

# Sapphire Solar Farm

Response to Submissions Report

March 2018



Delivering Energy, Powering Communities.

*This page intentionally left blank*



## Contents

1	Introduction .....	1
2	Agency Submission Response .....	2
3	Public Submission Response .....	31
4	Administrative Revision of Environmental Impact Statement (Section 3.1.2) .....	34

## Table of Tables

Table 2.1	Response to Government Agency Submissions .....	2
Table 2.2	Dangerous Goods (and Potential Dangerous Goods) Information .....	17
Table 3.1	Response to Public Submissions .....	31
Table 4.1	Resultant Lot Sizes from Leasing Purposes for the Project (updating EIS Table 3-2) .....	34

## Table of Figures

Figure 2.1	Dams Providing Potential Water Sources to the Project .....	19
Figure 2.2	Plant Community Types in the Development Site (Detail 1) .....	20
Figure 2.3	Plant Community Types in the Development Site (Detail 2) .....	21
Figure 2.4	Plant Community Types in the Development Site (Detail 3) .....	22
Figure 2.5	Plant Community Types in the Development Site (Detail 4) .....	23
Figure 2.6	Plant Community Types in the Development Site (Detail 5) .....	24
Figure 2.7	Plant Community Types Mapped in the Cable Routes and Access Tracks (Detail 1) .....	25
Figure 2.8	Plant Community Types Mapped in the Cable Routes and Access Tracks (Detail 2) .....	26
Figure 2.9	Threatened Flora Relative to the Development Site (Overview) .....	27
Figure 2.10	Threatened Flora Relative to the Development Site (Detail 1) .....	28
Figure 2.11	Threatened Flora Relative to the Development Site (Detail 2) .....	29
Figure 2.12	Threatened Flora Relative to the Development Site (Detail 3) .....	30
Figure 4.1	New Lots Created by the Project .....	38

*This page intentionally left blank*

## 1 Introduction

The Sapphire Solar Farm (SSF) Environmental Impact Statement (EIS) (Project Application SSD 8643) was prepared to support a Development Application by Sapphire Solar Farm Pty Ltd to build and operate a utility-scale photovoltaic solar farm with battery storage at Kings Plains, within the Inverell Shire Local Government Area, 30 km east of Inverell in northern NSW. The EIS was placed on public exhibition to seek public and government submissions over 30 days from 29 January 2018 – 28 February 2018. In that period there were 10 submissions received: nine from Government agencies, and one from the public. The latter was the only objection, directed at national energy policy and the proliferation of renewable energy in Australia, rather than any specific detail of the SSF. Government agency submissions included some agencies acknowledging no further statutory or procedural interest, with others themed generally as: comment, requesting clarification or more information, or providing recommended consent conditions.

This report provides a response to all submissions received in Section 2 (Government agency submissions) and Section 3 (public submissions). In summary, submissions were received from:

- NSW Government Agencies:
  - Department of Industry (Lands & Water and Department of Primary Industries)
  - Department of Planning & Environment - Division of Resources & Geoscience, Geological Survey of NSW
  - Department of Planning & Environment - Hazards Team
  - Environmental Protection Agency
  - Heritage Council of NSW
  - Inverell Shire Council
  - Office of Environment & Heritage
  - Roads & Maritime Services
  - Rural Fire Service
- Public:
  - A. Gardner (Braidwood, NSW).

Further to the response to submissions, this document contains in Section 4 an administrative revision to the EIS regarding subdivision (EIS Section 3.1.2).

## 2 Agency Submission Response

Agency submissions and responses are detailed in Table 2.1. Where a single agency submission has contained multiple aspects, these have been presented in separate rows for clarity. Figures supporting the responses are included following the tables.

*Table 2.1 Response to Government Agency Submissions*

Agency	Submission	Response
Department of Industry (Lands & Water and Department of Primary Industries): agricultural impacts	Biophysical Strategic Agricultural Land (BSAL) is a valuable resource that should be conserved for future generations. The proponent should demonstrate that impacts from the development on Biophysical Strategic Agricultural Land (BSAL) have been avoided as far as is reasonably practicable. Where avoidance of impacts to BSAL is not reasonable and feasible, impacts should be minimised and rehabilitation objectives and strategies to return the land to BSAL equivalence should be presented.	Important in understanding the impacts to BSAL is that the harvesting of sunlight for energy production is primarily a passive activity that does not consume or transform the attributes of BSAL. Avoidance of BSAL has been undertaken as far as reasonably practical (as is demonstrated by the project evolution (Figure 2.2 of the EIS) that has responded to ongoing agricultural requirements associated with host properties). The project largely consists of above-ground poles, racking, and solar panels with most of the footprint occurring where the poles enter the ground as well as gravel access roads providing access and thoroughfare (infrequent vehicle access will be achieved between each row of panels, however will not be on gravel tracks, rather just on the grass cover). Construction activities will seek to have as minimal impact on the land as is necessary. Operation of the project will not substantially alter the current land condition with vegetation managed (through grazing and / or slashing) to a certain height, very similar to the current land use. Rehabilitation of the land upon completion will involve removing the project infrastructure.
Department of Industry (Lands & Water and Department of Primary Industries): agricultural impacts	Rehabilitation objectives and strategies including indicators to be used to guide the return of the land back to agricultural production are not provided in section 7.5, as suggested in Table 6-4. These strategies and indicators should be presented.	Rehabilitation objectives and strategies including indicators to guide rehabilitation after decommissioning will be outlined in principle in the Environment Management System (EMS). Detailed decommissioning land objectives will be provided in a decommissioning management plan prior to decommissioning activities occurring.

Agency	Submission	Response
Department of Industry (Lands & Water and Department of Primary Industries): agricultural impacts	Section 7.5.4 Mitigation Measures includes the statement that “the maintenance of low levels of vegetation cover across the Site will assist in reducing potential erosion across the site. This will be especially important below the panels to prevent scouring following significant rainfall events”. This statement should be corrected as low levels of vegetation across the site will increase, not decrease erosion. The aim, as stated earlier on page 133, should be to ensure a solid pasture base is established in order to minimise erosion and to allow beneficial soil microbial and nutrient cycling activity, to continue. Grazing will have a role to play in maintaining a healthy pasture and to minimise fuel loads etc.	Agreed. Misunderstanding caused by using the term 'low'. The intention is to have high relative % cover of vegetation compared to bare ground, but rather maintaining to a "low" height.
Department of Industry (Lands & Water and Department of Primary Industries): agricultural impacts	Section 6 Stakeholder Consultation and Appendix D Land Use Conflict Analysis and E 'Visual Impact Assessment', do not clearly outline how many of the owners of the 24 dwellings within 5km that will be able to see the development, are happy for the development to proceed. The EIS states that there is a “high level of acceptance towards the project location”. Experience indicates that long term rural residents do not share the view that the industrialisation of a “general widespread rural landscape with low to moderate levels of native vegetation, and no identified special landscape features or interesting topographic features” is consistent with a “low” or “insignificant” visual sensitivity rating. While the Landscape Character criteria have been clearly spelt out, the proponent should be clear in reporting which if any adjacent landholders object to the current location of the development, and why.	This submission places a subjective judgement on the potential response to the visual impacts of the project which is not supported by evidence from the public consultation or exhibition of this project. It may be that the department's 'experience' indicates that residents may dislike the visual impact of such a project, however no submissions were received regarding that from any individual in the local (or even regional) area. The only public submission was from a substantial distance away (>500km) and did not relate to industrialisation of the landscape. The comment, a "high level of acceptance towards the project location", is vindicated by the zero received submissions on the project. Of the 24 dwellings predicted to be able to see the project within 5km of the project, six are owned by host landholders and one by SWF. The Proponent has consulted with all of those residents during the environmental impact assessment. The Proponent knows of no objections to the current location. Only two residences are ranked as likely to suffer and impact above

## RESPONSE TO SUBMISSIONS

Agency	Submission	Response
		"insignificant" which is ranked as "low" (R019 & R030). Both of these residents were consulted following the draft results of the visual impact assessment. It was mutually agreed (and is committed to in the EIS) that further consultation will be undertaken with the owners of residences R019 & R030 during the project development (pre, during, and post-construction) to ascertain their response to the actual visual impact, and to provide vegetation viewpoint screening if requested.
Department of Industry (Lands & Water and Department of Primary Industries): water impacts	Confirmation of water supply from onsite dams is recommended to be confirmed prior to project approval. This is to ensure water access and associated impacts are considered within the project approval process to ensure any requirement for additional licensing is identified early and Water Management Act 2000 approvals can be excluded where appropriate under Section 89J of the EP&A Act.	Water required for the proposed development will be drawn, with the agreement of the landholder, from existing dams located on 1st and 2nd order streams within, or adjacent to, the proposed development area, in line with the harvestable rights rules. Figure 2.1 indicates prospective water sources. If for unforeseen circumstances additional sources of water are required, the Proponent would consult with DPI Water to ensure appropriate licensing requirements are met prior to taking any water from onsite. Alternatively, additional water may be sourced from a licenced commercial provider.
Department of Industry (Lands & Water and Department of Primary Industries): water impacts	Water access licences authorise the licence holder to access water from a point within a designated water source. The proponent proposes to access water from Wellingrove Creek under a water access licence held by Glen Innes Severn Council, therefore, provision of consent from the Council is recommended prior to project approval.	Noted. Water for the project would be sourced by the EPC contractor in consultation with the relevant authorities. This approach was adopted successfully at Sapphire Wind Farm and would be undertaken in the same manner for Sapphire Solar Farm.
Department of Industry (Lands & Water and Department of	Ensuring adequate management of sediment and erosion control is a key issue which will need to be addressed in a Construction Environmental Management Plan post approval.	Sediment and erosion controls will be formulated in post-approvals environmental management plans.



Agency	Submission	Response
Primary Industries): water impacts		
Department of Industry (Lands & Water and Department of Primary Industries): water impacts	The proposed development is located within the upper reaches of the Macintyre River catchment. The EIS indicates reduced riparian buffer zones to those recommended by the Guidelines for riparian corridors on waterfront land, dated July 2012. To maintain the bank stability and minimise the potential for erosion and mobilisation of soil to downstream surface waters, compliance with the recommended riparian buffers for all 1st, 2nd and 3rd order watercourses is recommended.	<p>Should this project receive approval, a controlled activity approval will not be required for works on waterfront land due to exemptions provided by the EP&amp;A Act (Section 89J). The detailed design process will consider the Guidelines for riparian corridors on waterfront land (DPI July 2012), noting that those guidelines are for controlled activities. Furthermore, those guidelines do not preclude any development in a riparian corridor, but rather set an approval framework for controlled activities. The guidelines have a 'streamlined' approach to some controlled activities in the recommended riparian corridor area, including (for example) installing detention basins.</p> <p>Consistent with the EIS (section 7.9.4) the project is committed to:</p> <ul style="list-style-type: none"> <li>- Exclusion of 3rd order streams from the Development Footprint (except one internal access crossing of Kings Plains Creek);</li> <li>- Application of a minimum 20 m (from stream centreline) buffer zone for 3rd order and higher riparian zones;</li> <li>- Avoidance of footings and pilings, where practicable, within 1st and 2nd drainage lines;</li> <li>- Minimisation of creek crossings for internal access and electrical cabling;</li> <li>- Sourcing of non-potable water from onsite dams and existing licenced water</li> </ul>

## RESPONSE TO SUBMISSIONS

Agency	Submission	Response
Department of Planning & Environment - Division of Resources & Geoscience, Geological Survey of NSW	GSNSW acknowledges that the proponent has addressed land use in relation to mining, exploration and minerals in the EIS, reviewed the DRG online MinView and Common Ground Viewer, and identified exploration and mining titles and applications in the vicinity of the Project site (Refer to page 119 of the EIS) on a map. The proponent has provided GSNSW directly with evidence of consultation with the adjacent and impacted titleholders to the project area. GSNSW notes that Coordination Deeds between the parties are in the process of being drafted (Refer page 6 of the EIS).	Noted
Department of Planning & Environment - Division of Resources & Geoscience, Geological Survey of NSW	Titleholders for ML1687, ML1374 & EL8536 (Jesasu Pty Ltd and Eastern Feeder Holdings Pty Ltd) have directly provided to GSNSW the sequence of land use and rehabilitation for these titles as requested. The Environmental Sustainability Unit within the Division of GSNSW is still awaiting clarification on the final rehabilitation for ML1687 from the titleholders for the finalisation of this title.	Noted
Department of Planning & Environment - Division of Resources & Geoscience, Geological Survey of NSW	A proposed Biobanking Agreement Application has been submitted to OEH (Refer to page 102 of the EIS and page 52 of Appendix B) at Windemere, Kings Plains. An Exploration Licence Application (ELA5592 identified on Figure 7-7 page 120 of the EIS) sits over this area. GSNSW has concerns relating to the biobanking application and resource sterilisation. This area is prospective for sapphires and the proposed biodiversity offset area may adversely affect explorers for potential resources. GSNSW requests to be consulted in relation to the proposed location of any biodiversity offset areas or any	The establishment of a BioBank under the Threatened Species Conservation Act (TSC Act) is a separate process to this environmental impact assessment, which uses the NSW Framework for Biodiversity Assessment (FBA) to identify impacts and proposed offsets to mitigate unavoidable impacts. Regarding the establishment of a BioBank, the Minister responsible for the Threatened Species Conservation Act (TSC Act) is required to obtain consent from and/or consult with the holder of any "mining authority" (mining lease, mineral claim, or other mining authority) pursuant to the NSW Mining Act (TSC Act s127F(e) & s127F(f)). Neither of these are the case for Windemere as the

Agency	Submission	Response
	<p>supplementary biodiversity offset measures to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral resources.</p>	<p>interest is only an Exploration Licence Application (ELA) and not a mining authority (according to the definition in the Mining Act). Comment on the suitability of a particular BioBank should be directed to the NSW OEH.</p>
<p>Department of Planning &amp; Environment - Hazards Team</p>	<p>While there is a sufficient information and analysis on the storage and use of the Li-ion batteries, no information is provided on the storage and use on any other Dangerous Goods (DG). The Applicant should be requested to provide information on any DG and combustible liquids (such as diesel) proposed to be stored, handled or used on the site, their quantities and storage locations. If the quantities of these materials:</p> <ul style="list-style-type: none"> <li>- are above the threshold quantities published in "Applying SEPP 33" Guideline; or</li> <li>- they can interact with the battery storage in such a way that cumulative hazards may be significantly increased, then the Preliminary Hazard Assessment should be updated.</li> </ul>	<p>In response to the submission, the Proponent has reviewed potential DGs involved in construction and operation of the project considering 1) their screening thresholds in the "Applying SEPP 33" guideline, and 2) the likelihood they could interact with the batteries in such a way that would significantly increase the cumulative hazard. A risk assessment will be undertaken by the EPC during preparation for construction of the project which will consider the storage and use of every possible material during construction. A summary of quantities (or other aspects) of materials and DGs likely to be used regarding the screening thresholds are contained in the following table (Table 2.2). No DGs will be stored or used in a way that interacts with the batteries such that would increase the cumulative hazards risk, and therefore there is no requirement to revise the PHA.</p>

## RESPONSE TO SUBMISSIONS

Agency	Submission	Response
Environmental Protection Agency	<p>As the proposed activity does not meet the definition of a scheduled activity in the Protection of the Environment Operations Act 1997 (POEO Act), it will not require an Environment Protection Licence with the Environment Protection Authority (EPA). For the purposes of the POEO Act, Inverell Shire Council will be the appropriate regulatory authority for the proposal, should consent be granted.</p> <p>As such the EPA has not reviewed the EIS and has not provided any recommended conditions of approval.</p>	Noted
Heritage Council of NSW	<p>The proposed State Significant Development (SSD) is not within the curtilage of a State Heritage Register (SHR) item. The EIS addresses the potential heritage impact for the three heritage items in the vicinity, notes they are all located more than five kilometers from the proposed development, and finds the proposed development will not have any direct impacts on known heritage and a heritage assessment is not warranted for the proposed development.</p> <p>The relevant documents have been reviewed and no additional heritage requirements are recommended. It is, therefore, considered that further referrals to the Heritage Council are not required.</p>	Noted
Inverell Shire Council	<p>Recommend consent conditions relating to:</p> <ul style="list-style-type: none"> <li>- independent road dilapidation report is required for all local and state roads</li> <li>- ongoing and regular measures to restore and reinstate road damage resulting from construction of the project</li> <li>- a post-construction road dilapidation to assess construction damage to road</li> </ul>	Noted

Agency	Submission	Response
Inverell Shire Council	It is noted that prior to commencing construction, a bushfire risk assessment will be undertaken to assess specific risks associated with the site and a bushfire management plan will be prepared to identify a suite of strategies and mitigation measures to manage these risks. Council supports the need for a detailed bushfire risk assessment and recommends that this be included in the conditions of the Project Approval.	Bushfire risk assessment and management planning will be included in post-approvals environmental management plans.
Inverell Shire Council	ISC requests to review the draft consent conditions prior to approval.	No response required (outside of the Proponent's scope).
Office of Environment & Heritage	Biodiversity: Amend Figure 6 of the Biodiversity Assessment Report (BAR) to clearly illustrate the location and extent of the vegetation zones in all areas within the development site, including the proposed cable routes.	<p>Additional figures have been provided in this section showing close up views of the vegetation mapping providing greater detail (refer to Figure 2.2 - Figure 2.8).</p> <p>For clarity, the proposed cable routes shown in the EIS are those of an indicative 20m wide alignment, designed to follow the routes of cables for the Sapphire Wind Farm project (for which a 200m wide corridor was assessed in that EIS). The cables will be a combination of underground (approximately 5m wide footprint to construct trench, install cables and backfill) and overhead (approximately 20m wide area in which electrical separation from vegetation will require maintenance i.e. grasslands remain however trees above c. 3m will be removed). Impact calculations in the EIS have accounted for total vegetation removal within the 20m wide alignment.</p> <p>Detailed design will be undertaken to align the routes within the 20m wide alignment, with important inputs being avoidance of biodiversity impacts, threatened species (refer to <i>Dichanthium setosum</i> discussion below), civil and electrical engineering constraints. The chosen route will seek to balance those</p>

**RESPONSE TO SUBMISSIONS**

Agency	Submission	Response
		<p>considerations, however to achieve a constructable outcome, the cable route may have to depart from the 20m wide alignment in sections, noting that all departures from the project's 20m wide alignment would be within the 200m wide alignment assessed for the Sapphire Wind Farm project. Where those departures occur, the biodiversity impact will be reviewed as part of the EMS and with the input of biodiversity information from the Sapphire Wind Farm project. The clearance of vegetation zones (PCT and condition) and threatened species will not exceed the area amounts (i.e. in hectares) accounted for in the EIS.</p>
Office of Environment & Heritage	<p>Biodiversity: Amend Stage 2 of the BAR to clarify whether the estimated removal of 104.1ha of the Endangered Ecological Community (EEC) white box - yellow box - Blakely's red gum woodland has included clearing of EEC remnants within the proposed cable routes and, if necessary, revise the EEC removal estimate and associated credit requirements to address clearing impacts for all components of the proposal.</p>	<p>The EIS figures in the BAR were of a scale such that this detail was not visible, however it was mapped including identifying EECs in the proposed cable routes (Figure 2.7 and Figure 2.8 have been created to demonstrate that mapping in greater detail). Therefore no revision of calculations is required.</p>

Agency	Submission	Response
Office of Environment & Heritage	<p>If specimen identification by the National Herbarium of NSW confirms presence of <i>Dichanthium setosum</i> on the development site, amend the BAR in accordance with the Framework for Biodiversity Assessment to include:</p> <ul style="list-style-type: none"> <li>a) species polygons for the species;</li> <li>b) a description of the species, its abundance on site and the habitat components associated with the species on the development site;</li> <li>c) a detailed description of the measures proposed to avoid and minimise direct and indirect impacts on the species during construction and operational phases of the project; and</li> <li>d) an additional species-credit requirement if the proposal cannot be designed to avoid impacts on the species.</li> </ul>	<p>ELA's surveys were detailed area searches by parallel transects which identified a range of individuals thought morphologically to be the threatened <i>Dichanthium setosum</i> (shown in Figure 2.9 - Figure 2.12 as blue and purple points). The site is an agriculturally modified landscape. The suspected individuals were generally found in the grasslands which have avoided the most intensive agricultural production over time (i.e. along fencelines and nearer to existing paddock edges).</p> <p>The NSW herbarium are identifying the individuals now but due to a backlog, have not yet provided all the results. Most of the identifications thus far are positive for the threatened <i>Dichanthium setosum</i> (different identification statuses are shown in Figure 2.9 - Figure 2.12 as blue and purple points).</p> <p>There is no specified 'buffer' or polygon area designated by the FBA for this species. In considering the 'habitat components' for the species, the detailed methods employed by ELA to formulate the BAR in the EIS have suitably identified the area of occurrence as being the points shown in Figure 2.9 - Figure 2.12, rather than having to rely on any species polygon or habitat map.</p> <p>There is generally scope within the development footprint to avoid all individuals (red shape shown in Figure 2.9 - Figure 2.12), however detailed design may indicate that some individuals will require removal. Alternatively, avoidance of the individuals could be achieved by departing from the 20m wide development site shown in the EIS. As discussed above the impacts of that departure would be reviewed as part of the EMS and be informed by the Sapphire Wind Farm EIS.</p> <p>In the case where individuals will require removal, the FBA calculator will be revisited and updated to include the number of</p>

RESPONSE TO SUBMISSIONS

Agency	Submission	Response
		<p>individuals impacted, to generate a number of species credits required to offset. It is proposed that offsets will be sought in generally the same manner as the other required offsets for the project (most likely the purchase of species credits for the species).</p> <p>Therefore flexibility is sought to revisit the impact and required offset for <i>Dichanthium setosum</i> during detailed design.</p> <p>It is proposed that the above actions and measures will be administered via the EMP and Biodiversity Management Plan (BMP). It is proposed also that the EMS and BMP will include procedures for marking known individuals to be avoided.</p>
Office of Environment & Heritage	Amend the Statement of Commitments (SoC) to remove reference to "AHIP", and rewrite the relevant SoC to reflect the links between the management of Aboriginal cultural heritage and the proposed Aboriginal Heritage Management Plan detailed at Recommendation 4 of the Aboriginal Cultural Heritage Assessment Report.	<p>Reference to AHIP removed and SoC amended as recommended to read:</p> <p>"An Aboriginal Heritage Management Plan (AHMP) shall be prepared to ensure the appropriate management and mitigation of impacts during any further planning and project construction. The development of an AHMP shall be undertaken in consultation with the project archaeologist, the Registered Aboriginal Parties and the NSW Office of Environment and Heritage."</p>
Roads & Maritime Services	The Traffic Impact Assessment (TIA) has not provided any peak hour traffic movements at key road junctions to assess the safety impacts in accordance with Austroads guidelines for construction and operational traffic.	<p>The traffic report prepared for the EIS identifies the existing and expected traffic volumes for the Gwydir Highway for construction and operational phases, concluding that the overall impact of the project is negligible. As a regional road through areas of low population density, Gwydir Highway does not exhibit pronounced 'peak hour' flows.</p> <p>Construction of SSF is unlikely to commence during the construction phase of SWF, which is expected to conclude in the third quarter of 2018. Construction traffic for SSF will be present over a period of approximately 12-18 months, and will vary</p>



Agency	Submission	Response
		<p>depending on the construction phase – influenced largely by delivery of components, civil works, and waste removal. Traffic will consist of:</p> <ul style="list-style-type: none"> <li>- Cars and utility vehicles - for project management staff and site workers to access the site, and to transport equipment and materials around the site and for local pick up of materials. Cars and utility vehicles would make up the largest proportion of vehicles accessing the site.</li> <li>- Buses – would be used to transport workers to and from the site to minimise traffic volumes and transit risks during construction.</li> <li>- Trucks – to transport plant, equipment and materials around the site and for local pick up of materials. Larger sized deliveries would be undertaken by trucks as opposed to utility vehicles.</li> <li>- Standard articulated trucks – would be used to transport 12m containers from port of origin.</li> </ul> <p>Generally, construction personnel movements shall commence each day prior to 7 am which is unlikely to significantly impact local traffic movements associated with school bus routes and personal travel. Similarly construction activities cease daily around 6 pm and is unlikely to significantly impact traffic capacity. Deliveries to site shall be scheduled throughout the day.</p> <p>A Traffic Management Plan (TMP) shall be developed prior to commencement of work activities, which will specify potential community impacts from traffic movements associated with the scope and the requirements for mitigating these, including any restrictions and approval requirements. The Austroad guidelines and relevant Australian Standards, including AS 1742 Manual of Uniform Traffic Control Devices, or equivalent, will be complied with during development of the TMP.</p>

## RESPONSE TO SUBMISSIONS

Agency	Submission	Response
Roads & Maritime Services	Sight distances have not been quantified for key road junctions.	The road safety audit assessed the Gwydir Highway intersection with both Woodstock Road and Waterloo Road, and the existing / proposed access points. The audit found that minor intersection maintenance works will be required periodically over time to ensure that appropriate sight lines are maintained at all intersections. Such works comprise minor vegetation clearing within the road corridor and will be the responsibility of the road authority for that road. On this basis, the results have shown that with the relevant maintenance, the sight lines at the intersections with the Gwydir Highway are otherwise currently suitable.
Roads & Maritime Services	No evidence has been provided to demonstrate that the largest service vehicle can negotiate the haulage routes safely. The existing turning radii at the junction of the Gwydir Highway and Woodstock Road should be checked or all haulage restricted to Waterloo Road.	All haulage to the site shall be restricted to the Waterloo Road haulage route. This route, including its junction with the Gwydir Highway, has been assessed and upgraded to meet the requirements associated with the construction phase of the co-located Sapphire Wind Farm. Oversize haulage requirements for Sapphire Solar Farm are considerably less than those for Sapphire Wind Farm in terms of mass, length and turning radii.
Roads & Maritime Services	Consideration should be given to managing the impact of construction traffic on school bus services.	Consideration shall be given to managing the impact of construction traffic on school bus services in the Construction Traffic Management Plan, to be developed post approval.
Roads & Maritime Services	The TIA did not contain a Traffic Management Plan (CTMP) for construction activities.	A TMP shall be developed prior to commencement of work activities, which will specify potential community impacts from traffic movements associated with the scope and the requirements for mitigating these, including any restrictions and approval requirements. The Austroad guidelines and relevant Australian Standards, including AS 1742 Manual of Uniform Traffic Control Devices, or equivalent, will be complied with during development of the TMP.

Agency	Submission	Response
Roads & Maritime Services	No details of the proposed Code of Conduct was provided.	A proposed driver code of conduct shall be developed as part of the TMP and included within site induction for all workers and visitors to the site.
Roads & Maritime Services	It is recommended that a dilapidation survey of the haulage routes should be undertaken prior to construction commencing.	Noted
Roads & Maritime Services	The required maintenance for the junction of the Gwydir Highway and Waterloo Road should be undertaken prior to commencing construction activities.	Noted
Roads & Maritime Services	Any works to a classified (State) road will be required to be constructed in accordance with the current Austroads Guidelines, Australian Standards and Roads and Maritime Supplements. The developer will need to enter into a Works Authorisation Deed (WAD) with Roads and Maritime and all costs associated with the works and administration of the WAD are the responsibility of the developer.	Noted
Rural Fire Service	Amend the EIS to show the relationships between array/infrastructure sites and bush fire prone land mapping or any relationships between array/infrastructure sites and the landscape including vegetation.	A bushfire management plan will be prepared following the final design of the proposed development. This plan will include a risk assessment of bush fire, based on bush fire prone land mapping, vegetation communities on site and effective slope, to the proposed development following the final design.
Rural Fire Service	Amend the EIS to provide suitable trafficable defensible space, based on vegetation communities and effective slope. Such calculations will identify flame length and radiant heat exposure around the each array site and proposed defensible space.	Appropriate trafficable defensible space will be included in the final design.

## RESPONSE TO SUBMISSIONS

Agency	Submission	Response
Rural Fire Service	The EIS shall identify the extent of proposed land management practices to achieve suitable separation distance between the identified bush fire hazard (including grasslands) and the proposed array/infrastructure.	A bushfire management plan will be prepared following the final design of the proposed development. This will include the minimum asset protection zone (APZ) requirements and the management of the APZ. Likely management practices will include a combination of grazing, mowing and ploughing to reduce the fuel load in the APZ.
Rural Fire Service	The EIS shall provide a detailed plan of the internal road access network for fire fighting vehicles around each array/infrastructure site and between each array/infrastructure site.	The location of perimeter and non-perimeter roads will be determined during the final design.
Rural Fire Service	The EIS shall provide detail for the location of water supplies for suitable fire fighting response to each array/infrastructure.	The location of water supplies for each array area and associated infrastructure for the sole purpose of fire fighting will be identified during the final design.

Table 2.2 Dangerous Goods (and Potential Dangerous Goods) Information

Material	Dangerous Goods (DG) Class	Where Used	Screening Threshold (using "Applying SEPP33" Guideline)	Quantity Used	Implications for PHA
Sulphur Hexafluoride (SF6) Gas	Class 2.2	In sealed switchgear components at inverter stations.	None applicable	NA	No further analysis required in the PHA.
Batteries (not including Li-ion batteries formerly subject to the PHA contained in the EIS) i.e. lead acid batteries	Class 8	In new switchroom building (such as at the substation and inverter stations).	50 tonnes	The project proposes to have no more than 2,000kg of lead acid batteries (excluding any minor UPS or batteries used on the project (such as fire alarm and smoke signals, exit lights, inverter station small UPS etc.) which would all be typically under 10kg each).	No further analysis required in the PHA.
Grease	Type recommended in the specification is not regulated under the Australian Dangerous Goods Code	For lubrication of the panel tracking system.	NA	18,420 kg (conservatively estimating 10,000 tracker rows each with 2L)	No further analysis required in the PHA.

**RESPONSE TO SUBMISSIONS**

Material	Dangerous Goods (DG) Class	Where Used	Screening Threshold (using "Applying SEPP33" Guideline)	Quantity Used	Implications for PHA
Diesel	Class 3	For the permanent back-up emergency diesel generators used in the operations and maintenance facility, substation and/or storage facilities, also throughout construction will be several small portable generators used for construction and maintenance activities with a small quantity of diesel.	4 tonnes and above triggers minimum separation distances	The project proposes to have less than approximately 3,000 tonnes (considering mass of 0.85kg/L of 1,500L for the emergency back-up generator and less than 200L for each of the small portable generators used for construction and maintenance activities).	No further analysis required in the PHA.