

**DETERMINATION OF A DEVELOPMENT APPLICATION FOR STATE SIGNIFICANT, DESIGNATED
AND INTEGRATED DEVELOPMENT UNDER SECTION 80 OF
THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979**

I, the Minister for Infrastructure and Planning, under Section 80 of the *Environmental Planning and Assessment Act 1979* ("the Act"), determine the development application ("the Application") referred to in Schedule 1 by granting consent subject to the conditions set out in Schedule 2.

The reason for the imposition of conditions is to:

- (i) Prevent, minimise, and/or offset adverse environmental impacts;
- (ii) Set standards and performance measures, and mechanisms to set such standards and performance measures for acceptable environmental performance;
- (iii) Require regular monitoring and reporting; and
- (iv) Provide for the on-going environmental management of the development.



**Craig Knowles MP
Minister for Infrastructure and Planning
Minister for Natural Resources**

Sydney

10-6-2005

File No. S03/03276/Z Pt 1

SCHEDULE 1

Development Application:	DA-176-8-2004-i.
Applicant:	Gamesa Crookwell Pty Ltd and Crookwell Development Pty Ltd ("the applicant")
Consent Authority:	Minister for Infrastructure and Planning ("the Minister")
Land:	Part Portions 6, 9, 137 DP 750042 Portions 7, 8, 13 DP 750042 Lot 249 DP 438523 Lot 1 DP 79580 Lots 44, 45 Conveyance No. 778, Book 2472 Lot 2 DP 1000305 Lot 28 DP 252214 Lot 2 DP 865814 Lot 1 DP 865813 Lots 91, 140, 214 DP 750042 Lot 41 DP 999621 Right of Carriageway over Lot 18, DP 252214 Conveyance No. 622, Book 3377
Proposed Development:	Construction and operation of a wind farm consisting of 55 x 2 Mega Watt turbines and associated infrastructure, as described in the <i>Crookwell II Wind Farm Environmental Impact Statement</i> (three volumes) prepared by URS, dated July 2004. <i>Note: The Conditions of this Consent have the effect of reducing the number of turbines to a maximum of 50. Of these 50 turbines, 4 will require further development consents before they may be constructed.</i>
State Significant Development	On 16 February 2004, in accordance to section 76A of the <i>Environmental Planning and Assessment Act, 1979</i> (the EP&A Act), the NSW Minister for Infrastructure and Planning declared that the proposal was to be assessed as State Significant (as a proposed wind farm of 60MW or greater capacity), by notice in the gazette.
Integrated Development:	The proposal is classified as integrated development, under Section 91 of the EP&A Act, because it requires additional approvals from the Department of Environment and Conservation under the <i>Protection of the Environment Operations Act 1997</i> and the <i>National Parks and Wildlife Act 1974</i> , the Department of Infrastructure, Planning and Natural

Resources under the *Rivers and Foreshores Improvement Act 1948*, the Roads and Traffic Authority under the *Roads Act 1993*, and the Department of Lands, under the *Roads Act 1993*.

Designated Development:

The proposal is classified as designated development, under Clause 18(1)(c) of Schedule 3 of the *Environmental Planning & Assessment Regulation 2000*, because it constitutes an electricity generating station which will supply, or is capable of supplying more than 30MW of electrical power.

Lapsing of Consent

Under Section 95(2) of the Act, this consent lapses three (3) years after the date from which it operates.

Note:

- (1) To find out when this consent becomes effective, see Section 83 of the Act;
- (2) To find out about appeal rights, see Section 97 of the Act.

SCHEDULE 2

In this consent, except in so far as the context or subject-matter otherwise indicates or requires, the following terms have the meanings indicated:

Act	<i>Environmental Planning and Assessment Act, 1979</i>
Applicant	Gamesa Crookwell Pty Ltd and Crookwell Development Pty Ltd, known as the Wind Farm Joint Venture
AHD	Australian Height Datum
BCA	Building Code of Australia
CASA	Civil Aviation Safety Authority
CIP	Community Information Plan
commissioning	commencement of testing and connection of any individual turbine(s) and may include concurrent ongoing construction activities
Conditions of Consent	The conditions set out in this Schedule
Consent	The Consent granted by the Minister for Infrastructure and Planning to the development described in Schedule 1
CEMP	Construction Environmental Management Plan
construction	any activity requiring a Construction Certificate, the laying of a slab or significant excavation work
Council	Upper Lachlan Council
Crookwell Road	State Road 54
dB(A)	decibel (A-weighted scale)
the Department	NSW Department of Infrastructure, Planning and Natural Resources
development	the development to which this consent applies, the scope of which is described in the documents listed under Condition 2 of this consent
DEC	NSW Department of Environment and Conservation (incorporates the former NSW Environment Protection Authority and National Parks and Wildlife Service)
DIPNR	the Department
Director General	Director General of the NSW Department of Infrastructure, Planning and Natural Resources, or delegate
dust	any solid material that may become suspended in air or deposited
EIS	Environmental Impact Statement entitled <i>Crookwell II Wind Farm Environmental Impact Statement</i> (three volumes) prepared by URS, dated July 2004
EPA	NSW Environment Protection Authority (now incorporated into the DEC)
EPL	Licence issued under the <i>Protection of the Environment Operations Act, 1997</i>
L _{Aeq} (15-minute)	equivalent average sound pressure level that is measured over a 15 minute period
L _{A1} (1-minute)	equivalent average sound pressure level that is measured over a 1 minute period
Minister	NSW Minister for Infrastructure and Planning, or delegate
NPW Act	<i>National Parks & Wildlife Act, 1974</i>
OEMP	Operational Environmental Management Plan
Operation	Within three months of the commencement of commissioning, unless otherwise agreed to by the Director General

POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Premises	Sub-areas of the site, as consistent with the relevant DEC licence.
Principal Certifying Authority	the Minister or an accredited certifier, appointed under section 109E of the Act, to issue a Part 4A Certificate as provided under section 109C of the Act
Reasonable and feasible	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Regulation	<i>Environmental Planning and Assessment Regulation, 2000</i>
Relevant Government Agencies	DEC, DIPNR, Lands Department, RTA
RFS	Rural Fire Service
RTA	Roads and Traffic Authority
SCA	Sydney Catchment Authority
site	the land to which this consent applies
SA Guidelines	the South Australian Environmental Protection Authority's <i>Wind Farms: Environmental Noise Guidelines</i> (2003)

GENERAL CONDITIONS

Obligations to Minimise Harm to the Environment

- 1 The Applicant must implement all practicable measures to prevent or minimise any harm to the environment that may result from the construction, commissioning, operation and decommissioning of the development.

Scope of Development

- 2 ¹The Applicant must carry out the development generally in accordance with the following documents:
 - (a) Development Application No. DA-176-8-2004-i; lodged with the Department of Infrastructure, Planning and Natural Resources on 2 August 2004;
 - (b) *Crookwell II Wind Farm Environmental Impact Statement* (three volumes) prepared by URS, dated July 2004
 - (c) *Proposed Crookwell II Wind Farm: Response to DIPNR Questions*, URS, dated 25 October 2004;
 - (d) *Crookwell II NIA Response to EPA Queries*, Richard Heggie Associates, dated 1 September 2004;
 - (e) *Crookwell II Response to DEC Queries and Concawe Verification Study*, Richard Heggie Associates, dated 10 September 2004;
 - (f) *Crookwell II NIA – Follow Up Response to DEC Queries*, Richard Heggie Associates, 22 September 2004;
 - (g) Email and documentation from TME Australia, entitled *Location A – Pejar Park Noise Acceptability Assessment Noise Agreement Turbines Removed*, and *Location M – Normaroo, Noise Acceptability Assessment Noise Agreement Turbines Removed*, dated 5 January 2005;
 - (h) *Crookwell II Wind Farm Additional Raptor Survey Assessment*, URS, 12 November 2004;
 - (i) *Crookwell II Wind Farm 8 Part Test – Swift Parrot (lathamus discolor)*, URS, 15 November 2004;
 - (j) *Crookwell II Wind Farm Spring Reptiles Survey*, URS, 22 December 2004;
 - (k) *Results of an Early Summer Survey for Bats at the Proposed Crookwell 2 Wind Farm, Crookwell, NSW*, Glen Hoyer, Fly By Night Bat Surveys Pty Ltd, January 2005;
 - (l) Memorandum from URS to Gamesa Energy Australia, *Crookwell II Wind Farm Shadow Flicker Assessment*, dated 16 December 2004;
 - (m) Email from Gamesa Energy Australia to the Department entitled *Fire Risk Issues – Crookwell II*, dated 22 December 2004;
 - (n) Memorandum from URS to Gamesa Energy Australia entitled *Crookwell II – Aerial Spraying*, dated 15 February 2005;
 - (o) Crookwell 2 Site Map, Revision 1, dated 03/03/05 by TME Australia Pty Ltd; and
 - (p) Conditions of this Consent.

If there is any inconsistency between the Conditions of this Consent and a document listed above, the Conditions of this Consent must prevail to the extent of the inconsistency. If there is

¹ Incorporates DEC General Term of Approval (A1.1)

any inconsistency between documents listed above (other than the Conditions of this Consent) then the most recent document must prevail to the extent of the inconsistency.

- 3 Under section 80(4) and (5) of the Act, this development must be staged subject to the requirements specified under Conditions 4 through to 7 of this consent.
- 4 All turbines apart from G1, G2, G3, G4, G5, F13, F14, F15 and F49 (as defined in the map titled Crookwell 2 Site Map, Revision 1, dated 03/03/05 by TME Australia Pty Ltd) may be constructed in accordance with this consent (Stage 1). Turbines G1, G2, G3, G4 and G5 may not be constructed.
- 5 Under Section 80(5) of the Act, turbines F13, F14 and F15 (Stage 2) must be the subject of another development consent. In considering whether to grant development consent to Stage 2 the Minister must consider the following information which must be provided by the Applicant, to the satisfaction of the Director General:
 - (a) a road safety investigation in relation to turbine F13, demonstrating that it does not pose a significant distraction to motorists using Crookwell Road; and
 - (b) a written agreement between the Applicant and the owners of the property of Elmgrove, for the Applicant to provide at no cost to the owners:
 - (i) noise mitigation measures to alleviate noise from the Crookwell and Crookwell II Wind Farms including but not limited to noise mitigation of the dwelling of Elmgrove, and additional landscaping to mitigate the visual impacts of Crookwell and Crookwell II Wind Farms; and/or
 - (ii) other offsets acceptable to the owner of the property of Elmgrove; or
 - (c) in the event that a written agreement as identified in (b) is unable to be obtained, the Applicant may submit a report outlining the level of consultation, details of the offer of mitigation to the owner of Elmgrove property and the outstanding concerns of the owner of Elmgrove property, for the Director General's consideration.
- 6 Under Section 80(5) of the Act, turbine F49 (Stage 3) must be the subject of another development consent. In considering whether to grant development consent for Stage 3, the Minister must consider the following information which must be provided by the Applicant to the satisfaction of the Director General:
 - (a) a study identifying an alternative location for turbine F49 that is: no further than 250 metres from the location identified in the map titled Crookwell 2 Site Map, Revision 1, dated 03/03/05 by TME Australia Pty Ltd; and is located as far as practicable from the top of Pigmans Hill (within the constraints of this condition); and
 - (b) information on noise, shadow flicker, cultural heritage, flora and fauna, electromagnetic interference, road safety (in relation to motorists using Woodhouselee Road) and visual impacts of turbine F49 at the alternative location identified by the study described in a). This additional information must include photomontages from key viewpoints and the nearest residences.
- 7 Without limiting the requirements of Conditions 5 and 6, any document required to be prepared under these conditions may address the issues associated with turbines F49, F13-F15 prior to a consent issued under Conditions 5 and 6 provided that :

- (i) in preparing, consulting or seeking approval of any document required under these conditions of consent, the status of the consent to turbines F49, F13-F15 is clearly identified; and
- (ii) nothing in the document has a dependency or is reliant upon the construction or operation of these turbines. That is, the absence of any or all of these turbines would not in any way limit, restrict or constrain the level of impact mitigation and management measures proposed should any or all of these turbines not be given consent.

Should consent be granted to any of the turbines F49, F13-F15, the Applicant may also elect to obtain written confirmation from the Director General, relevant government agencies and/or Council (as appropriate), that issues relating to any of these turbines have been adequately addressed in any documents submitted prior to the consent of any of these turbines.

Note:

The purpose of this condition is to enable the Applicant to address in detail any potential cumulative impacts and issues of the windfarm which includes F49 and F13-F15. It would also minimise the extent of potential additional documentation review that may be required by relevant government agencies and Council should consent be granted for any of all of these turbines without necessarily pre-empting a decision on these turbines.

- 8 An application for approval of Stage 3 is not dependant on the application for Stage 2. That is, there are no inter-dependencies for an application for approval of either Stage 2 or Stage 3.

Note: Conditions 5 and 6 do not require the Applicant to make a further development application as part of seeking the consent of the Minister for Stage 2 and/or Stage 3. However, the Applicant would be required to prepare additional information to support the request to proceed to Stage 2 and/or Stage 3, to the satisfaction of the Director General. The form and content of the additional information would be determined by the Director General, in consultation with the DEC and the Upper Lachlan Council. Any application for consent will be subject to an appropriate degree of public consultation including, as a minimum, with impacted neighbours and subject to conditions consistent with this consent.

Statutory Requirements

- 9 The Applicant must ensure that all necessary licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the development. No Condition of this Consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals.

Dispute Resolution

- 10 In the event that a dispute arises between the Applicant and Council or the Applicant and a public authority other than the Department, in relation to a specification or requirement applicable under this Consent, the matter must be referred by either party to the Director General, or if not resolved, to the Minister, whose determination of the dispute must be final and binding on all parties. For the purpose of this condition, "public authority" has the same meaning as provided under Section 4 of the Act.

Note: Section 121 of the *Environmental Planning and Assessment Act 1979* provides mechanisms for resolution of disputes between the Department, the Director General, councils and public authorities.

Provision and Protection of Public Infrastructure

- 11 The Applicant must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: The Applicant must ensure that all works are carried out in accordance with the *Environmental Planning and Assessment Act 1979* (the Act) and the *Local Government Act 1993 (Approvals) Regulations* and the *Building Code of Australia*.

Compliance

General

- 12 The Applicant must be responsible for environmental impacts resulting from the actions of all persons on site, including contractors, subcontractors and visitors.

Pre-Construction Compliance Report

- 13 The Applicant must submit a Pre-Construction Compliance Report to the Director General at least two weeks prior to the commencement of construction (or within a time agreed to by the Director General). The Pre-Construction Compliance Report must include:
- (a) details of how the Conditions of Consent required to be addressed prior to construction have been complied with;
 - (b) details of when each relevant Condition of Consent was complied with, including submission dates of any required report and/or approval dates; and
 - (c) details of any approvals or licences required to be issued by relevant Government Agencies prior to the commencement of construction.

Pre-Operation Compliance Report

- 14 The Applicant must submit a Pre-Operation Compliance Report to the Director General at least two weeks prior to the commencement of operation (or within a time agreed to by the Director General). The Pre-Operation Compliance Report must include:
- (a) details of how the Conditions of Consent required to be addressed prior to commencement of operation have been complied with;
 - (b) details of when each relevant Condition of Consent was complied with, including submission dates of any required report and/or approval dates; and
 - (c) details of any approvals or licences required to be issued by relevant Government Agencies prior to the commencement of operation.

Construction Compliance Report

- 15 The Applicant must provide the Director General with a Construction Compliance Report. The Environmental Representative must certify the adequacy of the report before it is submitted to the Director General. The Construction Compliance Report must address the first six months of construction and be submitted within six weeks of the end of that reporting period (or at any other time interval agreed to by the Director General).

The Construction Compliance Report must include information on:

- (a) compliance with the CEMP and the Conditions of Consent;
- (b) compliance with any approvals or licences issued by relevant Government Agencies for Construction;
- (c) the implementation and effectiveness of environmental controls. The assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP;
- (d) a summary and analysis of environmental monitoring results;
- (e) the number and details of any complaints, including a summary of the main areas of complaint, action taken, response given and intended strategies to reduce recurring complaints;
- (f) details of any review and amendments to the CEMP resulting from construction during the reporting period; and
- (g) any other matter relating to compliance with the Conditions of Consent or as requested by the Director General.

The *Construction Compliance Report* must be made publicly available.

- 16 The Director General may require update report(s) on compliance with all, or any part, of the Conditions of Consent. The report (s) must meet the requirements of the Director General and be submitted within such period as the Director General may require.
- 17 The Applicant must meet the requirements of the Director General in respect of the implementation of any measure necessary to ensure compliance with the Conditions of Consent, and general consistency with the documents listed under Condition No. 2 of this Consent. The Director General may direct that such a measure be implemented in response to the information contained within any report, plan, correspondence or other document submitted in accordance with the Conditions of Consent, within such time as the Director General may require.

Construction and Part 4A Certification

- 18 Prior to the commencement of construction associated with the development, the Applicant must erect at least two signs at the construction site and in a prominent place at the site boundary where the signs can be viewed from the nearest public place. The signs must indicate:
- (a) the name, address and telephone number of the Principal Certifying Authority;
 - (b) the name of the person in charge of the construction site and telephone number at which the person may be contacted outside working hours; and
 - (c) a statement that unauthorised entry to the construction site is prohibited.

The signs must be maintained for the duration of construction works, and must be removed as soon as practicable after the conclusion of the construction works.

Note: The Applicant must ensure that all works are carried out in accordance with the *Environmental Planning and Assessment Act 1979* (the Act) and the *Local Government Act 1993 (Approvals) Regulations* and the *Building Code of Australia*.

Environmental Monitoring

General Monitoring Requirements

- 19 ²The Applicant must undertake all monitoring, including recording and reporting of monitoring results, as required under this consent and as may be specified in an Environment Protection Licence for the development.
- 20 ³The results of any monitoring required under this consent must be recorded and maintained, as set out below. All records kept must be:
- (a) in a legible form, or in a form which can be readily reduced to a legible form;
 - (b) kept for at least 4 years after the monitoring or event to which they relate took place; and
 - (c) produced in a legible form to any authorised officer of the DEC or the Department who asks to see them.
- 21 ⁴ The following records must be kept in respect of any samples required to be collected:
- (a) the date(s) on which the sample was taken;
 - (b) the time(s) at which the sample was collected;
 - (c) the location at which the sample was taken (including a description of the DEC identification point); and
 - (d) the name of the person who collected the sample.

Environmental Impact Audits

Environmental Impact Audit Report – Construction

- 22 An Environmental Impact Audit Report - Construction must be prepared and submitted to the Director General within three months of construction completion, or at any other time interval agreed to by the Director General. If requested, the Environmental Impact Audit Report – Construction must be provided to other relevant Government Agencies.

The Environmental Impact Audit Report – Construction must:

- (a) identify the major environmental controls used during construction and assess their effectiveness;
- (b) summarise the main environmental management plans and processes implemented during construction and assess their effectiveness;

² Incorporates Department of Environment and Conservation General Terms of Approval M1.1

³ Incorporates Department of Environment and Conservation General Terms of Approval M1.2

⁴ Incorporates Department of Environment and Conservation General Terms of Approval M1.3

- (c) identify any innovations in construction methods used to improve environmental management; and
- (d) discuss the lessons learnt during construction, including recommendations for future wind farm developments.

Environmental Impact Audit Report - Operation

- 23 An Environmental Impact Audit Report - Operation must be prepared and submitted to the Director-General within three (3) months after a 24 month period of operation and then at any additional periods requested by the Director-General. If requested, the Environmental Impact Audit Report – Operation must be provided to other relevant Government Agencies and Council.

The Environmental Impact Audit Report - Operation must:

- (a) be certified by an independent person at the Applicant's expense. The certifier must be approved by the Director General prior to the preparation of the Environmental Impact Audit Report – Operation;
- (b) compare the operation impact predictions made in the EIS and documents identified in Condition 2;
- (c) assess the effectiveness of implemented mitigation measures and safeguards;
- (d) assess compliance with the systems for operation maintenance and monitoring; and
- (e) discuss the results of consultation with the local community particularly any feedback or complaints.

The result of the Audit Report must also be used to update the OEMP where necessary. The need or otherwise to update the OEMP must be certified by the Environmental Representative. The Applicant must notify the Director General, Relevant Government Agencies and Council of any updates to the OEMP and provide a copy on request.

Annual Performance Reporting

- 24 ⁵The Applicant must provide an annual return to the DEC in relation to the development as required by any licence under the *Protection of the Environment Operations Act 1997*. In the annual return, the Applicant must report on the:
- (a) annual monitoring undertaken (where the activity results in pollutant discharges);
 - (b) provide a summary of complaints relating to the development;
 - (c) report on compliance with licence conditions; and
 - (d) provide a calculation of licence fees (administrative fees, and where relevant, load based fees) that are payable. If load based fees apply to the activity, the Applicant must be required to submit load-based fee calculation worksheets with the return.

ENVIRONMENTAL MANAGEMENT

Construction Environmental Management Plan

- 25 The Applicant must prepare and implement a Construction Environmental Management Plan (CEMP) to outline environmental management practices and procedures to be followed during the construction of the development. The Plan must include, but not necessarily be limited to:

⁵ Incorporates Department of Environment and Conservation General Terms of Approval R1.1

- (a) a description of all activities associated with the development to be undertaken on the site during site preparation and construction activities, including an indication of stages of construction, where relevant;
- (b) statutory and other obligations that the Applicant is required to fulfil during construction, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
- (c) details of how the environmental performance of the site preparation and construction works associated with the development will be monitored, and what actions will be taken to address adverse identified environmental impacts;
- (d) a description of the roles and responsibilities for all relevant employees involved in construction;
- (e) specific consideration of measures to address any requirements raised by the Department and the DEC during construction, including a description of measures employed to ensure compliance with the Conditions of Consent relevant to construction;
- (f) the plans required to be included in the CEMP as specified in the Conditions of Consent; and
- (g) complaints handling procedures during construction.

The CEMP must be certified by the Environmental Representative as being in accordance with the Conditions of Consents and be submitted for the approval of the Director General at least one month prior to the commencement of construction of the development, or within such a period otherwise agreed by the Director General. Site preparation and construction associated with the development must not commence until written approval for the CEMP has been received from the Director General. Upon receipt of the Director General's approval, the Applicant must supply a copy of the CEMP to the DEC and Council as soon as practicable.

Operation Environmental Management Plan

- 26 The Applicant must prepare and implement an Operation Environmental Management Plan (OEMP) to detail an environmental management framework, practices and procedures to be followed during the operation of the development. The Plan must include, but not necessarily be limited to:
- (a) identification of all statutory and other obligations that the Applicant is required to fulfil in relation to operation of the development, including all consents, licences, approvals and consultations;
 - (b) a description of the roles and responsibilities for all relevant employees involved in the operation of the development;
 - (c) overall environmental policies and principles to be applied to the operation of the development;
 - (d) standards and performance measures to be applied to the development, and a means by which environmental performance can be periodically reviewed and improved;
 - (e) management policies to ensure that environmental performance goals are met and to comply with the Conditions of Consent; and
 - (f) the Management Plans required to be included in the OEMP as specified in the Conditions of Consent.

The OEMP must be certified by the Environmental Representative that it is prepared in accordance with the Conditions of Consent. The OEMP is to be submitted for the approval of the Director General no later than one month prior to the commencement of operation, or within such period otherwise agreed to by the Director General. Operation must not commence until

written approval has been received from the Director General. Upon receipt of the Director General's approval, the Applicant must supply a copy of the OEMP to the DEC and Council as soon as practicable.

Environmental Representative

- 27 Prior to the commencement of construction, the Applicant must nominate a suitably qualified and experienced Environmental Representative(s) whose appointment requires the approval of the Director General. The Applicant must employ the Environmental Representative(s) on a full-time basis, or as otherwise agreed by the Director General, during the construction, and commissioning. An Environmental Representative must also be employed during operation. The Environmental Representative must be:
- (a) the primary contact point in relation to the environmental performance of the development;
 - (b) responsible for all Management Plans and Monitoring Programs required under this consent;
 - (c) responsible for considering and advising on matters specified in the conditions of this consent, and all other licences and approvals related to the environmental performance and impacts of the development;
 - (d) responsible for receiving and responding to complaints in accordance with this consent; and
 - (e) given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

The Applicant must obtain approval from the Director General for changes to the appointment of the Environmental Representative during construction. The Applicant must notify the Director General of any changes to the appointment during operation.

COMMUNICATION AND CONSULTATION

Advice of Construction Activities

- 28 Subject to confidentiality, the Applicant must make all relevant documents required under this Consent available for public inspection upon request, including provision of all documents at the site for inspection by visitors.

Construction Complaints Management System

- 29 ⁶Prior to the commencement of construction of the development, the Applicant must ensure that the following are available for the community for the life of the development:
- (a) a telephone number on which complaints about operations associated with the development on the site may be registered;
 - (b) a postal address to which written complaints may be sent; and
 - (c) an email address to which electronic complaints may be transmitted.

⁶ Incorporates Department of Environment and Conservation General Terms of Approval G1

The telephone number, the postal address and the email address must be advertised prior to the commencement of construction and quarterly until construction is completed.

- 30 ⁷The Applicant must keep a legible record of all complaints received in an up-to-date Complaints Register. The Register must record, but not necessarily be limited to:
- (a) the date and time, where relevant, of the complaint;
 - (b) the means by which the complaint was made (telephone, mail or email);
 - (c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
 - (d) the nature of the complaint;
 - (e) any action(s) taken by the Applicant in relation to the complaint, including any follow-up contact with the complainant; and
 - (f) if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register must be made available for inspection on request of the Director General or an authorised officer of the Department of Environment and Conservation. The record of a complaint must be kept for at least four years after the complaint was made.

Community Information Plan (CIP)

- 31 A Community Information Plan (CIP) must be prepared prior to the commencement of construction. The CIP must set out the community communications and consultation processes to be undertaken during the construction period of the project. The Plan must include but not be limited to:
- (a) procedures to inform the local community of planned investigations and construction activities, including planned construction activities outside standard construction hours;
 - (b) procedures to inform the relevant community of construction traffic routes and any likely disruptions to traffic flows and amenity impacts;
 - (c) procedures to consult with local landowners in regards to construction traffic to ensure safety of livestock and limited disruption to livestock movements;
 - (d) procedures to inform and consult with impacted residences subject to the Off-Site Landscape Plan; and
 - (e) procedures to notify relevant properties of the processes available to review potential impacts on television and radio transmission.

VISUAL AMENITY

Landscaping Requirements

- 32 Prior to the commencement of operation of the development, the Applicant must prepare an On-site Landscaping Plan. The On-Site Landscaping Plan is to address the visual impacts of the development as far as is reasonable and feasible including the turbines, site access roads, the substation, and the control and facilities building. The On-Site Landscaping Plan is to include, but not be limited to:
- (a) identification of locations for planting and landscaping;
 - (b) identification of species to be planted; and

⁷ Incorporates Department of Environment and Conservation General Terms of Approval G1

- (c) details of the maintenance program for on-site landscaping associated with the development.

The On-Site Landscaping Plan is to be implemented within six months of commencement of operation.

- 33 Prior to the commencement of operation, the Applicant must prepare a Roadside Landscape Management Plan for Crookwell Road. The Roadside Landscape Management Plan is to reasonably and feasibly screen the visual impact of the wind turbines located along Crookwell Road (between Pejar Road and the northern boundary of the site). The Roadside Landscape Management Plan is to be developed in consultation with the RTA, Council and land owners abutting Crookwell Road as bounded by the site. The Roadside Landscape Management Plan must include, but not be limited to:
- (a) identification of locations for plantings along Crookwell Road that will visually screen sections of the Crookwell II Wind Farm. Locations of plantings are not to compromise sight lines or clear zones, in accordance with the RTA *Road Design Guide*; ;
 - (b) identification of species to be utilised that will provide effective screening from the road. Use of fast growing species is encouraged, where appropriate; and
 - (c) details of the maintenance program.

The Roadside Landscaping Management Plan is to be implemented within six months of commencement of operation.

- 34 The Applicant must develop and implement an Off-Site Landscape Plan and address visual impacts of the proposed development. Any owner of an existing or approved residential dwelling with views of a turbine(s) located within four kilometres of their dwelling, may request, no later than six months after commencement of operation, inclusion of their property in the Off-Site Landscape Plan. The Applicant must notify in writing all owners of a residential dwelling with views of turbines located within four kilometres of their residential dwelling, prior to the commencement of commissioning. The Applicant must consider and implement any reasonable requirements for landscape works to provide screening.

The Off-Site Landscape Plan is to be submitted to the Director General for approval within nine (9) months of the commencement of operation or within a period otherwise agreed by the Director General. The Off-Site Landscape Plan is to be fully implemented within 18 months of the commencement of operation of the development.

- 35 The wind turbines must be painted matt off-white/grey. The blades are to be finished with a surface treatment that minimises any potential for glare or reflection.
- 36 No advertising, signs or logos are to be mounted on the turbines, except where required for safety purposes.

Lighting

- 37 During construction, the Applicant must take all practicable measures to minimise any off-site lighting impacts from the development. In particular, the Applicant must ensure that no lights cause an adverse impact to any private residences or public roads.

- 38 The wind turbines must not be lit at night. No external lighting of infrastructure associated with the wind energy facility, other than low level security lighting, where appropriate, may be installed or operated, unless otherwise agreed by the Director General.

NOISE AND VIBRATION

Construction Noise and Vibration Management Sub Plan

- 39 As part of the CEMP for the development, the Applicant must prepare and implement a Construction Noise and Vibration Management Plan. The Plan must include, but not be limited to:
- (a) details of construction activities, including timing, duration and predicted noise levels;
 - (b) best management practices to minimise noise resulting from construction activities;
 - (c) reasonable and feasible noise mitigation measures;
 - (d) compliance monitoring methods and program;
 - (e) community consultation and a community information program to inform residents when they are likely to be affected by construction noise;
 - (f) a complaints handling and complaints monitoring program, including details of a contact person to follow up complaints; and
 - (g) contingency measures to deal with incidents when noise complaints have been received, including feedback on appropriate noise amelioration processes put in place in response to complaints and the timeframe for the introduction of these measures. The feedback must be provided to the complainant.

Construction Hours

- 40 ⁸Construction activities associated with the development, including heavy vehicles entering and exiting the site, may only be carried out between 7:00 am and 6:00 pm, Monday to Friday inclusive, and between 7:00 am and 1:00 pm on Saturdays. The following activities may be carried out in association with construction outside of these hours:
- (a) any works that do not cause noise emissions to be audible at any nearby residences not located on the site;
 - (b) the delivery of materials as requested by Police or other authorities for safety reasons; and
 - (c) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

Any work undertaken outside the specified construction hours, other than those specified in (a) – (c) of this Condition, must not be undertaken without prior consent of the DEC.

Construction Noise Mitigation

- 41 The Applicant is required to inform in writing residences located on Woodhouselee Road between Crookwell Road and the access way to the site, of dates and times of concrete pours, at least two weeks prior to the concrete pours occurring. The Applicant is to inform residents of potential noise and amenity impacts associated with increased levels of traffic along this road.
- 42 The Applicant is to provide reasonable and feasible noise mitigation measures at the residences named as at the date of this Consent as 'Meadowvale' and 'Snowgums' during the construction period, to reduce noise from the construction vehicles. The noise mitigation measures must be provided, prior to the commencement of construction on the eastern side of the Wollondilly River, as agreed with by the

⁸ Incorporates Department of Environment and Conservation General Terms of Approval L6.2

owners of these dwellings. If an agreement between the Applicant and land owner(s) is unable to be reached, a report outlining proposed mitigation measures and the consultation process, is to be forwarded to the Director General for review and determination, prior to the commencement of construction on the eastern side of the Wollondilly River.

Operational Noise Criteria

- 43 ⁹Noise generated from the development must not exceed the LAeq, 10 minute noise levels in the table below.

10m wind speed m/s	Noise Limit – LAeq (10 minute) - dBA				
	Pejar Park	Snowgum	Normaroo	Elmgrove	Windalee
3	35	35	35	32	35
4	35	35	35	34	35
5	35	35	35	35	35
6	36	35	35	38	35
7	38	37	35	40	37
8	41	38	37	41	39
9	44	38	39	41	39
10	44	38	40	41	38
11	44	38	40	41	38
12	44	38	40	41	38
13	44	38	40	41	38
14	44	38	40	41	38

These noise limits apply at all times, at the most affected point on or within the residential boundary or at the most affected point within 20 metres of the dwelling, where the dwelling is more than 20 metres from the residential boundary.

- 44 ¹⁰At all other sensitive receiver locations, noise from the Crookwell II Wind Farm, at any given integer wind speed, must not exceed the lesser of:
- (a) the predicted noise levels for receiver locations nominated in the EIS; or
 - (b) the background noise levels plus 5dBA or 35 dBA (whichever is the greater)

subject to a minimum limit of 35dB(A) applying.

- 45 ¹¹The noise limits specified in this Consent do not apply to the existing on-site residences of 'Ahgunyah', 'Minnamurra', 'Gundowingra', or 'Savannah', whilst agreements are in place between the Applicant and the respective landowners that satisfy the requirements of Section 2.3 of the SA Guidelines.
- 46 ¹²The modification factors presented in Section 4 of the *New South Wales Industrial Noise Policy* (EPA, 2000), must be applied to the measured noise level where applicable.

⁹ Incorporates Department of Environment and Conservation General Terms of Approval L6.1.1, L6.1.2

¹⁰ Incorporate Department of Environment and Conservation General Terms of Approval L6.1.3

¹¹ Incorporates Department of Environment and Conservation General Terms of Approval L6.1.4

¹² Incorporates Department of Environment and Conservation General Terms of Approval L6.5

Noise Compliance Monitoring

- 47 The Applicant must prepare a Noise Compliance Assessment Plan which must be submitted to and approved by the DEC prior to commissioning of the wind turbines. The Noise Compliance Assessment Plan must outline how the noise compliance assessment will be achieved.
- 48 Within three months of the operation, compliance monitoring of noise from the development is to be undertaken and completed in accordance with the procedures presented in the South Australian 'Environmental Noise Guidelines Wind Farms' (EPA South Australia, February 2003).

If prevailing meteorological conditions do not allow the required monitoring to be undertaken in this period, the DEC must be notified and an extension of time may be sought.

- 49 A Noise Compliance Assessment must be prepared and submitted to the DEC within one month of completing the compliance monitoring of noise. The DEC may request that additional noise compliance monitoring be undertaken and completed within a timeframe defined by the DEC. The Noise Compliance Assessment must include, but not be limited to:
- (a) an assessment of the performance of the wind farm against the noise limits contained in Condition 43; and
 - (b) in the event that the assessment indicates that noise from the wind turbines exceeds the noise limits, the Noise Compliance Assessment must investigate and propose the mitigation and management measures that are available to achieve compliance with the noise limits.

Note: The data obtained using the compliance assessment procedures outlined in the SA Guidelines should be used to establish the noise levels contributed by the wind farm. The DEC will also consider other predictive compliance assessment techniques where these techniques can be justified. Whilst not directly applicable to wind farms, the *NSW Industrial Noise Policy* (INP) may provide additional guidance on predictive compliance assessment techniques.

Noise Mitigation – Vacant Lots

- 50 Reasonable and feasible noise mitigation measures are to be provided by the Applicant for no more than one new dwelling, built on any vacant lot legally existing at the date of this consent, upon which a residential dwelling would be permissible at the same date. Noise mitigation is to be provided if the noise levels from the development at the approved location of the new residential dwelling would exceed the SA Guidelines.

Note: The intention is that this condition does not apply to any potential future subdivision(s) that may be approved after the date of this consent.

Blasting and Vibration

- 51 ¹³The overpressure level from blasting operations associated with the development must not:
- (a) exceed 115dB (Lin Peak) for more than five per cent of the total number of blasts over the period of any relevant DEC licence; and
 - (b) exceed 120dB (Lin Peak) at any time.

¹³ Incorporates Department of Environment and Conservation General Terms of Approval L6.3 (1)

The overpressure level is to be measured at any point that is located at least 3.5 metres from any building or structure at any nearby residence not associated with the wind farm or other noise sensitive receiver location such as a school or hospital.

- 52 ¹⁴Ground vibration (peak vector sum) from the blasting operations associated with the development must not:
- (a) exceed 5mm/s for more than five percent of the total number of blasts during construction; and
 - (b) exceed 10 mm/s at any time.

Ground vibration is to be measured at any point that is located at least 3.5 metres from any building or structure at any nearby residence not associated with the wind farm or any other noise sensitive location such as a school or hospital.

- 53 ¹⁵Blasting operations associated with the development may only take place:
- (a) between 9.00am and 5.00pm Monday to Friday;
 - (b) between 9.00am to 12.00pm Saturday; and
 - (c) at such other times or frequency as may be approved by the DEC.

TRAFFIC

Traffic Management Plan

- 54 As part of the CEMP, a Construction Traffic Management Plan must be prepared in consultation with Upper Lachlan and Goulburn Mulwaree Councils, the RTA and NSW Police, to manage traffic related issues associated with the development during the construction period. The Plan must identify:
- (a) designated transport routes for heavy vehicles to the site, in consultation with relevant councils and the RTA;
 - (b) details of procedures to minimise traffic disruption including through Goulburn and in the vicinity of the site;
 - (c) procedures to minimise disturbance from traffic noise;
 - (d) procedures to manage construction traffic to ensure the safety of:
 - (i) livestock and limit disruption to livestock movement;
 - (ii) school children and limit disruption to school bus timetables;
 - (e) a community information program to inform the community of traffic disruptions resulting from the construction program; and
 - (f) details of complaints management procedures for traffic impacts.

Construction Transport Routes

- 55 Oversized and over-dimensioned vehicles transporting materials or structures associated with the development must access the site via either Crookwell Road or Woodhouselee Road (south).

¹⁴ Incorporates Department of Environment and Conservation General Terms of Approval L63 (2)

¹⁵ Incorporates Department of Environment and Conservation General Terms of Approval L6.3 (3)

Road Dilapidation Report

- 56 Prior to the commencement of construction, the Applicant must undertake a 'before' road dilapidation report utilising the ARRB 'laser car', to assess the existing condition of Woodhouselee Road between Crookwell Road and the site access point on Woodhouselee Road. The report must be undertaken in conjunction with Council's Director – Works.

Following completion of construction, and prior to the commencement of operation, an 'after' road dilapidation report utilising the ARRB 'laser car' must be prepared in consultation with Council to determine the works required by the Applicant to restore the road to at least its pre-development condition.

The Applicant must restore the road to a standard no less than recorded in the initial dilapidation report, unless the damage can be reasonably attributed to influences other than the development. The Applicant must restore the road to at least its pre-development condition, to the satisfaction of Council within three (3) months of the commencement of operation, unless otherwise agreed by Council.

Road Approvals

- 57 ¹⁶Access to the site from Crookwell Road must be restricted to the four access points identified by the RTA on Attachment A, unless agreed to by the RTA.

Road Upgrades

- 58 ¹⁷Prior to the commencement of heavy vehicle movements to and from the development on the western side of the Wollondilly River and to the satisfaction of the RTA, the Applicant must complete the construction of site access points along Crookwell Road to a minimum 'BAL', 'BAR' treatment as outlined in Attachment B.

Detailed drawings of the access points along Crookwell Road must be approved by the RTA prior to the commencement of these road works.

- 59 ¹⁸Prior to the commencement of heavy vehicle movements to and from the development east of the Wollondilly River, the Applicant must complete the following works at the intersection of Crookwell Road and Woodhouselee Road, to the satisfaction of the RTA and Council:
- (a) upgrade the junction of Crookwell Road and Woodhouselee Road in order to provide a sheltered right turn bay (CHR) in accordance with the RTA *Road Design Guide*; and
 - (b) widen Woodhouselee Road at the junction of Crookwell Road in accordance with the RTA *Road Design Guide*.

Detailed drawings of the upgraded intersection are to be approved by the RTA and Council prior to the commencement of these road works.

- 60 Prior to the commencement of heavy vehicle movements to and from the development east of the Wollondilly River, the Applicant must complete works along Woodhouselee Road, to the satisfaction of the Council. The works must comply with the following requirements unless otherwise agreed by Council:

¹⁶ Incorporates Roads and Traffic Authority General Terms of Approval dated 15 November 2004

¹⁷ Incorporates Roads and Traffic Authority General Terms of Approval 15 November 2004

¹⁸ Incorporates Roads and Traffic Authority General Terms of Approval 15 November 2004

- (a) construction of site access points and turning bay along Woodhouselee Road with a minimum of 180m stopping sight distance for approaching traffic;
- (b) road realignment in both the vertical and horizontal axes to allow over-sized and over-dimensioned vehicles to pass;
- (c) construction of a temporary creek crossing at Pejar Creek (chainage 6.16km from Crookwell Road) and strengthening of one bridge (chainage 8.03km from Crookwell Road) by additional temporary supports for the duration of the construction period; and
- (d) upgrading and bitumen sealing of Woodhouselee Road pavement between chainages 12.00 kilometres and 14.25 kilometres from Crookwell Road.

- 61 All roadworks along Woodhouselee Road required under this Consent are to be designed and constructed to Council's version of AUS-SPEC Design and Construction specifications or alternative specifications that meet the minimum requirements of AUS-SPEC. Detailed drawings of the access points along Woodhouselee Road must be approved by the Council prior to the commencement of these road works.
- 62 ¹⁹All works along Crookwell Road and Woodhouselee Road must be undertaken by a pre-qualified accredited contractor with the relevant road authority(ies).
- 63 Prior to the commencement of construction, all road work design and specifications relating to the development must be completed and certified by an appropriately qualified person that all roads within the site are of an acceptable design standard for the traffic generating requirements of the development.

Crown Roads

- 64 ²⁰Elements of the development that impact upon Crown Public Roads, are to be dealt with in accordance with the provisions of the *Roads Act 1993*.
- 65 ²¹The Applicant must legalise any proposed works on the Crown Public Roads system within the site, by means of easements, licences and purchases.
- 66 ²²The Applicant is to undertake rehabilitation of disturbed areas within the Crown Public Roads system within two (2) years of completion of the construction as directed by the Department of Lands or any other authorised parties.
- 67 ²³The Applicant must indemnify and keep indemnified the Crown and the Minister for Lands against all claims arising out of the use and occupation of the Crown Public Roads in relation to works associated with this development.

Operational Traffic

- 68 Prior to commencement of operation of the development, all works relating to permanent vehicle access to the site must be completed. Permanent access from Woodhouselee Road

¹⁹ Incorporates Roads and Traffic Authority General Terms of Approval 15 November 2004

²⁰ Incorporates Department of Lands General Terms of Approval 1

²¹ Incorporates Department of Lands General Terms of Approval 2

²² Incorporates Department of Lands General Terms of Approval 3

²³ Incorporates Department of Lands General Terms of Approval 4

must be completed to the satisfaction of Council and comply with the following requirements unless otherwise agreed by Council:

- (a) access points must have an adequate sight stopping distance (180 metres minimum) available in both directions;
- (b) any gate must be so located that there is sufficient distance for a vehicle (rigid truck) to stand clear of the road; and
- (c) the driveway must be sealed for a minimum distance of 50 metres measured from the edge of the Woodhouselee Road pavement.

Road Safety

- 69 The Applicant must, in consultation with the RTA and Council, identify any road safety changes along Crookwell Road (between Pejar Road and the northern boundary of the site), that may have arisen during the first 12 months of operation. Road safety changes must include, but not be limited to, any change in accident rates. The Applicant must implement any reasonable and feasible mitigation measures as required by the RTA, to address any road safety impacts that could be attributable to the development.

HERITAGE

Indigenous Heritage Management

- 70 ²⁴The Applicant must provide the DEC with three copies of an Archaeological Sub Surface Testing Assessment Report in final form.
- 71 ²⁵The Archaeological Sub Surface Testing Assessment Report must provide a full description of all relevant sub-surface Aboriginal objects.
- 72 ²⁶The Applicant must comply with the requirements of the DEC in relation to community consultation for Part 6 approvals under the NPW Act.
- 73 ²⁷In the event that an Aboriginal object (as described in the NPW Act) or a relic is uncovered during the construction of the wind farm development, which is not the subject of a Section 90 consent under the NPW Act, all construction work in the vicinity of the object must cease and the Applicant must contact the DEC as soon as practicable. The Applicant must meet the requirements of the DEC with respect to the treatment, management, and/or preservation of any such object.

Historical Relics

- 74 In the event that a non-indigenous heritage item is uncovered during the construction of the development, all construction work in the vicinity of the object must cease and the Applicant must contact the NSW Heritage Council to determine an appropriate course of action prior to the recommencement of work in the vicinity of the item.

²⁴ Incorporates Department of Environment and Conservation General Terms of Approval Attachment 1 1a

²⁵ Incorporates Department of Environment and Conservation General Terms of Approval Attachment 1 1b

²⁶ Incorporates Department of Environment and Conservation General Terms of Approval Attachment 1 1c

²⁷ Incorporates Department of Environment and Conservation General Terms of Approval Attachment 1 2

FLORA AND FAUNA

Construction

- 75 A Construction Flora and Fauna Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must be prepared in consultation with the Department and Council and include:
- (a) plans showing:
 - terrestrial vegetation communities; important flora and fauna habitat areas; habitat trees, locations where threatened species, populations or ecological communities were recorded; and areas to be cleared. The plans must also identify vegetation adjoining the development where this contains important habitat areas and/or threatened species, populations or ecological communities;
 - (b) methods to manage impacts on flora and fauna species (terrestrial and aquatic) and their habitat which may be directly or indirectly affected by the development. These must include:
 - procedures for vegetation clearing, soil management and managing other habitat damage (terrestrial and aquatic) during construction;
 - methods to protect vegetation both retained within, and also adjoining, the development from damage during construction;
 - methods to protect rocky outcrops and other potential reptile habitat both retained within, and also adjoining, turbines and ancillary development from damage during construction;
 - a habitat tree management program including fauna recovery procedures and habitat maintenance (e.g. relocating hollows or installing nesting boxes); and
 - performance criteria against which to measure the success of the methods;
 - (c) details of how structures associated with the development must be designed to reduce the risk of bird and bat strike;
 - (d) rehabilitation details including:
 - identification of locally native species to be used in rehabilitation and landscaping works, including flora species suitable as a food resource for threatened fauna species;
 - the source of all seed or tube stock to be used in rehabilitation and landscaping works including the identification of seed sources within the site. Seed of locally native species should be collected before construction commences; and
 - methods to re-use topsoil (and where relevant subsoils) and cleared vegetation;
 - (e) a Weed Management Strategy including:
 - identification of weeds within the site and adjoining areas;
 - weed eradication methods and protocols for the use of herbicides;
 - strategies to control the spread of weeds during construction; and
 - (f) a program for reporting on the effectiveness of terrestrial and aquatic flora and fauna management measures against the identified performance criteria. Management methods must be reviewed where found to be ineffective.
- 76 ²⁸Prior to the commencement of any earthworks or any vegetation clearing associated with the development, vegetation and habitat to be protected is to be fenced off with clearly visible, durable and appropriately signposted exclusion fencing.

²⁸ Incorporates DIPNR General Terms of Approval 21

- 77 ²⁹Only certified weed free and contaminant free mulch is to be used on the site.
- 78 ³⁰ Protected riparian zone(s) are to be established and maintained for all areas along the edges of the protected waters impacted by the development. Zone(s) must consist of local native species, unless otherwise agreed by the Director General and must be maintained and monitored for two years after planting. Maintenance must include erosion and sediment control, watering, weed control, replacement of plant losses and disease and insect control.
- 79 ³¹A Riparian Vegetation Management Plan must be prepared in consultation with the Department prior to the issue of a Part 3A Permit. It is to be prepared in accordance with the guideline '*How to Prepare a Vegetation Management Plan – Version 4*' and is to outline details of the protected riparian zone(s) including, but not limited to:
- (a) drawings demonstrating the size and location of the areas to be protected and rehabilitated;
 - (b) plant species to be utilised;
 - (c) establishment methods and tasks to be undertaken to protect and rehabilitate the protected riparian zones; and
 - (d) maintenance and performance monitoring to be undertaken.

Note: Consultation and reports on the protected riparian zones are to be referred to the section of the Department administering the Part 3A Permit.

- 80 ³²Any requirement for bushfire asset protection zones are not to compromise in any way the extent, form or function of the protected riparian zones. Fuel reduced areas are to be located outside the riparian zones.
- 81 ³³Maintenance reports about the rehabilitated riparian zones must be prepared and submitted to the Department after completion of planting, and every six months thereafter until the completion of the maintenance period. The report must include:
- (a) achievements of the performance criteria outlined in the VMP;
 - (b) identification of problems in implementing the VMP; and
 - (c) discussion about the stability and condition of any associated stream works.

Operation

- 82 An Operation Flora and Fauna Management Sub Plan must be prepared as part of the OEMP. The Sub Plan must be prepared in consultation with the Department and Council and include:
- (a) plans showing:
 - terrestrial vegetation communities; important flora and fauna habitat areas; areas to be protected; and areas to be planted;
 - (b) methods to manage impacts on flora and fauna species (terrestrial and aquatic) and their habitats which may be directly or indirectly affected by the development. These must include:
 - habitat management procedures including rehabilitation requirements and active re-planting of windrows;

²⁹ Incorporates DIPNR General Terms of Approval 35

³⁰ Incorporates DIPNR General Terms of Approval 22, 27, 30, 34

³¹ Incorporates DIPNR General Terms of Approval 23-25

³² Incorporates DIPNR General Terms of Approval 39

³³ Incorporates DIPNR General Terms of Approval 31

- operation stage measures to minimise bird and bat disturbance, in particular reducing the incidence of bird/bat strike. Management measures that must be considered for areas near the turbines include:
 - i. minimising the availability of raptor perches;
 - ii. modifying structures to prevent perching;
 - iii. management of lambing;
 - iv. swift carcass removal;
 - v. pest control, including rabbits;
 - vi. management of stock (grain) feeding;
 - vii. filling in of small dams that might attract insects and birds;
 - viii. use of deterrents (eg. flags, marker balls);
 - ix. minimising external lighting;
 - x. turbine management, that might include the turning off of turbines that are predicted to cause unacceptable bird/bat mortality at identified times;
 - xi. measures identified from research undertaken at other wind farms to reduce the incidence of bird/bat strike;
- (c) performance criteria against which to measure the success of the methods; and a programme for reporting on the effectiveness of management measures against the identified performance criteria. Management methods must be reviewed where found to be ineffective.

Bird and Bat Adaptive Management Program

- 83 A Bird and Bat Adaptive Management Program must be prepared and undertaken, which takes account of bird/bat monitoring methods identified in the current editions of *AusWEA Best Practice Guidelines for the Implementation of Wind Energy Projects in Australia* and *Assessing the Impacts of Windfarms on Birds - Protocols and Data Set Standards*. The Program must be undertaken by a suitably qualified expert, approved by the Director General.

The Program must incorporate Monitoring, and a Decision Matrix that clearly sets out how the Applicant will respond to the outcomes of monitoring. It must:

- (a) incorporate an ongoing role for the suitably qualified expert;
- (b) set out monitoring requirements. The requirements must account for natural and human changes to the surrounding environment that might influence bird and/or bat behaviour such as changes in land use practices, and significant changes in water levels in nearby water bodies;
- (c) incorporate a decision making framework that sets out specific actions and when it may be required to reduce identified impacts on birds and bats;
- (d) set out available mitigation measures;
- (e) incorporate reporting requirements on the outcomes of monitoring, on the application of the decision making framework, the need for mitigation measures, progress with implementation of such measures, and their success. Reports must be prepared on an annual basis, from the commencement of operation, and must be prepared within 2 months of the end of the reporting period and be provided to the Director General. The Director General may vary the reporting requirement or period by notice in writing to the Applicant;
- (f) identify any necessary mitigation measures and implementation strategy including, but not limited to, those referred in Condition 82.

The Applicant is required to implement reasonable and feasible mitigation measures where the need for further action is identified through the Bird and Bat Adaptive Management Program.

PHYSICAL ISSUES

Soil and Water Management

- 84 ³⁴Prior to commencement of construction and operation, a Soil and Water Management Plan must be prepared and implemented in consultation with the SCA and DEC, in accordance with Landcom's guideline *Managing Urban Stormwater: Soils and Construction* and the RTA's *Guideline for the Control of Erosion and Sedimentation in Roadworks*. The Plan is to outline soil and water management measures to be implemented during construction and operation to minimise impacts to soil and vegetation, including but not limited to:
- (a) water quality safeguards to be implemented, as outlined in Chapter 9 and Table 21-2 of the EIS;
 - (b) practices to manage soil and water where tracks and electrical cables cross water courses and drainage depressions;
 - (c) inspection, maintenance and monitoring programs; and
 - (d) practices proposed to be used in the event of accidental spills.
- 85 ³⁵An Erosion and Sediment Control Plan must be prepared and implemented in consultation with the Department. The Plan is to outline the design of storm water outlets and scour protection works to be utilised during construction and be developed in accordance with the Department's guideline *Stormwater Outlet Structures to Streams (for pipes, culverts, drains and spillways) Version 1*. The plan must include, but not be limited to:
- (a) representative survey cross sections and a long section showing the existing and proposed bed and bank profile and water levels at the outlet points;
 - (b) design of scour protection works based on predicted velocities, scour potential and associated methods of construction;
 - (c) details of a monitoring program to ensure effectiveness; and
 - (d) details of decommissioning.
- Note: Consultation on the Plan is to be undertaken with the section of the Department administering the Part 3A Permits.
- 86 ³⁶ Prior to the commencement of operation, a Stormwater Management Plan must be prepared and implemented. The Plan must detail measures to mitigate the impacts of stormwater run-off from the development during operation. The Plan must be consistent with *Managing Urban Stormwater: Council Handbook* and where relevant, consistent with a catchment wide stormwater management plan.
- 87 ³⁷All works associated with the development must be designed, constructed and operated so that they result in NIL or minimal harm to aquatic and riparian environments and do not cause erosion, sedimentation, or increase flood levels of protected waters.
- 88 ³⁸Points of construction, such as creek crossings, or any other places where scour is likely within or near any protected waters or any part of the riparian zones on the site impacted by the development, are to be suitably protected against scour.

³⁴ Incorporates Department of Environment and Conservation General Terms of Approval O3.1

³⁵ Incorporates DIPNR General Terms of Approval 12, 13, 14, 19, 40, 43

³⁶ Incorporates Department of Environment and Conservation General Terms of Approval O4.1

³⁷ Incorporates DIPNR General Terms of Approval 2

³⁸ Incorporates DIPNR General Terms of Approval 14

- 89 Waterway crossings associated with the development are to be designed and constructed in accordance with NSW Fisheries' *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (2004) and *Policy and Guidelines for Fish Friendly Waterway Crossings* (2004).
- 90 ³⁹All works associated with the development are to be monitored after each major storm event during construction. Necessary stabilisation works are to be undertaken if there are any signs of erosion or instability of protected waters, to the satisfaction of the Director General.
- 91 ⁴⁰Except as may be expressly provided by a licence under the POEO Act in relation to the development, the Applicant must comply with Section 120 of the POEO Act (prohibition of the pollution of waters), which prohibits pollution of waters.

Air Quality

- 92 ⁴¹The Applicant must design, construct, operate and maintain the development in a manner that minimises dust emissions from the site.
- 93 The Applicant must take all practicable measures to ensure that all vehicles associated with the development entering or leaving the site and carrying a load that may generate dust, are covered at all times, except during loading and unloading. Any such vehicles must be covered or enclosed in a manner that prevents emissions from the vehicle at all times.
- 94 The Applicant is required to construct, operate and maintain the access way from the site to Woodhouselee Road, in a manner that minimises dust generation.

Spoil and Fill Management

- 95 For the purposes of the development, imported fill must be Virgin Excavated Natural Material as defined in the Environment Protection Authority's guideline *Assessment, Classification and Management of Liquid and Non-Liquid Wastes*.

MISCELLANEOUS REQUIREMENTS

Aviation

- 96 Prior to the commencement of construction, details of the construction timetable are to be submitted to CASA.
- 97 Prior to the commencement of operation, the following details are to be submitted to CASA:
- (a) 'as constructed' coordinates of the wind turbines in latitude and longitude;
 - (b) final height of the wind turbines as per AHD; and
 - (c) ground level at the base of each of the wind turbines as per AHD.

³⁹ Incorporates DIPNR General Terms of Approval 19

⁴⁰ Incorporates Department of Environment and Conservation General Terms of Approval L1.1

⁴¹ Incorporates Department of Environment and Conservation General Terms of Approval O2.1

- 98 In the event that required aerial weed control is restricted on any property surrounding the site due to the location of turbines, the Applicant must fully fund the cost difference between aerial weed spraying and a reasonable alternative weed control method in the restricted area.

Hazards

Bush Fire Fighting

- 99 During construction, the Applicant is to consult with the local RFS in periods of high fire danger, to verify that proposed activities to be undertaken during this period, will not adversely increase the risk of bushfire. The Applicant must comply with any reasonable request of the local RFS.
- 100 The Applicant must consult with the local RFS after the commencement of operation and any other time thereafter as required by the RFS, to ensure that the local RFS is familiar with the development, including location and identification of wind turbines for the purpose of fast access in emergencies.

Safety Management System

- 101 At least two month prior to the commencement of commissioning, the Applicant must prepare a report outlining a comprehensive Safety Management System, covering all on-site systems related to ensuring the safe operation of the development. The report must clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records must be kept on-site and must be available for inspection by the Department upon request. The Safety Management System must be developed in accordance with the Department's Hazardous *Industry Planning Advisory Paper No. 9, 'Safety Management'*, and should include:
- (a) procedures and programs for the maintenance and testing of the safety related equipment to ensure its integrity over the life of the wind farm;
 - (b) an outline of a documented procedure for the management of change;
 - (c) procedures and programs for liaison and regular drills with the local RFS; and
 - (d) procedures for regular fire prevention inspections by the local RFS and implementation of recommendations.

Telecommunications

- 102 Prior to the erection of any wind turbine(s) on site, the Applicant must undertake an assessment of the existing quality of the television transmission available at all potentially impacted residences as identified in Figure 19-3 of the EIS.
- 103 The Applicant must undertake an assessment of television and radio transmission at any of the potentially impacted residences as identified in Figure 19-3 of the EIS and any other residential dwelling located within five kilometres of a wind turbine, at the request of the owner, made during the first six months of operation of the development. The Applicant is required to inform all relevant landowners in writing of this option prior to the commencement of operation. Residential dwellings located on the site are not included in this condition. The assessment is to be completed within three months of the request by the owner unless otherwise agreed by the owner.

- 104 The Applicant must undertake any reasonable and feasible mitigation measures to rectify any television and radio transmission problems reasonably attributable to the development, including but not limited to:
- (a) installation and maintenance of a parasitic antenna system;
 - (b) provision of a land line between the affected receiver and an antenna located in an area of favourable reception; or
 - (c) other feasible measures.

In the event of interference not being able to be overcome by measures outlined in (a) to (c), the Applicant must negotiate with the impacted landowner about installing and maintaining a satellite receiving antenna.

Any requested works must be completed within three months of the completion of the relevant television and/or radio reception assessment, unless otherwise agreed by the landowner. The Applicant must be responsible for all costs associated with undertaking any mitigation measures.

Waste Generation and Management

Waste Disposal

- 105 ⁴²Any vegetation or other material removed from construction areas must be disposed of lawfully to an appropriate site where the material cannot be swept into protected waters during a flood. Burning of the vegetation must not be undertaken unless an approval has been obtained from the relevant authority(ies).
- 106 ⁴³The Applicant must not receive waste for storage, treatment, processing or reprocessing and must not dispose of waste generated by the development on the site, except as may be expressly permitted by an Environment Protection Licence for the development under the POEO Act.

Note: The above condition only applies to the storage, treatment, processing and reprocessing or disposal of waste at the site if it requires an Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i> .
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Wastewater Management

- 107 The human wastewater management system is to be designed in consultation with the Sydney Catchment Authority, in accordance with the principles contained within the guidelines *On-site Sewage Management for Single Households*, and the *AS/NZS 1547-2000 On-site Domestic Wastewater Management*. The human wastewater management system including any effluent management area, is to be located at least 100 metres from watercourses and 40 metres from drainage depressions. The human wastewater management system is to be maintained according to Section 5 of the guidelines *On-site Sewage Management for Single Households*.
- 108 AAA-rated water conservation devices are to be installed in the site control room/facilities building to minimise the volume of wastewater produced.

⁴² Incorporates DIPNR General Terms of Approval 11

⁴³ Incorporates Department of Environment and Conservation General Terms of Approval L5.1 & L5.2

- 109 All stormwater is to be diverted away from any effluent management area associated with the development.

Decommissioning

- 110 Within one year of decommissioning, the site must be returned, as far as practicable, to its condition prior to the commencement of construction. All turbines and associated above ground structures including but not limited to, the substation, the control and facilities building and electrical infrastructure must be removed from the site unless otherwise agreed by the Director General. All other elements associated with the development, including site roads, must be removed unless otherwise agreed to by the site owner(s).
- 111 If any wind turbine is not used for the generation of electricity for a continuous period of 12 months, it must be decommissioned unless otherwise agreed to by the Director General. The Applicant must keep independently verified annual records of the use of turbines for electricity generation. These records must be provided to the Director General upon request. The relevant wind turbine and any associated infrastructure is to be dismantled and removed from the site within 18 months from the date that the turbine was last used to generate electricity.
- 112 Prior to the commencement of construction, the Applicant must provide written evidence to the satisfaction of the Director General, that the lease agreements with the site landowners have adequate provisions to require that decommissioning occurs in accordance with this Consent.

ATTACHMENT B

4.8.5 Right Turn Treatments - Rural Conditions

There are three fundamental types of right turn treatments for rural areas:

- **Type BAR** shoulder widening (minimum treatment),
- **Type AUR** pavement widening without a right turn bay,
- **Type CHR** pavement widening with a right turn bay.

Generally these treatments are applied to two lane two - way rural roads.

4.8.5.1 Type "BAR" (Basic Right Turn) - minimum treatment

This is the minimum treatment for right turn movements from a through road to side roads and local access points. It is detailed in Figure 4.8.23.

This treatment provides sufficient trafficable width for a heavy vehicle (19.0m long) to pass on the left of a single unit stationary vehicle "turning right". This is achieved by widening the shoulder to provide a minimum width sufficient to allow the vehicles to pass. Substantial speed reduction (half of design speed) is a feature of this layout. It is preferred that this widening is not sealed.

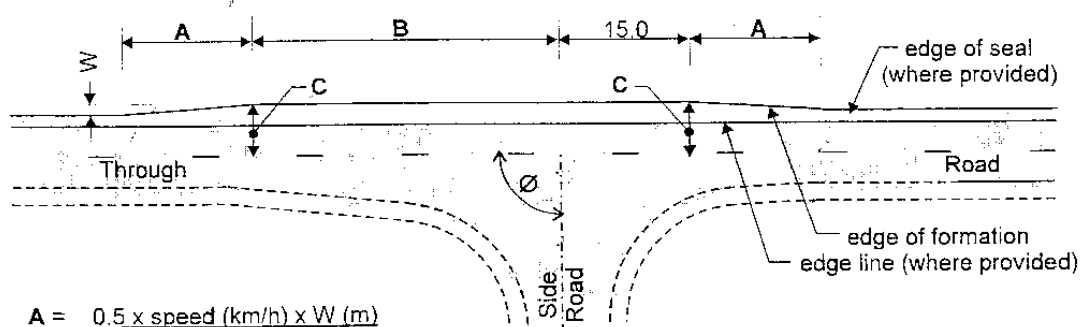
On a terminating intersection leg no special provision is made for right hand turns.

This layout can be used on both sealed and unsealed roads.

Where the pavement is sealed, line marking should be in accordance with the "Signs and Markings" Manual.

Signposting should be in accordance with the "Signs and Markings" Manual.

It is preferred that the widened shoulder is NOT sealed; where the shoulder must be sealed, a Type AUR layout should be used.



$$A = \frac{0.5 \times \text{speed (km/h)} \times W \text{ (m)}}{3.6}$$

B =	∅	70°	90°	110°
Length(m)	40	35	30	

C = on straight - 6.0m min.
on curve - 2 x (3.0 + corresponding widening for curve radius)m min.
refer Section 2 - Table 2.2.2

W = formation widening (if required)

Line marking and signposting to be in accordance with "Signs and Markings" Manual

Also see additional notes on Figure 4.5.2

Figure 4.8.23 - Type "BAR" Right Turn Treatment on the Through Road

4.8.5.3 Type "CHR" (CHannelised Right turn) pavement widening with a protected turn.

For this layout, all traffic is required to deviate - hence the through road movement must be designed to suit the operating speed.

Because of this deviation the pavement can be widened to provide a right turn bay as shown in **Figure 4.8.25**.

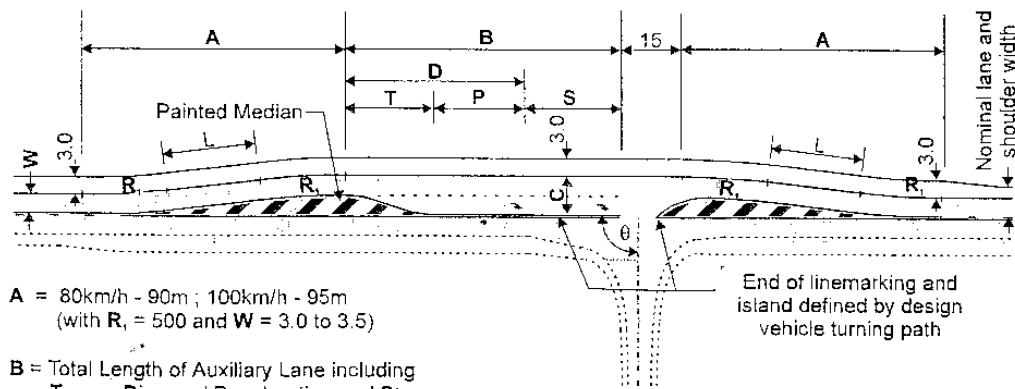
The deceleration / diverge / storage lane length (shown as **B** in **Figure 4.8.25**) required at a rural site is dependent on the relationship between the turning volumes and the through movement. Minimum lengths of deceleration lanes and taper for different operating speeds are shown in **Figure 4.8.10**. Refer to **Section A4.1.3** or use computer programs such as *SIDRA* or *INTANAL* to determine the storage length (**S**).

The storage length should not be shortened unless the right turn is not used by articulated vehicles. The recommended minimum length of parallel lane for a single unit truck is 12.5m. Entry tapers should be designed to ensure that no part of any stored vehicle overhangs the adjacent through lane.

Details of the departure end of the right turn bay should be determined using turning path templates (minimum radius 15.0m). This will depend on the width, and the angle of intersection of the side street.

Linemarking should be as shown in **Figure 4.8.25**. If the painted separation between opposing traffic flows is wider than a double white (BB) line, then it should be in accordance with painted medians shown in **Figure 4.8.3**.

Signposting should be in accordance with the "Signs and Markings" Manual.



A = 80km/h - 90m ; 100km/h - 95m
(with $R_1 = 500$ and $W = 3.0$ to 3.5)

B = Total Length of Auxiliary Lane including Taper, Diverge / Deceleration and Storage

C = Total width of through and auxiliary lanes = $2W$

D = Diverge / Deceleration Length
(refer to **Figure 4.8.10 / Table 4.8.3**)

L = Allows 1.5 sec of travel to reverse steering
(80km/h - 33.5m ; 100km/h - 42.0 m)

P = Length of Parallel Lane. (refer to **Figure 4.8.10**)
min. $P + S$ - 20m articulated vehicles; 12.5m single unit
25m b-double, 40m double road train.
Correction Factors : $\theta = 70^\circ + 5m$; $\theta = 110^\circ - 5m$

$R_1 = \text{min } 500m$

S = Storage Length (Calculated Car Spaces - 1) x 8m
(refer to **Section A4.1.3** and **Figure A4.3**
or use computer program eg *SIDRA*)

T = Length of Taper (refer to **Figure 4.8.10**
or **Table 4.8.3**); min 20 - 30 m

W = Nominal lane width (incl. widening for curves)

Refer to "Signs and Markings" Manual
for details of
- pavement markings
- linemarking and
- warning and regulatory signs

(See additional notes on **Figure 4.5.5**)

Figure 4.8.25 - Type "CHR" Right Turn Treatment.