7 Appendices

7.1 Appendix 1: Revised Statement of Commitments in full

7.1.1 Visual

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
1.	Visual impact to nearby properties	Minimise the view of infrastructure	• The Proponent would determine the extent of planting with residents of properties within 3km of a wind turbine. This would include a site visit. Any such offer would remain in place for a period of 1 year after project construction. Screening options are detailed in Attachment 3.1	The Proponent	During Construction and Operation	CEMP and OEMP	Minimise complaints by residents within 3km

7.1.2 Noise

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
2.	Construction noise exceedance	Minimisation	• Limit hours of high noise generating activities	The Proponent	Construction	CEMP	Minimise noise complaints
3.	Construction noise exceedance	Minimisation	• Establish communication with relevant authorities and local residents	The Proponent	Construction	CEMP	Minimise noise complaints
4.	Construction noise exceedance	Minimisation	• Adoption of a site representative responsible for noise and vibration issues	The Proponent	Construction	CEMP	Fast response to all complaints

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
5.	Construction noise exceedance	Minimisation	• The contractor would select appropriate machinery for the proposed works. This machinery would have low inherent potential for noise generation where practicable	The Proponent	Construction	CEMP	Compliance with DECC *Environmental Noise Control Manual*
6.	Construction noise exceedance	Minimisation	• Where necessary, barriers would be erected around potentially high noise generating areas including generator and high duty compressors	The Proponent	Construction	CEMP	Minimise noise complaints
7.	Construction noise exceedance	Minimisation	• Appropriate siting of noisy machinery. This siting would be as far away from the nearest receiver as possible	The Proponent	Construction	CEMP	Minimise noise complaints
8.	Operational noise exceedance	Compliance	• Further noise assessment would be required to be carried out on the turbine ultimately selected for construction and on the final layout proposed taking into account any minor changes in turbine location to ensure compliance with SA EPA noise guidelines	Noise consultant	Post final site layout and turbine selection	DoP DECC	Compliance with SA EPA noise guidelines
9.	Noise exceedance	Compliance	• Develop and implement an operational noise compliance testing program.	Noise consultant	Once all turbines are operational	DoP DECC	Compliance with SA EPA noise guidelines
10.	Noise exceedance	Compliance	• If operational monitoring identifies exceedances, the Proponent would give consideration to providing mechanical ventilation (to remove requirement for open windows), building acoustic treatments (improved glazing) or using turbine control features to manage excessive noise under particular conditions.	The Proponent	Once all turbines are operational	DoP DECC	Compliance with SA EPA noise guidelines

7.1.3 Biodiversity

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
11. Mod	Loss of biodiversity value	Avoid direct and indirect impact	• Infrastructure (including turbines, powerlines, access roads, construction works areas and crane pads) would be located to avoid dense woodland/forest, impacts to woodland/forest in all other cases would be minimised through rigid site controls established in the CEMP to minimise clearing. Any loss of native vegetation would be offset in accordance with SoC16.	The Proponent	Development of site layout	DoP DECC	Minimise clearing
12. Mod	Loss of biodiversity value	Minimise impact	• The Proponent would locate the electricity corridor required at the Gurrundah property using Option 2 (as shown in figure 7-10 of the EA). The width of the corridor would be minimised and impacts to native vegetation offset in accordance with SoC16.	The Proponent	During construction	DoP DECC	Minimise clearing of mature vegetation
13. Mod	Loss of biodiversity value	Avoid direct and indirect impact	• Impacts to isolated mature trees (>60cm diameter at breast height) in cleared areas would be minimised through rigid site controls established in the CEMP to minimise clearing. Where trees cannot be avoided these would be offset in accordance with SoC16.	The Proponent	Development of site layout	DoP DECC	Minimise clearing of mature vegetation
14.	Loss of biodiversity value	Avoid direct and indirect impact	• The final infrastructure layout would avoid areas identified as constraints (refer to constraints maps, Figures 7-6 – 7-9 this EA, and Attachment 3.3)	The Proponent	Development of site layout	DoP DECC	Adherence to biodiversity constraints maps
15.	Loss of biodiversity value	Avoid direct and indirect impact	• A flora assessment would be conducted as part of the construction environmental management plan, to microsite infrastructure such as tracks away from better quality patches of understorey.	The Proponent	During construction	ER	Adherence to flora assessment recommendat ions
16. Mod	Loss of biodiversity value	Compensate for biodiversity impact	• The Proponent would commit to offsets determined by suitably qualified experts on the basis of the quantum of vegetation to be removed, pending development of the final infrastructure layout. The offset plan would be established in perpetuity.	The Proponent	During construction	DoP DECC	Biodiversity Assessment used as guidance to determine appropriate offsets

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
17.	Loss of biodiversity value	Minimise impact	• Weed and sediment erosion controls would be implemented to prevent onsite habitat degradation during and following the proposed works. A Construction Environmental Plan would be the appropriate vehicle for these controls. Weeds such as serrated tussock would be treated before the commencement of works to avoid spreading the infestation	The Proponent	During construction	DoP DECC	Minimise indirect biodiversity impacts
18.	Loss of biodiversity value	Minimise impact	• All areas of disturbed soil would be rehabilitated progressively as soon as practicable after disturbance, in order to resist erosion and colonisation by weeds. This may require restricting stock access and implementing revegetation activities	The Proponent	During construction	DoP DECC	Rapid rehabilitation of disturbed areas
19. Mod	Loss of biodiversity value	Minimise impact	• Where the initial monitoring program demonstrates a need, the Proponent will liaise with landowners to negotiate to fill in dams within 100m of a turbine on involved properties to reduce the potential to attract birds and bats which might collide with turbines. Dams removed due to site development would be reinstated in more appropriate locations to retain this habitat resource onsite.	The Proponent	During construction	DoP DECC	Minimise bird and bat collisions
20. Mod	Loss of biodiversity value	Avoid or minimise impact	• Final site inspections would be undertaken for the electricity corridor between Pomeroy and Gurrundah to allow micro-siting of the corridor in areas of least vegetation. If the alternative access off Prices Lane to Pomeroy becomes the preferred option and also if the western access option (a paper road) to Gurrundah becomes the preferred option final inspections would also be undertaken in these areas.	Ecological consultant	Prior to construction	DoP DECC	Minimise direct biodiversity impact

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
21. Mod	Loss of biodiversity value	Minimise impact	Implementation of design measures: • Aviation lighting would be minimised in number and fitted to reduce their ability to attract migrating birds and insects. Red lights are preferred, with the least number of flashes per minute. Cowls may also shield the light when viewed from the ground and reduce potential to attract wetland birds taking off at dusk • Guy lines would not be fitted to wind turbine towers. Guy lines will be avoided on other associated structures, where practical. • The turbine towers would not provide perching opportunities • Electrical connection lines would be installed underground where practical • Power poles and overhead powerlines would be designed to be bird-safe using measures such as flags or marker balls, large wire size, wire insulation, wire and conductor spacing	The Proponent	During infrastructure and materials selection	DoP DECC	Minimise bird and bat collisions
22.	Loss of biodiversity value	Minimise impact	Pest Animal Control Program • To reduce the attractiveness of the site to foraging raptors, rabbits would be controlled on the turbine ridges, carrion would be removed from the site as quickly as possible	The Proponent	During operation	DoP DECC	Minimise bird and bat collisions
23. Mod	Loss of biodiversity value	Minimise impact	Bird and Bat Monitoring Program • Pre-construction surveying would be undertaken to assist in managing bird and bat impacts (Powerful Owl would be a key species in this Pre-construction surveying). Results would be incorporated into the ongoing monitoring program • A monitoring program would be designed to document mortalities, remove carcasses and assess the effectiveness of controls in accordance with Section 9.3.1 • If mortalities exceed a pre-determined threshold (set out in the monitoring program), additional mitigation measures would be considered, such as diversion structures, turning off turbines at critical times, further habitat modification and enhancement of off-site habitats	Ecological consultant	Designed prior to operation Implemented during operation	DoP DECC	Minimise bird and bat collisions

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
24.	Loss of biodiversity value	Avoid or minimise impact	• A flora and fauna assessment would be undertaken prior to decommissioning to identify biodiversity constraints.	Ecological consultant	Prior to decommissioning	DoP DECC	Minimise biodiversity impact
25.	Loss of biodiversity value	Avoid or minimise impact	• Weed and sediment erosion control principles would be developed and implemented	Ecological consultant and the Proponent	Prior to decommissioning	DoP DECC	Minimise indirect biodiversity impacts
26. Mod	Loss of biodiversity value	Avoid or minimise impact	• Disturbed ground would be stabilised and rehabilitated following works	The Proponent	After decommissioning	DoP DECC	Rapid rehabilitation of disturbed areas

7.1.4 Aboriginal archaeology

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
27.	Loss of Aboriginal heritage items	Minimise impact	• The Pejar LALC propose to collect artefacts located within proposed impact areas as a form of mitigation prior to the commencement of construction	Pejar LALC in consultation with the Proponent	Prior to construction	DoP	Liaison with Pejar LALC
28.	Loss of Aboriginal heritage items	Minimise impact	• An Aboriginal Heritage Management Plan would be prepared, pending Project Approval and prior to any impact, which outlines the strategy of artefact collection, s85A NPW Act (transfer of Aboriginal objects) procedures, and contingencies for unexpected finds such as skeletal remains.	The Proponent	Prior to construction	DoP	Liaison with Archaeologist

7.1.5 Aircraft hazards

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
29.	Creation of hazard	Minimise risk	• The Proponent would install obstacle marking as required by CASA.	The Proponent	During construction	DoP in consultation with CASA	CASA signoff
30.	Creation of hazard	Minimise risk	• The Proponent would provide to the RAAF Aeronautical Information Service (AIS), CASA and Air Services Australia the location and height details once the final position of the wind turbines have been determined and before construction commences. After construction is complete, "as constructed" details would also be provided to AIS	The Proponent	Prior to construction	DoP in consultation with RAAF	Signoff by AIS and Air Services Australia
31. Mod	Creation of hazard	Minimise risk	• The Proponent would notify known users of the Crookwell and Ashwell Airstrips of the location of the wind turbines and any changes to operational procedures. The Proponent, with assistance from its specialist aviation consultant would assist the aerodrome operator and/or local aircraft operators to develop or amend procedures for safe operations on or within the vicinity of the aerodrome, taking into account the location of the turbine.	The Proponent	Prior to construction	DoP	Direct notification of users
32.	Creation of hazard	Minimise risk	• The Proponent would notify other operational information providers such as the Aircraft Owners and Operators Association and Flight Ace of the location of wind turbines in close proximity to Crookwell and Ashwell Airstrips	The Proponent	Prior to construction	DoP	Direct notification of operational information providers
33.	Creation of hazard	Minimise risk	• A briefing sheet including a description and an aerial view of the proposed development, expected construction times, extent of the development, lighting, likely operational impacts and contact details of the developer would be distributed widely.	The Proponent	Prior to construction	DoP	Advertised through local channels

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
34.	Creation of hazard	Minimise risk	The Proponent would provide the following advice to the relevant stakeholders, prompting them to undertake the specified actions: • That Crookwell Airstrip consider formalising guidance to airstrip users regarding takeoff and landing procedures giving due consideration to the location of wind turbines and other obstacles, surrounding terrain, aircraft performance, prevailing conditions, runway physical characteristics, regulatory requirements and any other operational limitations • That Upper Lachlan Shire Council's Information Sheet for Crookwell Airstrip be updated to include reference to the location of wind turbines in close proximity to the airstrip	The Proponent	Prior to construction	DoP	Direct communication

7.1.6 Communications

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
35.	Deterioration of signal strength	No deterioration of signal strength	Television and radio broadcast services • Use of primarily non-metallic turbine blades • Use, wherever practical, of equipment complying with the Electromagnetic Emission Standard, AS/NZS 4251.2:1999	The Proponent	Prior to construction	DoP	Adherence to standard

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
36. Mod	Deterioration of signal strength	No deterioration of signal strength	Television and radio broadcast services • Prior to the erection of any wind turbine generators on the site, the Proponent will undertake an assessment of the existing quality of the television/radio transmission available at a representative sample of residential dwellings located within five kilometres of a wind turbine. • The Proponent will undertake further assessment of television/radio reception following commencement of operation to determine any loss in television signal. • In the event that television interference (TVI) is experienced by existing receivers in the vicinity of the wind farm, the source and nature of the interference would be investigated by the Proponent. • Should investigations determine that the cause of the interference can be reasonably attributable to the wind farm, the Proponent would put in place mitigation measures at each of the affected receivers in consultation and agreement with the landowners. Specific mitigation measures may include: • Modification to, or replacement of receiving antenna • Provision of a land line between the effected receiver and an antenna located in an area of favourable reception • Improvement of the existing antenna system • Installation of a digital set top box or • In the event that interference cannot be overcome by other means, negotiating an arrangement for the installation and maintenance of a satellite receiving antenna at the Proponents cost	The Proponent	Prior to construction and commencement of operation	DoP	No detected deterioration in signal strength, post mitigation
37.	Deterioration of signal strength	No deterioration of signal strength	Mobile phone (and wireless broadband) services • The Proponent will consult with Wirefree to avoid impacts to wireless broadband service	The Proponent	At the commencement of construction	DoP	Direct consultation

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
38.	Deterioration of signal strength	No deterioration of signal strength	Radio communications services • The Proponent has made provisions for a 100m corridor for the RFS links from Mt Martin to Mt Gray. In the event that any issues with license links are identified as a result of the wind farm, whether prior to or post construction, the proponent would consult with the operator and undertake appropriate remedial measures, which may include: • Modifications to or relocation of the existing antennae • Installation of a directional antennae and/or • Installation of an amplifier to boost the signal	The Proponent	At the commencement of operation	DoP	No detected deterioration in signal strength, post mitigation

7.1.7 Electromagnetic fields (EMFs)

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
39.	Exposure from EMFs	Minimise exposure	• The substation would be designed in accordance with all applicable codes and industry best practice standards in Australia	The Proponent	Pre construction design phase	DoP	Adherence to standard
40.	Exposure from EMFs	Minimise exposure	• The turbines, control building, substation and transmission lines would be located at appropriate distances from residences, farm shed and yards in order to reduce the potential for both chronic and acute exposure	The Proponent	Pre construction design phase	DoP	Adherence to ARPANSA guidelines

7.1.8 Traffic and transport

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
			General measures:				
41.	Safety and asset protection	Minimise risks	• Use of a licensed haulage contractor with experience in transporting similar loads, to be responsible for obtaining all required approvals and permits from the RTA and Councils and for complying with conditions specified in the approvals	The Proponent	Prior to construction	CEMP	Written confirmation of license and experience, including referees
42.	Safety and asset protection	Minimise risks	• Development of a **Traffic Management Plan** to include scheduling of deliveries, managing timing of transport through Goulburn and Crookwell to avoid peak hours (beginning/end of the school day), limiting the number of trips per day, undertaking community consultation before and during all haulage activities (including with neighbouring landowners and landowners adjoining access roads), designing and implementing temporary modifications to intersections and street furniture , restoring all changes to their original condition and managing the haulage process	The Proponent	Prior to construction	CEMP	Develop TMP in accordance with Traffic Impact Study, Attachment 3.7
43.	Safety and asset protection	Minimise risks	• Implementation of all aspects of the **Traffic Management Plan** in coordination with the Councils and RTA	The Proponent	During construction	CEMP	Adherence to TMP
44.	Safety and asset protection	Minimise risks	• Providing a dedicated telephone contacts list to enable any issues or concerns to be rapidly identified and addressed	The Proponent	Prior to construction	CEMP	Rapid response to queries
45.	Safety and asset protection	Minimise risks	• Installing required signage to direct traffic flows appropriately during haulage through Goulburn and Crookwell	The Proponent	During construction	CEMP	Timely provision of signage

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
46.	Safety and asset protection	Minimise risks	• Reinstating pre-existing conditions after temporary modifications to the roads and pavement along the route.	The Proponent	During construction	CEMP	Dilapidation report adhered to
47.	Safety and asset protection	Minimise risks	• Undertaking forward planning to ensure equipment transportation complies with requirements of the management plan, RTA and Council	The Proponent	Prior to construction	CEMP	Minimise complaints from road users and risks associated with transport
48.	Safety and asset protection	Minimise risks	• The extent of road upgrades, including realignments and paving upgrades, would be determined by a qualified traffic consultant, in consultation with the RTA and Council	The Proponent	During construction	CEMP	Minimise complaints from road users and risks associated with transport
49.	Safety and asset protection	Minimise risks	• The Proponent would prepare road dilapidation reports covering pavement and drainage structures in consultation with Council, for the construction (and decommissioning) route prior to the commencement of construction (and decommissioning) and after construction (and decommissioning) is complete. Any damage resulting from the construction (or decommissioning) traffic, except that resulting from normal wear and tear, would be repaired at the Proponent's cost. Alternatively, the Proponent may negotiate an alternative for road damage with the relevant roads authority. The decision to provide a seal needs to be balanced against the cost of maintenance on the gravel surface. • Road condition would be inspected throughout construction to ensure that impacts are addressed as they occur. This would be undertaken at regular intervals by the site manager and council roads engineer	The Proponent in consultation with Council	Prior to construction	CEMP	Dilapidation report adhered to Ongoing contact with roads authorities

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
50.	Safety and asset protection	Minimise risks	• A speed limit would be placed on some of the roads near dwellings or sub standard junctions. The speed restriction would be included in the **Traffic Management Plan** to be submitted to Council	The Proponent in consultation with Council and RTA	Prior to construction	CEMP	Adherence to TMP
51.	Safety and asset protection	Minimise risks	• A procedure would be established to monitor the traffic impacts during construction, such as noise, dust nuisance and travel times and work methods modified to reduce the impacts	The Proponent	Prior to construction	CEMP	Minimise complaints from road users and risks associated with transport
52.	Safety and asset protection	Minimise risks	• A procedure would be established to inform vehicle operators on the precise timing of school buses	The Proponent	Prior to construction	CEMP	Protocols set out in CEMP
53.	Safety and asset protection	Minimise risks	• Regular monitoring and scheduled maintenance of gravel pavements such as grading, dust suppression and drainage control would take place during the construction period	The Proponent	Construction	CEMP	Protocols set out in CEMP
54.	Safety and asset protection	Minimise risks	• Signposting to warn horse riders of construction traffic and slashing of vegetation from verges on the Bi-Centennial Route to allow horses to move off the road when vehicles approach	The Proponent in consultation with Council	Prior to construction	CEMP	Timely provision of signage
			Additional location specific measures				
55.	Safety and asset protection	Minimise risks	*Hume Highway Junction at Breadalbane* • Speed controls. The Roads and Traffic Authority are generally not in favour of speed restrictions on the Hume Highway because of the loss in efficiency of the route. However, the use of speed controls for specific short-term activities may be included in a traffic control plan or other temporary traffic control measures	The Proponent in consultation with RTA	Prior to construction	CEMP	Adherence to TMP

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
56.	Safety and asset protection	Minimise risks	*Crookwell Road* • The business owners, retailers etc in the main street of Crookwell would be made aware of the timing for heavy, over-mass and over-dimensional vehicles	The Proponent	Prior to construction	CEMP	Timely notification
57.	Safety and asset protection	Minimise risks	*Grabben Gullen Road* • The junction is to be designed and constructed in consultation with Upper Lachlan Shire Council and the Roads and Traffic Authority	The Proponent	Prior to construction	CEMP	Adherence to TMP
58.	Safety and asset protection	Minimise risks	*Range Road* • The new junction required to be constructed on Range Road would be designed and constructed in consultation with Upper Lachlan Shire Council	The Proponent in consultation with RTA	Prior to construction	CEMP	Adherence to TMP
59.	Safety and asset protection	Minimise risks	*Gurrundah Road* The new junction required to be constructed on Range Road would be designed and constructed in consultation with Upper Lachlan Shire Council	The Proponent in consultation with RTA	Prior to construction	CEMP	Adherence to TMP
60.	Safety and asset protection	Minimise risks	*Range Road* • Consideration would be given to the reconstruction and sealing of the 1.8km length of unsealed pavement which would include the proposed junctions	The Proponent in consultation with RTA	Prior to construction	CEMP	Adherence to TMP
61.	Safety and asset protection	Minimise risks	*Range Road* • The shadow flicker effects would be monitored following commissioning and any remedial measures to address concerns would be developed in consultation with the RTA and the Department of Planning	The Proponent	Operation	CEMP	Shadow flicker controlled (via roadside planting if required)
62.	Safety and asset protection	Minimise risks	*Bannister Lane, Storriers Lane, Prices Lane* • A program would be established to consult with all of the road users and residents in the area particularly those living in the residences close to the roads	The Proponent in consultation with RTA and Council	Prior to construction	CEMP	Timely notification and consultation

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
63.	Safety and asset protection	Minimise risks	*Gurrundah Road* • The junction is to be designed and constructed in consultation with Upper Lachlan Shire Council	The Proponent in consultation with Council	Prior to construction	CEMP	Adherence to TMP
64.	Safety and asset protection	Minimise risks	*Breadalbane to Gurrundah Road* • A procedure would be established for all over-dimensioned vehicles associated with the Gullen Range wind farm project to make contact with a railway service to establish approximate timing of trains so that crossings could be made during the safer periods. The need to always visually check for the approach of trains would be stressed to vehicle operators	The Proponent	Prior to construction	CEMP	Adherence to TMP

7.1.9 Fire and bushfire impacts

	Impact	Objective	Mitigation tasks	By	Timing	Auditing	Criteria
65.	Increase risk of fire ignition or spread	Minimise risks	• The Rural Fire Service and NSW Fire Brigade would be consulted in regard to the adequacy of bushfire prevention measures to be implemented on site during construction, operation and decommissioning. These measures would in particular cover hot-work procedures, asset protection zones, safety, communication, site access and response protocols in the event of a fire originating in the wind farm infrastructure, or in the event of an external wildfire threatening the wind farm or nearby properties	The Proponent	Prior to construction	DoP	Timely notification and consultation
66.	Increase risk of fire ignition or spread	Minimise risks	• Flammable materials and ignition sources brought onto the site, such as hydrocarbons, would be handled and stored as per manufacturer's instructions	The Proponent	During construction	CEMP	Adherence to safety protocols set out in CEMP