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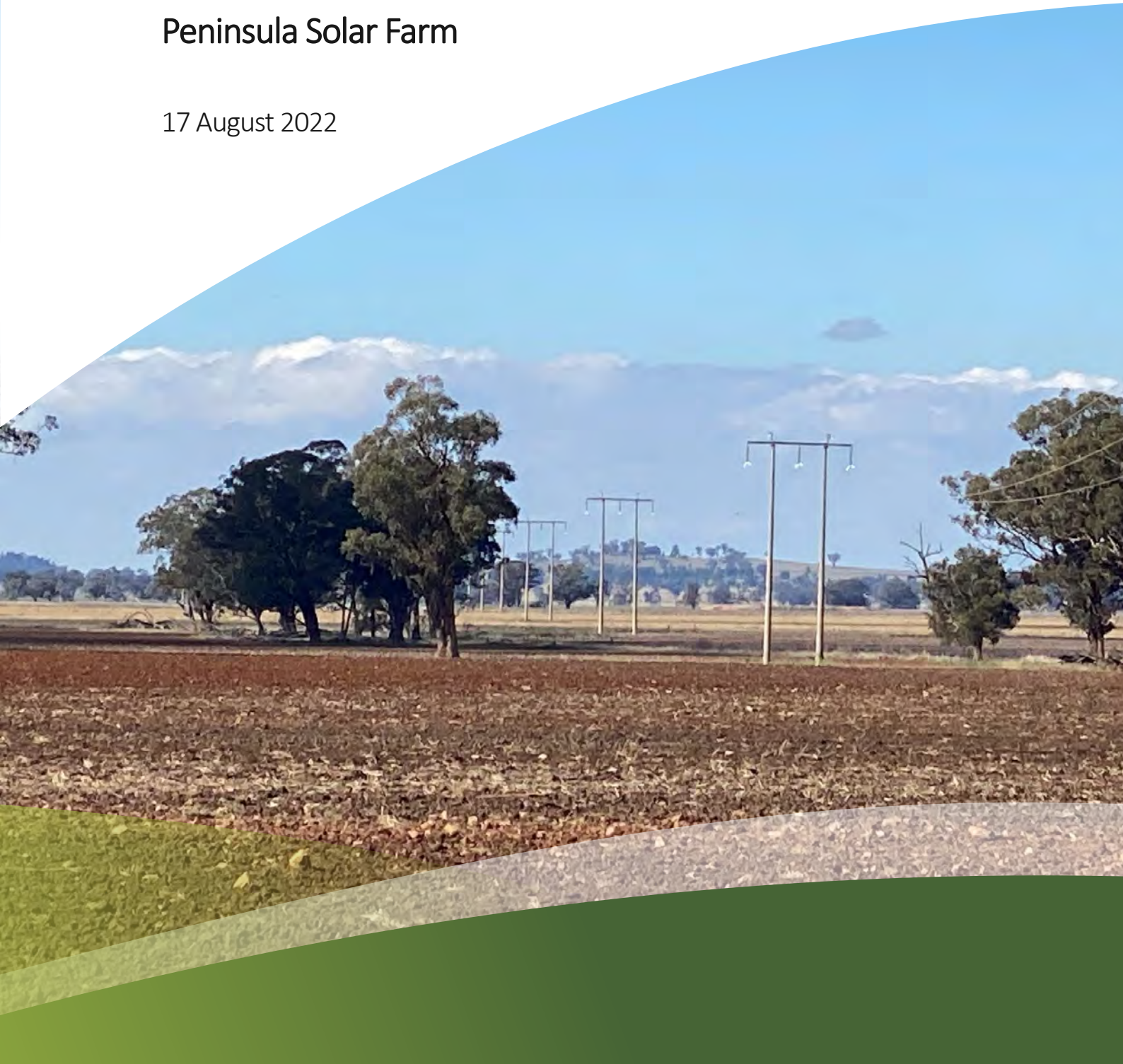
Appendix H: Land Use Conflict Risk Assessment

Land Use Conflict Risk Assessment

Peninsula Solar Farm

17 August 2022



Land Use Conflict Risk Assessment
Peninsula Solar Farm

AE1173.1

August 2022

Version 3			
Issued to			
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1 Context

Edify Energy Pty Ltd (Edify) is proposing to construct and operate a utility-scale solar farm and battery storage project located approximately 27 km southeast of the township of Forbes in New South Wales (NSW). The proposed Peninsula Solar Farm (SF) (the project) will have a capacity of up to 80 megawatts (MW), with 80 MW/160 megawatt hours (MWh) of storage capacity. The 290-ha project site is located on farmland that is highly modified due to a long history of agriculture and grazing.

The project will alter the current land use from agriculture to battery energy generation and storage, reducing the availability of land for agriculture during project operation. During construction and operation of the solar farm development, agricultural land use on the 290-ha project site would cease and approximately 236 ha of this land would be occupied by project facilities and infrastructure.

Once the project has been decommissioned at the end of its operational life, all above-ground infrastructure and below ground infrastructure (to a depth of 1000 mm) will be removed, and the land rehabilitated to a safe, stable and non-polluting state. It is anticipated that the pre-existing land use will be re-established following rehabilitation, unless otherwise agreed with the landowner and/or regulatory authorities.

The properties next to the project site are also used for agricultural purposes, with the exception of an existing Transgrid, 132 kilovolt (kV) above-ground transmission line, in addition to two quarries – the Pineleigh Quarry located 500 m west of site and the disused Thomas Pit located immediately south.

The main land use activities that are likely to generate conflict as a result of the project are the operation of the solar farm and adjacent agricultural and quarrying activities. The potential for conflict can occur in either direction.

This Land Use Conflict Risk Assessment (LUCRA) has been prepared to assess potential land use conflicts between the solar farm and its surrounds in accordance with the *Land Use Conflict Risk Assessment Guide* (DPI 2011).

2 Initial risk identification and risk ranking

The project site and immediate surrounds are rural landscapes except for the Forbes-Cowra Electricity Transmission Line that traverses diagonally across the project site and a quarry that is located approximately 500 m to the west of the site.

Each potential conflict between the operation of the solar farm and adjacent agricultural and quarrying activities has been assessed and given a risk ranking based on probability (likelihood) and consequence. Definitions for probability and consequence are shown in Table 2.1 and Table 2.2 and are taken from DPI (2011).

The current mix of rural land use and quarrying in the area is not considered likely to change significantly during the life of the project. For example, due to the remote location of the

project site relative to major regional towns, it is considered unlikely that surrounding properties will undergo subdivision to accommodate residential or small-block rural developments. Accordingly, it is not expected that future changes to land use will occur that will generate new land use conflicts in addition to those identified below.

Table 2.1 Probability

Level	Descriptor	Description
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur, or 'it has happened'
C	Possible	Could occur, or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

Table 2.2 Measure of consequence

Level	Descriptor
Level: 1	**Descriptor: Severe**
Description	• Severe and/or permanent damage to the environment • Irreversible • Severe impact on the community • Neighbours are in prolonged dispute and legal action involved
Example/ Implication	• Harm or death to animals, fish, birds or plants • Long term damage to soil or water • Odours so offensive some people are evacuated or leave voluntarily • Many public complaints and serious damage to Council's reputation • Contravenes *Protection of the Environment & Operations Act 1997* (POEO Act) and the conditions of Council's licences and permits. Almost certain prosecution under the POEO Act
Level: 2	**Descriptor: Major**
Description	• Serious and/or long-term impact to the environment • Long-term management implications • Serious impact on the community • Neighbours are in serious dispute
Example/ Implication	• Water, soil or air impacted, possibly in the long term • Harm to animals, fish or birds or plants • Public complaints. Neighbour disputes occur. Impacts pass quickly

Level	Descriptor
	• Contravenes the conditions of Council's licences, permits and the POEO Act • Likely prosecution
Level:3	**Descriptor: Moderate**
Description	• Moderate and/or medium-term impact to the environment and community • Some ongoing management implications • Neighbour disputes occur
Example/ Implication	• Water, soil or air known to be affected, probably in the short term • No serious harm to animals, fish, birds or plants • Public largely unaware and few complaints to Council • May contravene the conditions of Council's Licences and the POEO Act • Unlikely to result in prosecution
Level: 4	**Descriptor: Minor**
Description	Minor and/or short-term impact to the environment and community Can be effectively managed as part of normal operations Infrequent disputes between neighbours
Example/ Implication	Theoretically could affect the environment or people but no impacts noticed No complaints to Council Does not affect the legal compliance status of Council
Level: 5	**Descriptor: Negligible**
Description	Very minor impact to the environment and community Can be effectively managed as part of normal operations Neighbour disputes unlikely
Example/ Implication	No measurable or identifiable impact on the environment No measurable impact on the community or impact is generally acceptable

Risk rankings have been determined on the basis of probability and consequence using the risk ranking matrix shown in Figure 2.1, based on DPI (2011).

Consequence	Likelihood				
	Almost certain (A)	Likely (B)	Possible (C)	Unlikely (D)	Rare (E)
Severe (1)	25	24	22	19	15
Major (2)	23	21	18	14	10
Moderate (3)	20	17	13	9	6
Minor (4)	16	12	8	5	3
Negligible (5)	11	7	4	2	1

	Very high
	High
	Moderate
	Low

Figure 2.1 Risk ranking matrix

Risk rankings greater than 10 are regarded as serious and need to be addressed. Each risk can be reassessed after risk mitigation controls have been introduced to reduce it.

The activities related to cropping, grazing and quarrying that have been identified as most likely to create conflict with the project are outlined in Table 2.3, prior to the application of risk reduction controls.

Sheep grazing may be used by Edify within the project site for land management purposes, reducing vegetation biomass and weeds. If this use of the land were to take place, this would be a controlled activity and is not considered as part of this LUCRA. However, uncontrolled entry of cattle or sheep may occur, and this has been included in the assessment.

Project activities that are most likely to create conflict with adjoining land uses (cropping and grazing) are outlined in Table 2.4, prior to the application of risk reduction controls.

Table 2.3 Potential conflicts caused to project by adjoining land uses (before controls applied)

Activity	Potential conflict	Probability	Consequence	Risk ranking
Cultivation and cropping	Dust from cultivation and cropping causing reduced solar panel outputs	B	4	12
	Dust from cultivation and cropping causing impacts on electrical equipment	C	3	13
Sheep or cattle grazing	Cattle or uncontrolled sheep entering premise causing damage or outages	D	3	9
	Dust from fields and farm roads causing reduced solar panel outputs	C	4	8
	Dust from fields and farm roads causing impacts on electrical equipment	C	3	13
Quarrying	Dust from quarrying causing reduced solar panel outputs	B	4	12
	Dust from quarrying causing impacts on electrical equipment	C	3	13

Table 2.4 Potential conflicts caused to adjoining land uses by project (before controls applied)

Activity	Potential conflict	Probability	Consequence	Risk ranking
Project development	Fire initiates on site and spreads offsite, causing loss of infrastructure, crops or livestock	E	1	15
	Sprays from weed control adversely affecting adjacent land (including crops or livestock)	C	4	8
	Weed, plant pest, plant disease or pest animal introduction and/or spread	C	3	13

3 Risk reduction controls

Proposed risk reduction controls are shown in Table 3.1 along with the revised risk ranking once the controls are applied.

Table 3.1 Risk mitigation controls and residual risk ranking

Identified potential conflict	Method of control	Probability	Consequence	Risk ranking	Performance target
Conflicts caused to project by adjoining land uses					
Stock entering premises causing damage or outages	• Security fence	E	4	3	No cattle or uncontrolled grazing sheep allowed to enter site
Dust from farming or quarrying activities causing reduced solar panel outputs	• Monitor farming and quarrying activities, weather and dust deposition, to quantify significance of impact • Routine and event-triggered cleaning of solar panels	D	4	5	No significant reduction in power generation
Dust from farming or quarrying activities causing impacts on electrical equipment	• Enclose equipment where required • Routine maintenance and cleaning	E	4	3	No electrical issues due to dust
Conflicts caused to adjoining land uses by project					
Impact of electrical fire	• Maintain minimum separation distance between adjacent BESS units, and between BESS units and project site boundary in accordance with hazard assessment • Implement and maintain BESS fire prevention systems/technologies • On-site provision for fire-fighting in accordance with Fire Services NSW and Rural Fire Service requirements (including dedicated water tanks,	E	2	10	No electrical fires

Identified potential conflict	Method of control	Probability	Consequence	Risk ranking	Performance target
	adequate site access for fire engines, hardstands suitable for parking engines)				
Sprays from weed control	• Spraying to be avoided on windy days • Spaying to be avoided if adjacent crops or livestock are at risk • Communication with adjacent landholders regarding timing of spraying	D	5	2	No crops or livestock affected or vegetation degraded on neighbouring properties
Weed and pest introduction and/or spread	• Biosecurity controls on the importation of earthen materials, plants and seeds to site (e.g. for landscaping) and imported site components (e.g. PV panels, BESS units, etc.) • Good vehicle hygiene • Routine weed spraying and pest controls • Use of sheep grazing to control weeds • Regular weed inspections	D	5	2	No new and/or increased prevalence of weeds on neighbouring properties (as a result of project)

4 Conclusion

The proposed project is consistent with the existing use of the area for electricity transmission. Land use conflicts between adjacent agricultural and quarry land users and the project are unlikely to result in significant impacts, provided the proposed risk control measures are implemented effectively. Potential conflicts with minor consequences and low residual risk may occur.

It is considered unlikely that future land use changes will occur during the life of the project that will generate new conflicts in addition to those identified above.

5 References

DPI (2011) Land Use Conflict Risk Assessment Guide. NSW Department of Primary Industries. October 2011.