EP&A Act*.
- Basic landholder rights, including harvestable rights dams
- Aquifer interference activity approval and flood management work approval provisions have not yet commenced and are regulated by the *Water Act 1912*
- Maximum penalties of $2.2 million plus $264,000 for each day an offence continues apply under the *WMA 2000*

Water Act 1912 (WA 1912)
Key points:

- Volumetric licensing in areas where no water sharing plan applies
- Monitoring bores
- Aquifer interference activities that are not regulated as a water supply work under the *WMA 2000*.
- Flood management works
- No exemptions apply to licences or permits under the *WA 1912* as a result of the *EP&A Act*.
- Regulation of water bore driller licensing.

Water Management (General) Regulation 2011
Key points:

- Provides various exemptions for volumetric licensing and activity approvals
- Provides further detail on requirements for dealings and applications.

Water Sharing Plans – these are considered regulations under the *WMA 2000*

Access Licence Dealing Principles Order 2004

Harvestable Rights Orders

Water Sharing Plans

It is important that the proponent understands and describes the ground and surface water sharing plans, water sources, and management zones that apply to the project. The relevant water sharing plans can be determined spatially at www.ourwater.nsw.gov.au. Multiple water sharing plans may apply and these must all be described.

The *Water Act 1912* applies to all water sources not yet covered by a commenced water sharing plan.

The EIS is required to:

- Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection (including groundwater dependent ecosystems), water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water to be taken from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP, including:
    - Sufficient market depth to acquire the necessary entitlements for each water source.
    - Ability to carry out a "dealing" to transfer the water to relevant location under the rules of the WSP.
    - Daily and long-term access rules.
    - Account management and carryover provisions.
- Provide a detailed and consolidated site water balance.
- Further detail on licensing requirements is provided below.

Relevant Policies and Guidelines

The EIS should take into account the following policies (as applicable):

- NSW Guidelines for Controlled Activities on Waterfront Land (NOW, 2012)
- NSW Aquifer Interference Policy (NOW, 2012)
- Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW, 2012)
- Australian Groundwater Modelling Guidelines (NWC, 2012)
- NSW State Rivers and Estuary Policy (1993)
- NSW Wetlands Policy (2010)
- NSW State Groundwater Policy Framework Document (1997)
- NSW State Groundwater Quality Protection Policy (1998)
- NSW State Groundwater Dependent Ecosystems Policy (2002)
- NSW Water Extraction Monitoring Policy (2007)

DPI Water policies can be accessed at the following links:
http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx
http://www.water.nsw.gov.au/Water-licensing/Approvals/Controlled-activities/default.aspx

An assessment framework for the NSW Aquifer Interference Policy can be found online at: http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/Aquifer-interference.

Licensing Considerations

The EIS is required to provide:

- Identification of water requirements for the life of the project in terms of both volume and timing (including predictions of potential ongoing groundwater take following the cessation of operations at the site – such as evaporative loss from open voids or inflows).
- Details of the water supply source(s) for the proposal including any proposed surface water and groundwater extraction from each water source as defined in the relevant Water Sharing Plan/s and all water supply works to take water.
- Explanation of how the required water entitlements will be obtained (i.e. through a new or existing licence/s, trading on the water market, controlled allocations etc.).
- Information on the purpose, location, construction and expected annual extraction volumes including details on all existing and proposed water supply works which take surface water, (pumps, dams, diversions, etc).
- Details on all bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring. All predicted groundwater take must be accounted for through adequate licensing.
- Details on existing dams/storages (including the date of construction, location, purpose, size and capacity) and any proposal to change the purpose of existing dams/storages
- Details on the location, purpose, size and capacity of any new proposed dams/storages.
- Applicability of any exemptions under the *Water Management (General) Regulation 2011* to the project.

Water allocation account management rules, total daily extraction limits and rules governing environmental protection and access licence dealings also need to be considered.

The Harvestable Right gives landholders the right to capture and use for any purpose 10% of the average annual runoff from their property. The Harvestable Right has been defined in terms of an equivalent dam capacity called the Maximum Harvestable Right Dam Capacity (MHRDC). The MHRDC is determined by the area of the property (in hectares) and a site-specific run-off factor. The MHRDC includes the capacity of all existing dams on the property that do not have a current water licence. Storages capturing up to the harvestable right capacity are not required to be licensed but any capacity of the total of all storages/dams on the property greater than the MHRDC may require a licence.

For more information on Harvestable Right dams, including a calculator, visit:
http://www.water.nsw.gov.au/Water-licensing/Basic-water-rights/Harvesting-runoff/Harvesting-runoff

Dam Safety

Where new or modified dams are proposed, or where new development will occur below an existing dam, the NSW Dams Safety Committee should be consulted in relation to any safety issues that may arise. Conditions of approval may be recommended to ensure safety in relation to any new or existing dams.

See www.damsafety.nsw.gov.au for further information.

Surface Water Assessment

The predictive assessment of the impact of the proposed project on surface water sources should include the following:

- Identification of all surface water features including watercourses, wetlands and floodplains transected by or adjacent to the proposed project.

- Identification of all surface water sources as described by the relevant water sharing plan.
- Detailed description of dependent ecosystems and existing surface water users within the area, including basic landholder rights to water and adjacent/downstream licensed water users.
- Description of all works and surface infrastructure that will intercept, store, convey, or otherwise interact with surface water resources.
- Assessment of predicted impacts on the following:
    - flow of surface water, sediment movement, channel stability, and hydraulic regime,
    - water quality,
    - flood regime,
    - dependent ecosystems,
    - existing surface water users, and
    - planned environmental water and water sharing arrangements prescribed in the relevant water sharing plans.

Groundwater Assessment

To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources.

Where it is considered unlikely that groundwater will be intercepted or impacted (for example by infiltration), a brief site assessment and justification for the minimal impacts may be sufficient, accompanied by suitable contingency measures in place in the event that groundwater is intercepted, and appropriate measures to ensure that groundwater is not contaminated.

Where groundwater is expected to be intercepted or impacted, the following requirements should be used to assist the groundwater assessment for the proposal.

- The known or predicted highest groundwater table at the site.
- Works likely to intercept, connect with or infiltrate the groundwater sources.
- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Bore construction information is to be supplied to DPI Water by submitting a “Form A” template. DPI Water will supply “GW” registration numbers (and licence/approval numbers if required) which must be used as consistent and unique bore identifiers for all future reporting.
- A description of the watertable and groundwater pressure configuration, flow directions and rates and physical and chemical characteristics of the groundwater source (including connectivity with other groundwater and surface water sources).
- Sufficient baseline monitoring for groundwater quantity and quality for all aquifers and GDEs to establish a baseline incorporating typical temporal and spatial variations.
- The predicted impacts of any final landform on the groundwater regime.
- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- An assessment of groundwater quality, its beneficial use classification and prediction of any impacts on groundwater quality.
- An assessment of the potential for groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- Measures proposed to protect groundwater quality, both in the short and long term.

- Measures for preventing groundwater pollution so that remediation is not required.
- Protective measures for any groundwater dependent ecosystems (GDEs).
- Proposed methods of the disposal of waste water and approval from the relevant authority.
- The results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

Groundwater Dependent Ecosystems

The EIS must consider the potential impacts on any Groundwater Dependent Ecosystems (GDEs) at the site and in the vicinity of the site and:

- Identify any potential impacts on GDEs as a result of the proposal including:
  - the effect of the proposal on the recharge to groundwater systems;
  - the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections; and
  - the effect on the function of GDEs (habitat, groundwater levels, connectivity).
- Provide safeguard measures for any GDEs.

Watercourses, Wetlands and Riparian Land

The EIS should address the potential impacts of the project on all watercourses likely to be affected by the project, existing riparian vegetation and the rehabilitation of riparian land. It is recommended the EIS provides details on all watercourses potentially affected by the proposal, including:

- Scaled plans showing the location of:
  - wetlands/swamps, watercourses and top of bank;
  - riparian corridor widths to be established along the creeks;
  - existing riparian vegetation surrounding the watercourses (identify any areas to be protected and any riparian vegetation proposed to be removed);
  - the site boundary, the footprint of the proposal in relation to the watercourses and riparian areas; and
  - proposed location of any asset protection zones.
- Photographs of the watercourses/wetlands and a map showing the point from which the photos were taken.
- A detailed description of all potential impacts on the watercourses/riparian land.

- A detailed description of all potential impacts on the wetlands, including potential impacts to the wetlands hydrologic regime; groundwater recharge; habitat and any species that depend on the wetlands.
- A description of the design features and measures to be incorporated to mitigate potential impacts.
- Geomorphic and hydrological assessment of water courses including details of stream order (Strahler System), river style and energy regimes both in channel and on adjacent floodplains.

Landform rehabilitation

Where significant modification to landform is proposed, the EIS must include:

- Justification of the proposed final landform with regard to its impact on local and regional surface and groundwater systems;
- A detailed description of how the site would be progressively rehabilitated and integrated into the surrounding landscape;
- Outline of proposed construction and restoration of topography and surface drainage features if affected by the project; and
- An outline of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation.

Consultation and general enquiries
General licensing enquiries can be made to Advisory Services: water.enquiries@dpi.nsw.gov.au, 1800 353 104.

Assessment or state significant development enquiries, or requests for review or consultation should be directed to water.referrals@dpi.nsw.gov.au.

A consultation guideline and further information is available online at:
www.water.nsw.gov.au/water-management/law-and-policy/planning-and-assessment

End Attachment A

DOC16/217244
SSD 7618

Ms Diana Charteris
Senior Planning Officer
Resource Assessments
Department of Planning and Environment
diana.charteris@planning.nsw.gov.au

Dear Ms Charteris

Goonumbla Solar Farm SEARs – SSD 7618

I refer to your e-mail dated 3 May 2016 seeking input into the Department of Planning and Environment Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Assessment (EIS) for the Goonumbla Solar Farm (SSD 7618).

OEH has considered your request and provides SEARs for the proposed development in Attachments A and B and guidance material in Attachment C.

OEH recommends the EIS needs to appropriately address the following:

1. Biodiversity and offsetting
2. Aboriginal cultural heritage
3. Historic heritage
4. Water and soils
5. Flooding

OEH notes that there are a number of Endangered Ecological Communities, Endangered Populations and threatened species potentially affected by the development, and that Aboriginal cultural heritage items may also be present.

In particular, there is remnant native vegetation on the development site, and that this has the potential to contain *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions* Endangered Ecological Community. OEH recommends that the design of the solar farm avoids areas of native vegetation as much as possible.

Please note that the NSW Biodiversity Offsets Policy for Major Projects http://www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf is now being implemented. The policy provides a standard method for assessing impacts of major projects on biodiversity and determining offsetting arrangements.

The policy is underpinned by the Framework for Biodiversity Assessment (FBA) http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf which contains the assessment methodology that is adopted by the policy to quantify and describe the impact

assessment requirements and offset guidance that applies to Major Projects. The FBA must be used by a proponent to assess all biodiversity values on the development site.

If you have any questions regarding this matter further please contact Liz Mazzer on 02 6883 5325 or email liz.mazzer@environment.nsw.gov.au.

Yours sincerely,

STEVEN COX
Senior Team Leader Planning
North West Region

Date: 13 May 2016

Contact officer: LIZ MAZZER
6883 5325

Attachment A - Environmental Assessment Requirements

Attachment B – Species/Populations/Ecological Communities which require further consideration

Attachment C - Guidance material

Attachment A – Standard Environmental Assessment Requirements

Biodiversity

1. Biodiversity impacts related to the proposed Goonumbla Solar Farm are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995.*
2. Impacts on the species and ecological communities listed in Attachment B will require further consideration and provision of the information specified in s9.2 of the Framework for Biodiversity Assessment.

Aboriginal cultural heritage

3. The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011) and consultation with OEH regional officers.
4. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.
5. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

Historic heritage

6. The EIS must provide a heritage assessment including but not limited to an assessment of impacts to *State and local heritage* including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall:
   a. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996),
   b. be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria),
   c. include a statement of heritage impact for all heritage items (including significance assessment),
   d. consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and

e. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

Water and soils

7. The EIS must map the following features relevant to water and soils including:
   a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).
   b. Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the Framework for Biodiversity Assessment).
   c. Groundwater.
   d. Groundwater dependent ecosystems.
   e. Proposed intake and discharge locations.

8. The EIS must describe background conditions for any water resource likely to be affected by the development, including:
   a. Existing surface and groundwater.
   b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
   c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
   d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.

9. The EIS must assess the impacts of the development on water quality, including:
   a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
   b. Identification of proposed monitoring of water quality.

10. The EIS must assess the impact of the development on hydrology, including:
   a. Water balance including quantity, quality and source.
   b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
   c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
   d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
   e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.

f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.

g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal erosion

11. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    a. Flood prone land.
    b. Flood planning area, the area below the flood planning level.
    c. Hydraulic categorisation (floodways and flood storage areas).

12. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.

13. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:
    a. Current flood behaviour for a range of design events as identified in 11 above. This includes the 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.

14. Modelling in the EIS must consider and document:
    a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
    b. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
    c. Relevant provisions of the NSW Floodplain Development Manual 2005.

15. The EIS must assess the impacts on the proposed development on flood behaviour, including:
    a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    b. Consistency with Council floodplain risk management plans.
    c. Compatibility with the flood hazard of the land.
    d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
    g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
    h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.
    i. Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum

flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.

j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

Attachment B – Species/Populations/Ecological Communities which require further consideration

Class	Scientific Name	Common Name	NSW status	Comm. status
Community	*Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion*	Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion	Critically Endangered Ecological Community	
Community	*White Box Yellow Box Blakely's Red Gum Woodland*	White Box Yellow Box Blakely's Red Gum Woodland	Endangered Ecological Community	Critically Endangered
Fauna	*Anthochaera phrygia*	Regent Honeyeater	Critically Endangered	Critically Endangered
Flora	*Lepidium aschersonii*	Spiny Peppercress	Vulnerable	Vulnerable
Flora	*Lepidium monoplocoides*	Winged Peppercress	Endangered	Endangered
Flora	*Swainsona sericea*	Silky Swainson-pea	Vulnerable	
Flora	*Tylophora linearis*		Vulnerable	Endangered

Attachment C – Guidance material

Title	Web address
Relevant Legislation	
Coastal Protection Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Fisheries Management Act 1994	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
Marine Parks Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
National Parks and Wildlife Act 1974	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Threatened Species Conservation Act 1995	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N
Water Management Act 2000	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Wilderness Act 1987	http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
Biodiversity	
NSW Biodiversity Offsets Policy for Major Projects (OEH, 2013)	http://www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf
Framework for Biodiversity Assessment (OEH, 2013)	http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf
Fisheries NSW policies and guidelines	http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/parks/policyRevocations.pdf
Heritage	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
Statements of Heritage Impact 2002 (HO & DUAP)	http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf
NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N')	http://www.environment.nsw.gov.au/Heritage/publications/index.htm#M-O

Title	Web address
Aboriginal Cultural Heritage	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
Water and Soils	
Acid sulphate soils	
Acid Sulfate Soils Planning Maps via 'The NSW Natural Resource Atlas'	www.nratlas.nsw.gov.au/
Acid Sulfate Soils Manual (Stone et al. 1998)	Manual available for purchase from: http://www.landcom.com.au/whats-new/the-blue-book.aspx Chapters 1 and 2 are on DPI's Guidelines Register at: Chapter 1 Acid Sulfate Soils Planning Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf Chapter 2 Acid Sulfate Soils Assessment Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.advancedenvironmentalmanagement.com/Reports/Savannah/Appendix%2015.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and Coastal Erosion	
Reforms to coastal erosion management	http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm
Floodplain development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf
NSW Climate Impact Profile	NSW Climate Impact Profile
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm

Title	Web address
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

Transport
Roads & Maritime Services

12 May 2016

SF2016/070928; WST16/00079

Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Ms Diana Charteris

Dear Ms Charteris

SSD7618: Lots 1 & 2 DP 602329, Lot 409 DP 750152, Lot 5 DP 854193 and Lot 1 DP 877903; Goonumbla Solar Farm
Request for Secretary's Environmental Assessment Requirements (SEARs)

Thank you for your email on 29 April 2016 referring the *Preliminary Environmental Assessment* for the Goonumbla Solar Farm Project and requesting SEARs from Roads and Maritime Services.

It is understood the proposal includes construction and operation of a 150 mega volt ampere solar plant on rural land west of Parkes. The proposed solar plant is expected to take 12 months to construct. Traffic impacts associated with the proposal are expected to be primarily confined to the construction and decommissioning stages. Access to the subject land is currently obtained from Henry Parkes Way (MR61) via Millers Lookout Road, Pat Meredith Drive and a private access road.

Following review of the *Preliminary Environmental Assessment* and an inspection of the site, Roads and Maritime has identified and recommends the following issues be addressed in the Environmental Assessment:

- A traffic impact study prepared in accordance with the methodology set out in Section 2 of the RTA's *Guide to Traffic Generating Developments 2002* and including:
  - Hours, days and periods of construction.
  - Schedule for phasing/staging of the project.
  - Traffic volumes:
    - Existing background traffic.
    - Project-related for each stage including construction, operation and decommissioning.
    - Projected future traffic, including background, Parkes Solar Farm project and project-related.

- Traffic volumes are to also include a description of:
  - Ratio of light vehicles to heavy vehicles.
  - Peak times for existing traffic.
  - Peak times for project-related traffic.
  - Transportation hours.
  - Project related traffic interaction with existing and projected background traffic.
- The origin, destination and routes for:
  - Employee and contractor light traffic.
  - Heavy traffic.
  - Oversize and over mass traffic.

- A description of all oversize and over mass vehicles and the materials to be transported.
- Details of access requirements to Henry Parkes Way and an analysis of affected intersections with Henry Parkes Way for such access to determine suitability. Vehicular access to Henry Parkes Way should be limited and controlled.
- The shortest and least trafficked route is to be given priority for the movement of materials and machinery to minimise the risk and impact to other motorists, so far as is reasonably practicable.
- The impact of generated traffic and measures employed to ensure efficiency and safety on the public road network during construction, operation and decommissioning of the project.
- The need for improvements to the road network, and details of improvements proposed such as road widening and intersection treatments, to cater for and to mitigate the impact of project-related traffic.
- Proposed road facilities, access and intersection treatments are to be identified and be in accordance with *Austroads Guide to Road Design* and Roads and Maritime Supplements, including safe intersection sight distance.
- Local climate conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the project (eg fog, wet weather, etc)
- The layout of the internal road network, parking facilities and infrastructure within the project boundary.
- A Traffic Management Plan is to be developed in consultation with the Parkes Shire Council and Roads and Maritime prior the commencement of haulage and/or construction operations.

Roads and Maritime appreciates the opportunity to contribute to the SEARs and requests that a copy of the SEARs be forwarded to Roads and Maritime at the same time they are sent to the applicant.

Should you require further information please contact Andrew McIntyre on 02 6861 1453.

Yours faithfully

Dane Hendry
Acting Network & Safety Manager
Western