



**Planning &  
Environment**

**STATE SIGNIFICANT DEVELOPMENT ASSESSMENT:  
YASS VALLEY WIND FARM  
(SSD08\_0246)**



**Secretary's Environmental Assessment Report  
Section 79C of the  
Environmental Planning and Assessment Act 1979**

**January 2015**

Cover Photograph:  
Photomontage of proposed wind farm  
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# Executive Summary

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In 2008, Epuron Projects Pty Ltd (the Applicant) initiated the approval process to construct and operate a wind farm and associated electrical and civil infrastructure with (now) up to 134 wind turbines known as the Yass Valley Wind Farm.

The site is located on the boundary of the NSW Southern Tablelands and Southwest Slopes, approximately 20 kilometres (at the closest point) and 35 kilometres (at the furthest point) west of Yass, in the Yass Valley and Harden Local Government areas.

The proposal has a Capital Investment Value (CIV) of \$670 million and would generate 167 construction and 34 operational jobs. The proposal has other potential benefits including:

- The ability to generate more than 1,135,000MWh of electricity per year, which could provide power for up to 142,000 homes;
- the ability to reduce greenhouse gas emissions by approximately 1,098,000 tonnes of carbon dioxide equivalent per year; and
- the provision of additional income to associated landowners with an expected resultant boost to the local and regional economies.

## Assessment process

The development was a 'transitional Part 3A project' under Schedule 6A of the *Environmental Planning and Assessment Act (1979)* (the Act). On 21 March 2014 the development was transitioned to the Government's State Significant development process under Part 4 of the Act.

The Government also recently announced reforms to the assessment process for wind farm applications. The reforms include a requirement for all wind farm applications to be determined by the independent Planning Assessment Commission. The application is therefore referred to the Planning Assessment Commission for determination.

The Environmental Assessment for the development was placed on exhibition for a period of 32 days from 13 November 2009 until 14 December 2009. The Department received a total of 24 submissions during the exhibition of the Environmental Assessment, comprising 7 submissions from government authorities and 17 submissions from the general public (16 public submissions by way of objections).

Concerns raised in public submissions related to aviation, noise, health, visual amenity, traffic, impacts on property values, and construction-related impacts, with a number of the submissions questioning whether the development should be approved. Similarly, a number of Government authorities raised a series of matters that required careful consideration. The Office of Environment and Heritage recommended the number of turbines be reduced or relocated to avoid impacts to endangered ecological communities, and Yass Valley Council raised significant concerns in relation to the local road network's ability to withstand heavy vehicle loadings associated with the proposal.

A draft Preferred Project Report was submitted by the Applicant in November 2012 (3 years following exhibition of the Environmental Assessment). The 2012 draft Preferred Project Report described amendments made to the development following the exhibition of the Environmental Assessment both in response to issues raised in submissions, and in response to the Applicant's own desire to alter the layout of the development.

The amendments to the development at this stage of the assessment process were significant, and included the relocation of many of the turbines (with the addition of a north-west cluster of 12 turbines); an overall reduction in the number of turbines from 152 to 148; and the realignment of the main transmission line.

The draft Preferred Project Report was exhibited from 14 December 2012 to 1 March 2013 and the

Department received a total of 18 submissions. Ten of the submissions were from government authorities and eight submissions from the general public. All eight community submissions objected. Many of the public authorities including Roads and Maritime Services, the Office of Environment and Heritage and Yass Valley Council maintained their original concerns with the proposal. The concerns of the public authorities largely remain unresolved.

Since exhibition of the 2012 draft Preferred Project Report (2012), the Department has received four additional revisions of the Report (dated July 2013; December 2013; May 2014 and September 2014 (the final report)). These reports were submitted in an attempt to resolve a series of outstanding concerns with the proposal, particularly in relation to aviation, visual, biodiversity and traffic and transport impacts.

The revisions to the Preferred Project Reports also include a number of additional amendments to the development. The final report included further relocation of transmission lines and access roads, deletion of additional turbines along with alternate switchyards and substations. All of the amendments proposed in the final Preferred Project Report (September 2014) have not been adequately shown and assessed in the Applicant's documentation. As a result, the final infrastructure layout, access routes and number of surrounding receivers affected by the proposal remains unclear.

The Department has made multiple requests to the Applicant over the years to provide an adequate level of impact assessment to support its application. This information is required in order for the community, public authorities and other stakeholders to properly understand the form and impacts of the development.

The Department is of the view that the Applicant has failed to provide an appropriate level of information to support its application, and subsequently failed to fully demonstrate to a reasonable level the full impacts associated with the development of the wind farm and appropriate mitigation measures to achieve satisfactory environmental and social outcomes.

### **Key assessment issues**

The Department's assessment has considered all relevant documentation including the environmental assessment, the Applicant's submissions report, the various versions of the preferred project report, and submissions received from public agencies, key stakeholders and the community. The Department also commissioned two technical experts to review the aviation and visual aspects of the proposal. The Department's assessment has identified number of fundamental concerns with the proposal:

- clarity in project description;
- aviation impacts; and
- biodiversity impacts;

Based on this assessment, the Department's key conclusions are:

### **Project Description**

The Applicant has submitted many iterations of the proposal design and at this stage, the proposal design includes infrastructure components on land which the Applicant has not successfully secured with some respective landowners, for the Applicant's use of their land for the proposal. This results in uncertainty in the final layout of the proposal, as some project elements may not be able to be accessed and any wind turbine electricity generated may not be able to be transferred to the grid. Additionally, the Applicant has not assessed the impacts of all aspects of the project infrastructure. Consequently, the Department considers there are unacceptable levels of uncertainty in evaluating the environmental impacts of the proposal.

The Department considers the Applicant has failed to adequately demonstrate that it has developed a consistent project layout and footprint which ensures the proposal's environmental and social impacts can be appropriately evaluated by the Department and other stakeholders. At this stage, the Department considers there are too many aspects of the project which have not

been confirmed and committed to by the Applicant, which introduces an unacceptable level of risk in enabling the Department to properly assess the impacts of the proposal.

Additionally, the Applicant has not reasonably assessed all of the impacts of the proposal on some landowners that are currently “not-associated” with the proposal, as the Applicant has nominated these to be “associated” landowners. The Department considers the lack of assessment of potential “non-associated” landowners to be a serious flaw in the Applicant’s assessment. Due to the unacceptable level of uncertainty in the project layout, coupled with significant uncertainties regarding some aspects of the environmental and social impacts of the proposal, the Department concludes there is inadequate justification for the proposed wind farm to proceed at this time.

#### Aviation impacts

The Department considers the Applicant has failed to demonstrate the level of risk to the integrity of the operation of the Mt Majura PSR/SSR Air Traffic Control radar and Mt Bobbara SSR Air Traffic Control radars, which are critical to the safe operation of Canberra and Albury Airports. In the event the level of risk is predicted to be unacceptable, the Applicant has also not demonstrated whether viable mitigation options could be implemented to lower the risk to a level acceptable to AirServices Australia. The Department considers there is too much uncertainty about the level of risk to both the operation of Canberra and Albury airports and does not support the Applicant’s approach to undertake the key assessment work in the pre-construction phase of the project. The Department also considers the Applicant has not fully evaluated the level and nature of adverse impacts on local commercial and/or non-commercial aviation. Therefore, based on the high level of uncertainty about the proposals potential impacts on Canberra and Albury airports and local aviation, the Department cannot support this proposal at this time.

#### Biodiversity impacts

The development is estimated to impact on approximately 225 hectares of vegetation, with 88% of this comprising Box-Gum Woodland, a listed endangered ecological community. In addition, approximately 320 hollow bearing trees are likely to be impacted by the development. The Department considers this to be a significant impact, particularly in an over-cleared and fragmented landscape such as the Yass Valley area and the Applicant has not demonstrated a sufficient commitment to the avoidance of biodiversity impact. Additionally, the Applicant’s many iterations to the infrastructure design without adequate impact assessment has meant that there is residual risk that some biodiversity aspects of the proposal have not yet been assessed. The Applicant has also failed to develop adequate mitigation measures, in particular, the Applicant has not demonstrated that it can design and secure an appropriate offset site to adequately offset the biodiversity impacts of the project. Therefore, the Department concludes the development is likely to result in unacceptable impacts on the ecological environment.

#### **Conclusion and recommendations**

The Government supports the development of wind farms as a form of renewable energy, subject to the suitability of the location of the wind farm proposal.

The Department acknowledges the Yass wind farm proposal would result in benefits including reduction in greenhouse gas emissions and contribution to the Renewable Energy Target. However, the Department has a number of fundamental concerns with the proposal and the Applicant’s assessment that prevent it from supporting the current proposal. Although the western part of the proposal (being the Coppabella Precinct) may be suited to a wind farm development, the Applicant has failed to demonstrate appropriate environmental and social outcomes of the current overall proposal.

The Applicant has had ample opportunity to work with the community and government authorities to resolve concerns and demonstrate the acceptability of its proposal. However, the Applicant has failed to achieve satisfactory resolution of several aspects of the proposal’s impacts. The Department further suggests the Applicant’s standard of documentation and level of community and stakeholder engagement has fallen well short of industry best practice expected by the Government and the community, and advocated by peak industry bodies such as the Clean

Energy Council. The Department considers the Applicant, in future, should resolve the majority of issues in the planning and community consultative phases of the proposal, prior to the submission of a Development Application to the Department, to ensure the Applicant does not need to iteratively revise and assess the proposal for many years following the original application.

While the proposal's potential benefits including its ability to reduce greenhouse gas emissions and contribute to the Renewable Energy Target are clearly recognised, the Department's assessment has concluded that there is too much uncertainty and therefore risk, regarding several elements of the proposal and its impacts. The Department also concludes that the nature and scale of the proposal's potential impacts are unacceptable and recommends the Development Application be refused for the following reasons:

1. The Applicant's failure to demonstrate a consistent project design that can be wholly and feasibly constructed including the secure provision of interconnecting infrastructure and access across the site. This also includes the Applicant's failure to undertake an appropriate level of impact assessment of all aspects of the proposal;
2. The Applicant's failure to demonstrate that the proposal will not have an adverse impact on either commercial or non-commercial aviation, including the safe operation of the Canberra and Albury airports;
3. The development will result in unacceptable impacts on the biophysical environment as a result of inadequate avoidance of biodiversity, inadequate provision of mitigation measures, and a failure to adequately offset biodiversity impacts; and
4. Given the above, the proposal is not in the public interest and should be refused.

# 1. Introduction

## 1.1 Purpose and structure of this report

The Secretary's environmental assessment report has been prepared to inform the determination of the State Significant Development application for the Yass Valley Wind Farm. The report has been prepared in accordance with Section 75I of the *Environmental Planning and Assessment Act 1979* (the Act). The Department's assessment has been informed by the Proponent's Environmental Assessment, draft Preferred Project Reports, submissions (including advice from public authorities), independent expert advice and other relevant matters.

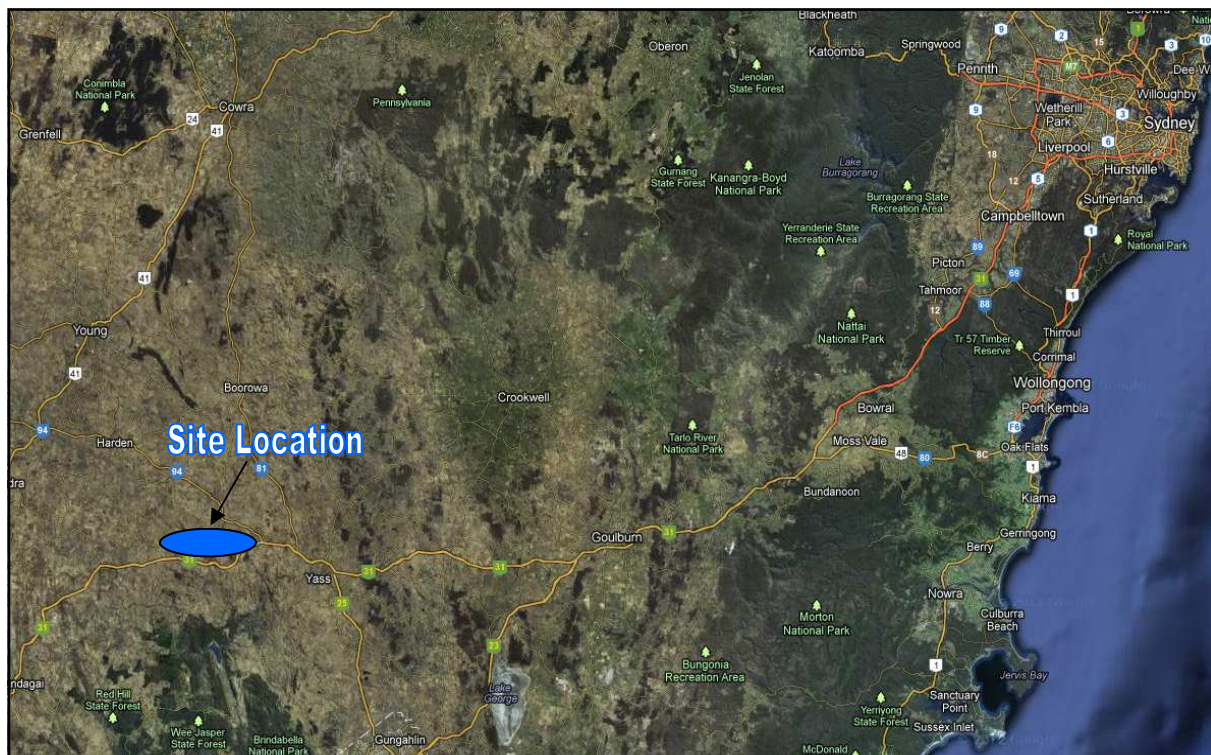
Chapter 2 of this report provides details of the proposal. Chapter 3 outlines both the assessment process and statutory approvals required for the proposed development. Chapter 4 summarises the public and government agency consultation process. The core part of the assessment is provided in Chapter 5. Conclusions and recommendations are provided in Chapters 6 and 7.

## 1.2 Nature and location of the proposal

In 2008, Epuron Projects Pty Ltd (the Applicant) proposed to construct and operate a wind farm and associated electrical and civil infrastructure with a maximum of up to (now) 134 wind turbines known as the Yass Valley Wind Farm.

The site is located on the boundary of the NSW Southern Tablelands and Southwest Slopes approximately 20km west of Yass, (refer **Figure 1**) in the Yass Valley and Harden Local Government Areas. A typical turbine is shown in **Figure 2**. The proposed wind farm is to be located over two precincts including Coppabella Hills with up to 87 turbines and the other being Marilba Hills with up to 47 turbines, inclusive of a transmission line (**Figure 3**).

The Capital Investment Value of the proposal is \$670 million and would potentially create 167 full-time equivalent positions during construction and 34 full-time equivalent operational positions.



**Figure 1. Proposal Location**

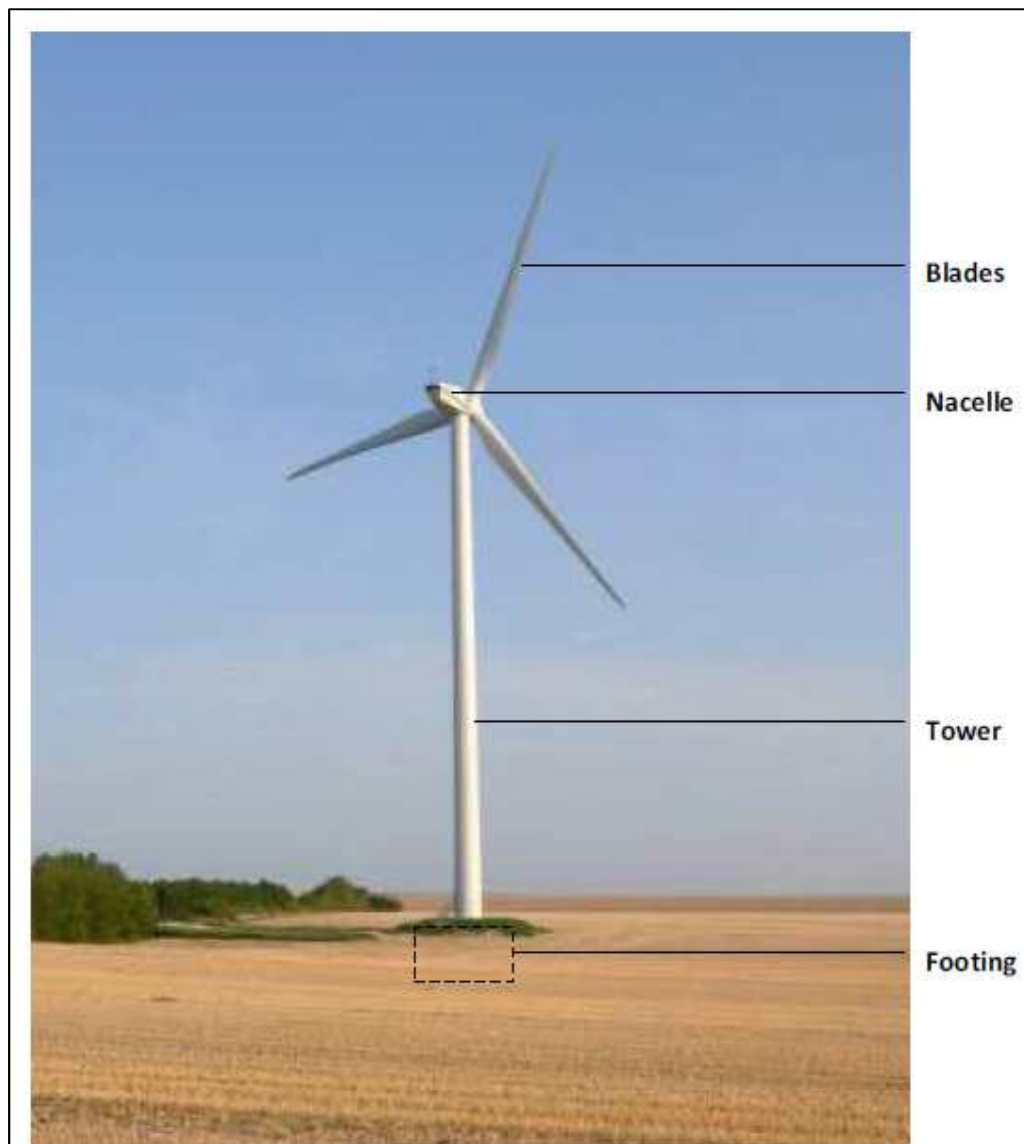
### 1.3 Environmental setting/context

The topography of the site is characterised by undulating and rolling low hills and cleared pastoral lands. The elevation of the site ranges from 500m to 820m above sea level. The predominate existing land use of the site is sheep and cattle grazing. An existing transmission network also passes through the site.

Land surrounding the site is predominately used for rural purposes and contains a number of farm and rural residential properties as well as agricultural structures, local roads and access tracks. There also exists scattered paddock trees, small forest and woodland patches on the watercourses and steeper slopes. The Hume Highway largely adjoins the southern boundary of the site.

The Conroy's Gap wind farm, which includes 15 turbines, is located directly south of the Marilba Hills precinct.

The township of Goondah is located directly north of the Marilba Hills Precinct, and the township of Bookham is located directly south of both the Coppabella and Marilba precincts. 384 residences also exist within 8.5km of the wind farm.



**Figure 2 - Wind tower**

## 2. About the proposal

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### 2.1 Description of the proposal

#### 2.1.1. Overview

The proposal involves the construction and operation of a wind farm and associated electrical and civil infrastructure with a maximum of up to 134 wind turbines known as the Yass Valley Wind Farm. A summary of the key features of the proposal are described below. The proposed layout is shown in **Figure 3** and proposed project staging is shown in **Figure 4**. A fuller description of the proposal is provided in the Environmental Assessment and the final draft Preferred Project Report dated September 2014.

#### 2.1.2. Key Features

Key features of the proposal include:

- construction and operation of a wind farm consisting of up to 134 turbines;
- Turbine infrastructure consisting of a three-blade design and rotor diameter of between 80m to 112m which sit atop tapered steel towers of up to 78m to 100m in height. The total maximum combined height of each turbine being 150m;
- installation of generator transformers consisting of 1 per turbine located either near the base of the tower on a concrete slab or within the nacelle;
- installation of 33kV, 132kV and 330kV transmission lines consisting of both underground cabling and overhead lines; and
- construction of up to 3 substations (however the Department notes inconsistencies between the layout as proposed in Figure 3 and other maps in the draft final Preferred Project Report dated September 2014).

The project consists of 2 precincts, being the Coppabella and Marilba Hills Precincts. The Coppabella precinct contains 87 turbines and associated infrastructure, the Marilba Hills Precinct contains 47 turbines and associated infrastructure. Access into the site is from the Hume Highway and Burley Griffin Way.



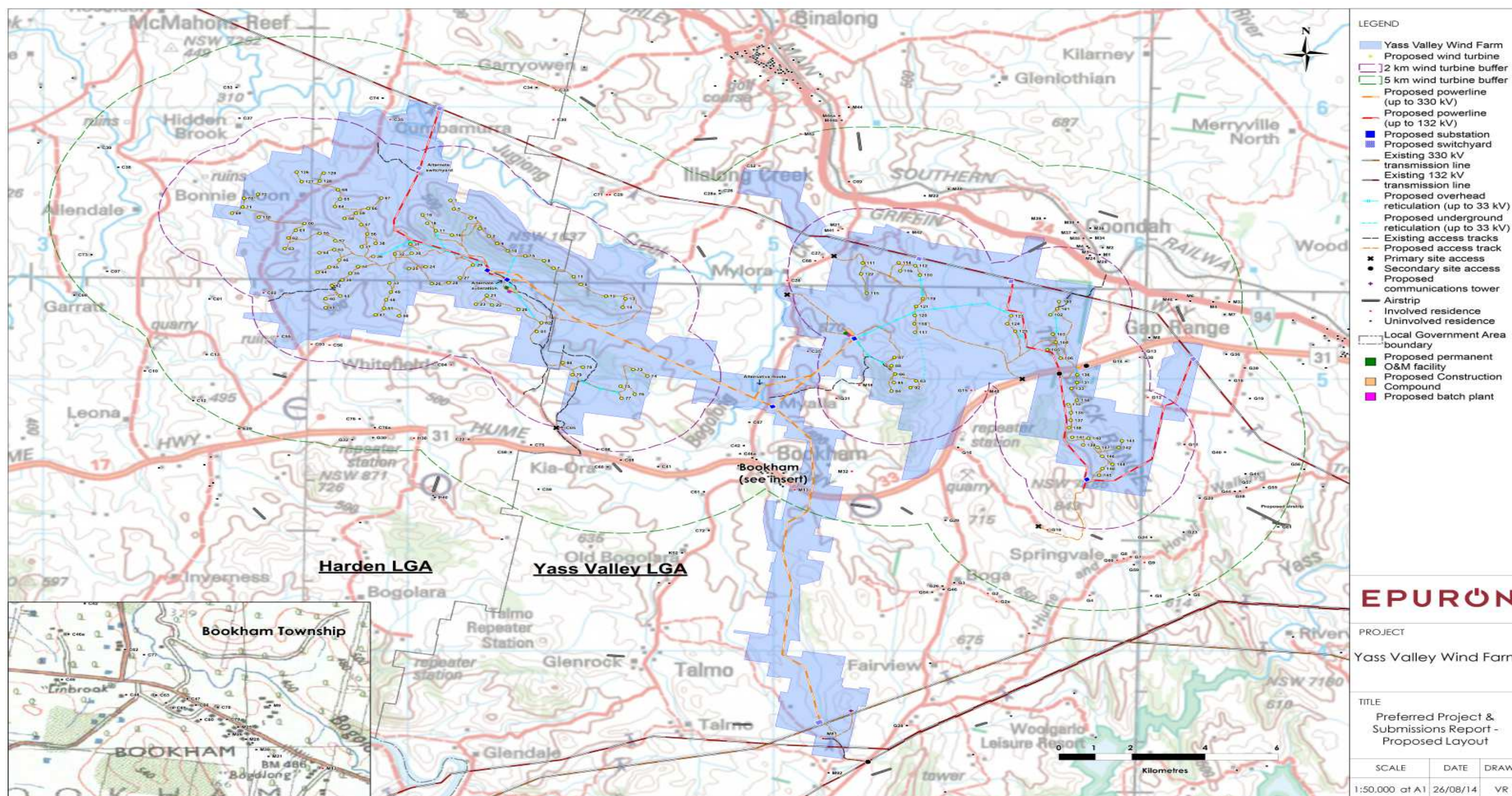


Figure 3: Proposed layout and location of receivers (Source: Draft PPR dated September 2014)



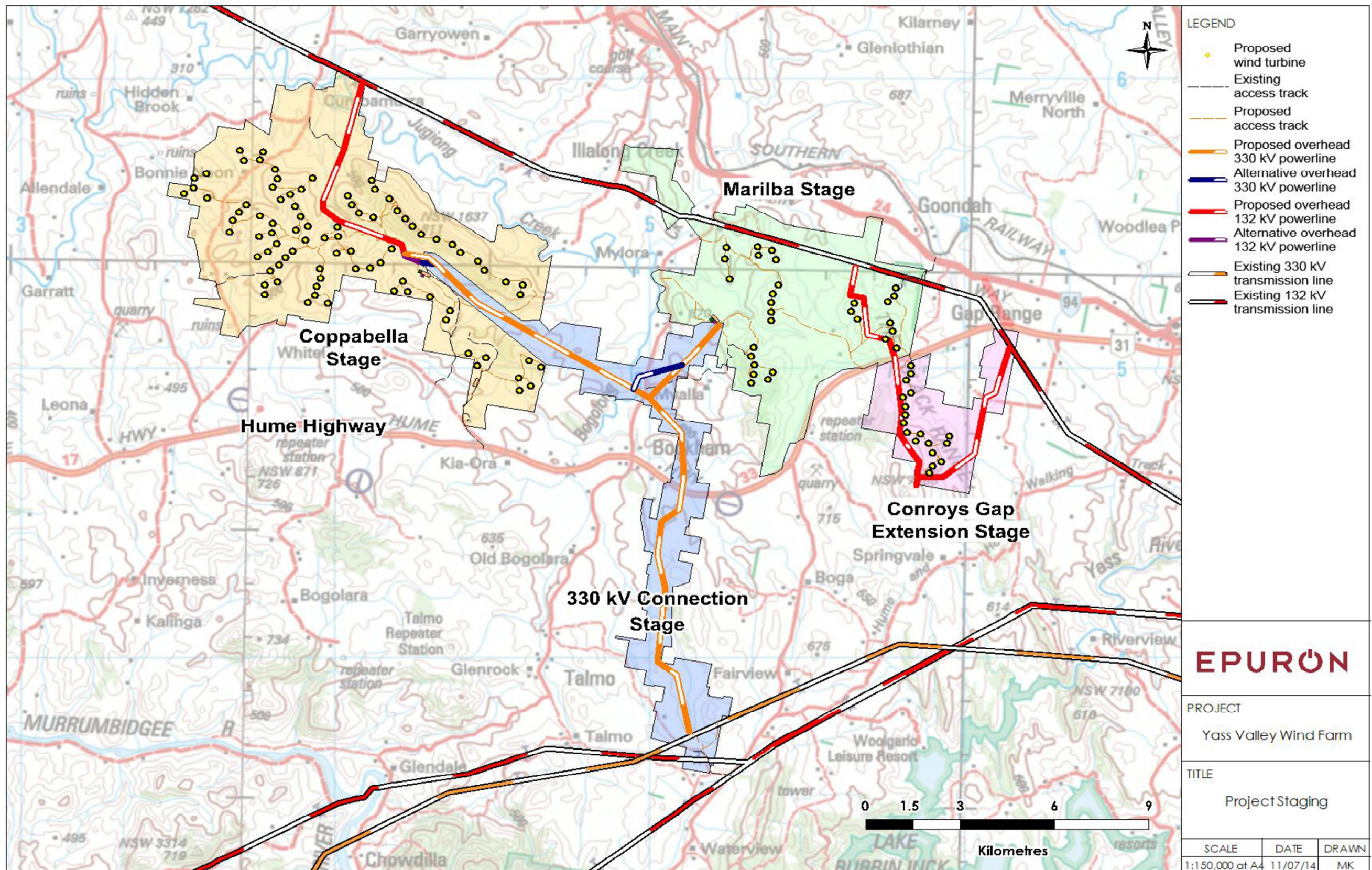


Figure 4: Proposed staging layout (Source: Draft PPR dated September 2014)



## 2.2 Amendments to the exhibited proposal

### 2.2.1. Preferred Project Reports

A draft Preferred Project Report was submitted by the Applicant in November 2012 (3 years following exhibition of the Environmental Assessment). The 2012 draft Preferred Project Report described amendments made to the development since the exhibition of the Environmental Assessment both in response to issues raised in submissions, and in response to the Applicant's own desire to alter the layout of the development.

The amendments to the development were significant, and included the relocation of the majority of turbines and the addition of a north-west cluster of 12 turbines; an overall reduction in the number of turbines from 152 to 148; and the realignment of the main transmission line. The draft Preferred Project Report was exhibited from 14 December 2012 to 1 March 2013.

Since exhibition of the draft Preferred Project Report 2012, the Department has received four additional revisions of the Preferred Project Report (dated July 2013; December 2013; May 2014 and September 2014). These reports have been submitted in an attempt to resolve a number of outstanding concerns with the proposal, particularly in relation to aviation, visual, biodiversity and traffic and transport impacts.

The various draft Preferred Project Reports also included a number of additional amendments to the development. Below is a brief summary of some of the main changes to the development as a result of all the draft Preferred Project Reports:

- a reduction in the total number of turbines from 152 to 134;
- the relocation of the majority of turbines including the addition of a north-west cluster of 12 turbines in new locations;
- the realignment of the main external transmission line;
- the inclusion of two on-site concrete batching plants;
- the relocation of internal transmission lines, access roads plus the addition of alternate switchyards and substations; and
- revised site access points.

The Department also notes that the Applicant in the final draft of the Preferred Project Report (dated September 2014) indicated that the Yass wind farm may be built in stages; that is, it may be developed as three separate wind farms (Coppabella, Marilba and Conroy's gap extension), with the latter linked to the approved Conroy's Gap wind farm. The fourth stage would entail development of a high capacity 330Kv grid connection. The three wind farms would be initially connected by 132kv transmission lines.

The Applicant has indicated that the wind farm is likely to be developed as two separate projects, by different companies. As such, the Applicant has requested that two consents be issued, if possible. If not possible, it has requested that any consent be structured so that there would be separate conditions for each project (or at least drafted to have this effect) i.e. so that the compliance obligations on the companies developing the projects only applied to their own project.

The Department acknowledges that there is some scope to structure consents around development stages, but it is not readily possible to completely distinguish between what might become two separate projects, because of the interactions between a number of impacts, and that the application was made (and therefore assessed) as one project. The Department also notes that it is very late in the assessment process to change the proposal to a staged development application within the meaning of section 83B of the Act, nor would this meet the Applicant's requirements now (of obtaining two consents), given the need to lodge subsequent development applications. It is the responsibility of an Applicant to comply with all of the conditions of consent that may be issued on a development.

Given the above, the Department is not supportive of the Applicant's recent requests regarding staging and splitting compliance obligations. The companies undertaking the projects would need to enter into commercial arrangements to determine how they would share responsibilities, and who would take upfront responsibility for compliance. It would be the responsibility of the Applicant to make this clear to any prospective purchasers.

## 2.3 Rationale for the proposal

### 2.3.1. Strategic need and justification

The demand for electricity coupled with increasing global recognition of climate change science has supported investment in renewable energy. The Intergovernmental Panel on Climate Change was established in 1988 to disseminate information regarding greenhouse gases and climate change. Following from this, in 1997 the Kyoto Protocol was established to encourage industrialised countries to reduce emissions. Australia ratified the protocol in 2007, thus committing to cutting emissions to 108% of 1990 levels.

There are a range of policies and strategies that have been adopted internationally, nationally and at state level to mitigate greenhouse gas emissions. The primary aim of these has been to reduce the dependence on fossil fuels and to encourage more renewable sources for energy generation.

Demand for electricity has changed in NSW with a shift away from non-renewable fossil fuels. In particular, demand for renewable energy generation has been heightened by the introduction of the Renewable Energy Target (RET) scheme by the Federal government and detailed in the *Renewable Energy (Electricity) Act 2000*. A target of 20% renewable energy generation by 2020 is the current legislated aim. The RET requires energy retailers to source a target amount of energy from renewable sources. The Yass Valley Wind Farm proposal would support meeting this target.

The proposal would also contribute to the National Electricity Market by providing support to base load power systems. Since wind energy is a free source, the price volatility of energy would be mitigated in comparison with other sources such as coal. Analysis of the Life Cycle Assessment of wind turbines suggests that wind energy production has one of the highest rates of energy return on energy invested in comparison to other forms of energy such as solar technologies, nuclear, coal and biodiesel.

The proposal has other potential benefits including:

- the ability to generate more than 1,135,000MWh of electricity per year, which could provide power for up to 142,000 homes;
- the ability to reduce greenhouse gas emissions by approximately 1,098,000 tonnes of carbon dioxide equivalent per year; and
- provision of additional income to associated landowners with an expected resultant boost to the local and regional economies.

### 2.3.2 Department's Position

The Department supports the development of wind farms as a form of renewable energy, subject to the suitability of the location of the wind farms and development adhering to the principles of 'best practice' and Ecologically Sustainable Development. This is consistent with the Commonwealth and State policies by promoting the production and uptake of renewable energies as a means of addressing climate change.

While the proposal would contribute to the Renewable Energy Target, the Department has a number of fundamental concerns with the proposal and the Applicant's assessment (refer **Chapter 5**). The extent of these concerns combined with the Applicant's failure to demonstrate an acceptable level of impact from the development result in the Department being unable to support the proposal. Therefore, the Department recommends that the proposal be refused for reasons detailed in **Chapter 7**.

## 3. Statutory planning requirements

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### 3.1 State Significant Development

The proposal was declared a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (the Act) because it is development described in Schedule 1, Group 8, clause 24 of *State Environmental Planning Policy (Major Development) 2005*, namely development for the purpose of a wind generation facility that has a capital investment value of more than \$30 million. Part 3A of the Act was repealed on 1 October 2011. However, development remained a 'transitional Part 3A project' under Schedule 6A of the Act.

On 21 March 2014 the project was transitioned to the State Significant Development (SSD) assessment system as the Government sought to remove outstanding projects from Part 3A. The previous actions undertaken under the Part 3A process were accredited under the SSD process. The project will be determined as an SSD application.

### 3.2 Secretary's environmental assessment requirements

Epuron Projects Pty Ltd sought the requirements of the then Director General of the Department of Planning and Environment for the Environmental Assessment on 2 December 2008. The Director General's requirements were issued on the 12 January 2009. In preparing the Director General's Requirements, the Department consulted relevant public authorities and has given regard to the need for the Requirements to reflect any key issues raised by those public authorities.

### 3.3 Permissibility

The proposal is located on land zoned RU1 (primary production) under the Yass Valley Local Environmental Plan 2014 and Harden Local Environmental Plan 2011. Electricity generation works are prohibited within land zoned RU1.

Development for the purposes of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone under State Environmental Planning Policy (Infrastructure) 2007. As the proposal is for the purposes of generating electricity within a prescribed rural zone it is permissible with consent as the State Environmental Planning Policy takes precedence over the Local Environmental Plan.

### 3.4 Environmental planning instruments

Under Section 79C of the Environmental Planning and Assessment Act, the consent authority, when determining a development application, must take into consideration the provisions of any environmental planning instrument and draft environmental planning instrument. Development Control Plans do not apply to State Significant Development under Clause 11 of State Environmental Planning Policy (State and Regional Development) 2011 (refer **Appendix F**).

### 3.5 Objects of the EP&A Act

The Minister should consider the objects of the EP&A Act when making decisions under the Act. The objects most relevance to the Ministers decision on whether or not to approve the project are found in Section 5(a) (i), (ii), (iii), (iv), (vi) and (vii). They are to encourage

- (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment;*
- (ii) *the promotion and co-ordination of the orderly and economic use and development of land;*

- (iii) *the protection, provision and co-ordination of communication and utility services;*
- (iv) *the provision of land for public purposes;*
- (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
- (vii) *ecologically sustainable development.*

These objects form key areas of consideration within the environmental assessment and are of particular relevance to the eventual determination of the subject development application. As described in **Section 5**, the Department has a number of outstanding concerns with the proposal and as a result, the Department considers that the Applicant has failed to meet the objects of the Act. In particular, the Department's assessment has found that the proposal's impacts are contrary to the principle of the protection of the environment and ecologically sustainable development.

### 3.6 Ecologically Sustainable Development

The EP&A Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- (a) *the precautionary principle,*
- (b) *inter-generational equity,*
- (c) *conservation of biological diversity and ecological integrity,*
- (d) *improved valuation, pricing and incentive mechanisms.*

As described in **Section 5**, the Department has a number of fundamental concerns with the proposal. In particular, the Department's assessment of the ecological impacts of the proposal concluded that the proposal's impacts are contrary to the principle of conservation of biological diversity and ecological integrity.

### 3.7 Consent Authority

This report has been prepared in accordance with the provisions of SSD and the Minister for Planning (or her delegate) is the consent authority for SSD under section 89D of the Act. On 15 September 2014 the Government announced reforms to the assessment processes of wind farm applications. The reforms include a requirement that all wind farm applications be referred to the Planning Assessment Commission for determination to strengthen the assessment process.

Accordingly, the Planning Assessment Commission is to determine the application.

### 3.8 Environment Protection and Biodiversity Conservation Act 1999

The Applicant has made two separate referrals of the project under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It was determined that both parts are controlled actions and would have, or are likely to have, a significant impact on matters of national environmental significance that are protected under Part 3 of the EPBC Act. The Applicant received Commonwealth approval, with conditions, under the EPBC Act for one part of the project on 5 November 2014. The Applicant had previously withdrawn the other referral in 2013.



## 4. Consultation and submissions

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### 4.1 Exhibition of the EIS

Under section 75H (3) of the Environmental Planning and Assessment Act, the then Director General was to make the Environmental Assessment of an application publicly available for at least 30 days. After accepting the Environmental Assessment for the proposal, the Department publicly exhibited it from 13 November 2009 until 14 December 2009 (a total of 30 days) on the Department's website, and at the following exhibition locations:

- Planning and Infrastructure, Information Centre, 23-33 Bridge Street, Sydney;
- Yass Valley Council, 209 Comur Street, Yass;
- Yass Library, The Yass Library is situated at the back of the Memorial Hall, off Comur Street;
- Harden Shire Council, 3 East Street, Harden;
- Harden Library, Trinity Centre East Street, Harden;
- Binalong Post Office, corner of Wellington Street and Fitzroy Street, Binalong; and
- Nature Conservation Council of NSW, Level 2, 301 Kent Street, Sydney.

The Department also advertised the public exhibition in the Harden Murrumburrah Express on the 12 November 2009, and Yass Tribune on 13 November 2009 and relevant State and local government authorities in writing.

The Department received a total of 23 submissions during the exhibition period. A total of 7 submissions were received from public authorities and 16 submissions from the general public. A link to the submissions and the Proponents consideration of all the submissions is provided in **Appendix D**.

As part of the assessment process the Department has also made other documents publicly available on its website, including:

- Director General's environmental assessment requirements;
- the Environmental Assessment;
- community and agency submissions received during the exhibition of the Environmental Assessment; and
- a report on the aviation impact assessment (**Appendix H**) and visual impact assessment (**Appendix I**).

### 4.2 Government authority submissions

A total of 7 submissions were received from key government authorities. No government authority objected to the proposal however each raised key issues for consideration. The key issues raised (in order of frequency) by the government authorities are summarised below.

**Industry and Investment (I&I)** concurs with the proposed safeguards and mitigation measures to minimise environment impacts listed in the EA, and advises these should be included in any Project Approval and Management Plans. I&I also advise that the proposal is compatible with the existing agricultural activities and has the potential to provide for increased economic security to farmers, however there should be no disturbance to the existing water resource and a weed management plan should be developed. The Applicant should also continue to minimise constraints on access for mineral exploration.

The **Harden Shire Council** raised the following concerns:

- Concern over the statement that the water requirements will probably be drawn from Burrinjuck, and what the consequential impacts are upon water availability should alternate sources be utilised.

- Assurances are required that sufficient funds would exist for the turbines removal and rehabilitation of the area disturbed.
- No details exist on the value, establishment or operation of a community fund.

The **NSW Office of Water (NoW)** identifies a number of requirements should water be sourced from existing dams, creeks or bores. NoW also advise on requirements for any watercourse crossing design and construction, and that an impact assessment on the groundwater resource and existing users should occur if blasting is proposed. NoW also provide recommended conditions of approval.

The **Department of Defence** has no concerns with the proposal at this time.

The **Office of Environment and Heritage (OEH)** raised a number of issues for consideration:

- The Environmental Assessment does not discuss any transmission easement between the two precincts and therefore provide any associated assessment.
- Recommends turbines and associated infrastructure be reduced and/or realigned to decrease the impact on the White Box Yellow Box Blakely's Red Gum Woodland (BGW).
- Raises a number of concerns with respect to the assessment of, and impact to, BGW.
- Provide advice on the calculation of the offset ratio.
- Advise that the level of habitat tree assessment is inadequate and survey information relating to Hollow Bearing Trees is to be quantified.
- Requests additional flora, fauna and Aboriginal Cultural Heritage surveys to be undertaken and statement of commitments to be updated.

The **Roads and Maritime Services (RMS)** states that the EA fails to quantify some major traffic issues relating to the haulage of the wind turbine components and the related construction activities. The RTA also make a number of recommendations in relation to the Preparation of a Traffic Management Plan, required permits and licences, road improvements, dilapidation, maintenance, construction standards, lighting, shadow flicker, financing and need for an independent risk analysis and inspection of the transport route.

The **Yass Valley Council** raised the following concerns:

- The traffic study is not considered to adequately address the potential impacts of construction traffic on the road network.
- Significant concern was raised with respect to the road network's ability to withstand the heavy vehicle loadings associated with the proposed development.
- A detailed review of the safety of the roads to be utilised by construction traffic should be undertaken.
- It is Council and the communities' expectation that a community fund be established.
- Council requests to be advised of the commencement of construction works.

### 4.3 Public submissions

The Department received a total of 16 submissions on the project. A summary of the main issues raised in the public submissions is provided in **Table 1**.

**Table 1. Public Submissions**

| Issue                        | Concerns                                                                                                                                                                                                                                                      |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project benefits             | Any direct benefits will not outweigh the consequences of the project. The environmental benefits and rates of efficiency are questioned.                                                                                                                     |
| No. of turbines              | Unprecedented number of turbines proposed for the area. The number of turbines should be reduced. Cumulative impact with Conroy's Gap Wind Farm.                                                                                                              |
| Community Consultation       | Indicated that community consultation from the Applicant was inadequate and the general lack of opportunity given for public questions and inquiry.                                                                                                           |
| Noise and Health             | Concerns over the noise and health impacts.                                                                                                                                                                                                                   |
| Visual Impacts               | Concern over the use of lights on the turbines and health impacts. Unsure of direct visual impacts due to lack of information. Turbines will impact on the scenic views in the region. Height of turbines should be reduced to decrease their visual impacts. |
| Business and Tourism impacts | Concern over the impacts on the future development of local eco and agri-tourism, in particular on the Crisp Galleries and proposed tourism development.                                                                                                      |
| Biodiversity impacts         | Detrimental impact on districts flora and fauna.                                                                                                                                                                                                              |
| Water                        | Concerns of the adequacy of water studies undertaken within the application and quantity of water required during construction.                                                                                                                               |
| Traffic                      | Impact of construction traffic on the local road network.                                                                                                                                                                                                     |
| Issue                        | Concerns                                                                                                                                                                                                                                                      |
| TV/radio reception           | The application is not definitive in terms of the impact on TV and radio reception.                                                                                                                                                                           |
| Decommissioning              | Lack of guarantees the turbines will be removed once life span is reached.                                                                                                                                                                                    |
| Additional                   | Property devaluation, social impact, local meteorological and climate impacts, quality of Environmental Assessment and some discrepancies.                                                                                                                    |

#### 4.4 Exhibition of the draft Preferred Project Report (November 2012)

The first draft of the Submissions Report/Preferred Project Report was placed on exhibition from 14 December 2012 to 1 March 2013 on the Department's website, and at:

- Planning and Infrastructure, Information Centre, 23-33 Bridge Street, Sydney;
- Yass Valley Council, 209 Comur Street, Yass;
- Yass Library, at the back of the Memorial Hall, off Comur Street;
- Harden Shire Council, 3 East Street, Harden;
- Harden Library, Trinity Centre East Street, Harden;
- Binalong Post Office, corner of Wellington Street and Fitzroy Street, Binalong; and
- Nature Conservation Council of NSW, Level 2, 301 Kent Street, Sydney.

The Department also advertised the public exhibition in the Harden Murrumburrah Express on the 13 December 2012 and Yass Tribune on 14 December 2013 and notified landholders who lodged a submission during the Environmental Assessment exhibition period and relevant State and local government authorities in writing.

The Department received a total of 18 submissions on the draft Preferred Project Report during the exhibition of the Environmental Assessment. 10 of the submissions were from government authorities and 8 submissions from the general public. A summary of the issues raised in submissions is provided below.

## 4.5 Government authority submissions

No public authority objected to the proposal however each raised key issues for consideration. The key issues raised in the government authority submissions are summarised below.

**Trade and Investment - Crown Lands** identify a number of crown roads that are located within the project boundaries and advise that closure of affected segments of Crown roads is the preferred option.

The **Civil Aviation Safety Authority (CASA)** advise that as the wind farm is not within the vicinity of an aerodrome, it cannot direct the Applicant to install obstacle lights, however the Applicant should assess its own obligations in relation to aviation when considering whether to provide obstacle lighting. CASA also provided some recommended conditions for the Department's consideration.

The **NSW Environmental Protection Authority (EPA)** advise that large scale wind farms that have a capacity for generating more than 30MW of electricity, or have been approved under certain provisions of the EP&A Act are likely to require a licence from the EPA in the near future, and the Yass Valley Wind Farm will likely be subject to these new licensing requirements. The EPA also notes that marginal noise exceedences exist for 2 non-involved receivers and 2 involved receivers, however with the proposed deletion, micro-siting and re-location of turbines is unsure whether noise impacts will change as the PPR does not provide an updated noise impact assessment for the new layout.

The **Roads and Maritime Service (RMS)** notes the changes made to the proposal and advises that they do not represent any additional concerns to those raised by the RMS during the EA exhibition period. Notes that the preparation of a detailed Traffic Management Plan, if undertaken in consultation with Council and the RMS, may appropriately address the traffic related issues outlined previously.

The **Murrumbidgee Catchment Management Authority** advises that it concurs with the PPR that the revised project will reduce residual impacts of the development on the existing environment.

The **Department of Defence** advises that it has no concerns with the proposal.

The **Department of Primary Industries (DPI)** advises that Agriculture NSW and Fisheries NSW raise no issues with the proposal. The NSW Office of Water provide some recommended conditions for the Department's consideration.

The **Office of Environment and Heritage (OEH)** provided numerous submissions during its review of the draft PPRs. In its latest submission, dated 22/8/14, the OEH raise outstanding concerns regarding the proximity of some turbines to high constraint or woodland areas with a high number of hollow bearing trees; the reliability of infrastructure mapping and the lack of detail and nomination of specific sites in the Offset Strategy. The OEH also recommends that all new un-surveyed areas of the project site be surveyed by a qualified Archaeologist.

**Harden Council** stated that it wishes to re-iterate the comments made in its previous submission.

**Yass Valley Council** consider that the proposed development would have a detrimental impact on Council's road network and so provided a number of matters with respect to the need for a more detailed Traffic Impact Study including the need for structural assessments of the road pavements, bridges and major drainage structures.



## 4.6 Public submissions

A total of 8 submissions were received from the public. **Table 2** identifies the key issues raised.

**Table 2. Public submissions**

| Issue             | Concerns                                                                                                                                                                                                                                        |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Visual Impacts    | <ul style="list-style-type: none"><li>• cumulative impact;</li><li>• visual impact will not be low;</li><li>• assessment documents are incorrect and misleading; and</li><li>• increase in turbine numbers in the Coppabella section.</li></ul> |
| Bushfire          | <ul style="list-style-type: none"><li>• area is a high bush fire zone and the wind farm will increase that risk; and</li><li>• impact on aerial firefighting.</li></ul>                                                                         |
| Property values   | <ul style="list-style-type: none"><li>• property values will decline.</li></ul>                                                                                                                                                                 |
| Aviation impacts  | <ul style="list-style-type: none"><li>• impact on aerial agriculture spraying.</li></ul>                                                                                                                                                        |
| Noise and Health  | <ul style="list-style-type: none"><li>• health risks of wind farms.</li></ul>                                                                                                                                                                   |
| Consultation      | <ul style="list-style-type: none"><li>• poor community consultation by the Applicant; and</li><li>• Applicant has managed community relations in a dangerous and divisive manner.</li></ul>                                                     |
| Biodiversity      | <ul style="list-style-type: none"><li>• impacts on flora and fauna.</li></ul>                                                                                                                                                                   |
| Decommissioning   | <ul style="list-style-type: none"><li>• clarification on the process of decommissioning.</li></ul>                                                                                                                                              |
| Additional issues | <ul style="list-style-type: none"><li>• local meteorological and climate impacts, quality of assessment.</li></ul>                                                                                                                              |

## 4.7 Additional Agency submissions received following the second PPR

The Department received a submission from **Airservices Australia** which raised the following concerns:

- Airservices cannot support the Yass Valley Wind Farm until a full aeronautical assessment has been conducted to determine the full impacts of the development on the operation of the Mt Majura & Mt Bobbara SSR Air Traffic Control radars;
- To enable Airservices to complete its assessment, each of the outstanding 19 points raised within the IDS Australasia technical report dated 13 November 2012 are to be adequately addressed; and
- Airservices understands the “catch 22” situation (*of all of the outstanding points in the IDS report being addressed prior to final design*), but it cannot be resolved by Airservices making decisions based on incomplete information and potentially jeopardising the integrity of these critical safety surveillance systems.

## 5. Assessment of key issues

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The Department has considered the following documents in assessing the proposal:

- relevant environmental planning instruments, guidelines and policies;
- the objects and relevant provisions of the Environmental Planning and Assessment Act;
- the Environmental Assessment, submissions received, the Proponent's Submissions Report and various draft Preferred Project Reports; and
- the Independent reviews commissioned by the Department to examine the Applicant's impact assessment on aviation and visual aspects of the proposal.

The Department considers the key overarching issue for the assessment of the proposal is the lack of clarity of the final project design and its subsequent impacts. The Department has therefore identified the following key issues requiring detailed consideration:

- project description;
- aviation impacts; and
- biodiversity impacts.

The Department's assessment of key issues is provided in **Sections 5.1 to 5.5**, while the Department's consideration of all other issues is provided in **Chapter 6**.

### 5.1 Project Description

#### 5.1.1. Issue

The Applicant has amended the proposed project on a number of occasions and five PPRs have been submitted to the Department over the last two years. Additionally, the Applicant has submitted separate documentation to the Department on many occasions, to advise of changes to the project layout and project components. At this stage, the Applicant has failed to commit to a definitive project layout and assess the environmental and social impacts of a final layout. Additionally, the Applicant has not been able to demonstrate that it can secure the land required to construct the whole project. The Department considers the Applicant's proposal includes some aspects with a high level of uncertainty, and therefore in its current form, the level of risk this uncertainty presents is unacceptable.

A related issue is the correct nomination by the Applicant of whether a landowner is "associated" or "involved" in the project, as this implies the landowner agrees to host project infrastructure, or agrees to consequential impacts from hosting project infrastructure or agrees to be in close proximity to project infrastructure on neighbouring properties. Once the Applicant nominates a landowner to be "associated" with the project, the Department does not require the Applicant to fully assess the environmental impacts of the "associated" property, as the "associated" property has negotiated compensation with the Applicant for consequential impacts to their property and/or residence.

It appears the Applicant has incorrectly identified some landowners as "associated landowners" or wishes to nominate some landowners as "associated landowners" without an agreement in place. The non-involvement of these landowners could compromise the access to and siting of project infrastructure for the development. Additionally, the Applicant's recent removal of "associated landowners" from the proposal and clarification that negotiations are still underway with several landowners previously advised by the Applicant to be "associated" has meant some impacts on previously identified "associated landowners" properties have not been assessed by the Applicant.

#### 5.1.2. Submissions

The Department received submissions from landowner 16 that they have requested the Applicant to remove proposed infrastructure from their property on numerous occasions. However, the Applicant repeatedly submitted plans which included infrastructure on the property of landowner

16, until the last plan from the Applicant (dated 25/11/14). The Department has also had communications with landowner 8/9 and landowner 23-25, who have stated they do not wish to host any wind farm infrastructure.

#### 5.1.3. Consideration

The Department received a draft PPR in 2012, three years following the exhibition of the environmental assessment. The draft PPR made several substantive changes to the project, including the relocation of the majority of turbines, the creation of a new cluster of 12 turbines and re-aligning the route of the main transmission line. This PPR was exhibited by the Department. The Applicant has since submitted a further four PPRs to resolve a number of outstanding concerns with the proposal. Additionally, the Applicant has also submitted many separate documents or information under separate cover, to address:

- the Applicant's ongoing negotiation with landowners regarding the siting of project infrastructure;
- queries from the Department regarding aspects of the proposal and its impacts; and
- outstanding issues and project impacts raised by other government agencies.

The Applicant's fifth (and most recent) PPR (September 2014) included a number of further changes to the project including:

- Removal of 10 turbines;
- Changes to the switchyard location options in both the Coppabella and Marilba Precincts with 6 switchyard location options in total (2 in Coppabella, 3 in Marilba and 1 for the 330KV transmission connection);
- 1 additional substation location option in the Coppabella Precinct, 1 additional substation location option in the Marilba Precinct - 5 substation location options in total (2 in Coppabella, 2 in Marilba, 1 connecting up 2 precincts to 330KV line);
- Approximately 1.5km-2km of additional underground cabling between turbine 83 and 117
- New sections of 300kV and 132kV overhead power line routes within both precincts
- Relocation of the primary access point from the Hume Highway into the Marilba Precinct and new internal access tracks in the Marilba Precinct;
- New internal access tracks within the Coppabella Precinct; and
- New primary access point from Illalong Road into the Marilba Precinct (this used to be a secondary access point).

The Applicant submitted a further document to the Department on 14 November 2014, to address questions raised by the Department and other agencies. The Applicant's document provides a response from the Applicant to a number of outstanding concerns. In relation to the project description and demonstrating whether the Applicant has secured access to the landholdings that are to be a part of the project, the Applicant's response shows that it has not yet secured agreement with five landowners, five years after the EIS was originally exhibited. However, the Applicant wishes to include the five properties in the DA (and therefore retain project infrastructure on these properties). Additionally, the Applicant has removed one property from the proposal (landowner 16) as it appears unlikely that it will secure an agreement with the landowner.

The Applicant's categorisation of neighbouring landowners as "associated" or "non-associated" is a key step in determining the level of impact assessment that is required to evaluate impacts of the proposal on the landowner. The Applicant incorrectly identifying some landowners as "associated" when they are currently "not-associated", causes two significant issues for the Department's assessment:

1. ongoing confusion and uncertainty about the footprint of the proposal, which leads to outstanding issues in evaluating the impacts of the proposal; and
2. no assessment has been provided by the Applicant of the visual impacts of the proposal on landowners that may become "non-associated", if the Applicant fails to secure agreements with these landowners. This issue also includes the Applicant's failure to

assess visual impacts of the proposal on the landowner (landowner 16) that has recently been removed from the proposal.

These issues are discussed further below.

A total of 27 landowners were nominated as “associated landowners” within the Applicant’s assessment. During the assessment of the proposal, 3 landowners advised the Department that they are not legally involved with the development, nor do they wish to be, and therefore all infrastructure as nominated within the Applicant’s assessment on their respective properties should be deleted. The relevant landowners and infrastructure associated with their properties are detailed in **Table 3** (refer also **Appendix J**) which also includes a summary of project infrastructure on adjacent properties.

**Table 3. Landowners previously shown as “associated landowners”**

| Landowner               | Infrastructure proposed to be sited on the property                                                                                                                                                                                                                                         | Proposed infrastructure on adjacent properties                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Landowner 8 and 9 (C04) | Up to 8 turbines (turbines 20, 21, 22, 23, 24, 26, 27, 28);<br>Overhead transmission line, underground electrical reticulation; and<br>Access roads.                                                                                                                                        | Turbines 73, 74, 75, 76, 77, 78, 79, 80, 81 and 82 are connected to the substation via underground electrical reticulation through landowner 8’s property.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Landowner 16 (C27)      | Up to 3 turbines (turbine 115, 120, 122);<br>Substation;<br>Overhead transmission line and underground electrical reticulation;<br>Part access road for the primary access into Marilba Hills Precinct;<br>Part access road for the secondary access point into the Marilba Hills Precinct. | Turbines 110, 111, 112, 114, 116 and 117 are connected via underground reticulation and overhead transmission lines through the landowner 16 property.<br>Turbines 83, 84, 85, 86, 87, 88 and 92, on the property adjacent to landowner 16, are connected via overhead transmission lines to the substation that may, or may not be proposed on the property of landowner 16.<br>Turbines 83, 84, 85, 86, 87, 88 and 92 are to be accessed via access tracks through the property of landowner 16. As noted in <b>section 4.4</b> , the infrastructure proposed to the east of these turbines has been removed by the Applicant. |
| Landowner 23, 24, 25    | Substation; and<br>Approximately 9km of the 330kV transmission line connecting the alternate switchyard.                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

There are consequential impacts that would result from the Applicant’s inability to develop the infrastructure outlined in **Table 3** if the landowners do not wish to be an “associated” landowner. This results in uncertainty in the final project layout that the Applicant is seeking a Project Approval for. Additionally, it remains unclear how turbines on adjacent properties will be accessed and connected to the grid.

Following the submission of the draft Preferred Project Report (dated May 2014) the Department

advised the Applicant that it would be validating aspects of the assessment by consulting with “associated landowners”, to determine whether or not the landowners were legally involved in the project. Following this, the Applicant submitted its final Preferred Project Report (September 2014), which includes a new site map dated 26 August 2014 indicating that:

- a new overhead power line connection between a new alternate substation (not previously proposed) and turbine 82 may exist;
- a new overhead power line connection between turbines 110 and 119 may exist;
- a new underground electrical cable, (approximately 1.5km-2km) between turbines 83 and 117 may exist;
- an existing access track exists from Illalong Road to the location of turbine group 83, 84, 85, 86, 87, 88 and 92 (as well as other existing access tracks), and a “right angle” bend has been proposed in the access track around the property of landowner 16;
- a revised primary access location from the Hume Highway into the Marilba precinct, inclusive of a revised access track to turbine 118 may exist; and
- an alternate switchyard.

The Department notes infrastructure is still proposed on the properties of 3 landowners not wishing to be involved in the project within the Applicant’s assessment. Section 2.2 of the Applicant’s final Preferred Project Report which purports to describe the changes that have occurred to the project since exhibition of the first draft Preferred Project Report (November 2012), also does not seem to accurately reflect the above changes. The Department also notes the impacts of the new electrical connections and access tracks have not been adequately assessed and documented within the final Preferred Project Report. This should include impacts associated with approximately 1.5km-2km of new underground cabling, a new alternate substation location, a new alternate switchyard, new 300kV and 132kV overhead power line routes and revised primary access point and access track from the Hume Highway to turbine 118. The possible consequential environmental and social impacts of these changes to the project layout and the residual risks to the environment of these proposed changes are therefore unknown.

Additionally, as infrastructure such as turbines were proposed to be sited on properties adjacent to properties 8/9 and 16, these project components may not be able to be accessed if properties 8/9 and 16 are no longer part of the Development Application. In the event these turbines could be accessed via alternate routes, the ability of reticulating electricity generated from the operation of these turbines to the grid continues to remain uncertain.

The Applicant’s assessment indicates the primary overhead 330kV transmission line connection for both precincts travels in a southerly direction, via the property of landowner 23, 24 and 25. The Applicant’s assessment also indicates that a substation is located on the property of landowner 23. In the event that landowner 23 does not wish to be part of the proposal, the electricity generated from the operation of the turbines will not be able to be transferred via the primary 330kV overhead transmission line to the grid. The Department notes two alternate 132kV overhead transmission lines are proposed, that could transfer the electricity generated from the operation of any remaining turbines (not affected by the removal of infrastructure from the property of landowner 8 and 16), into the electrical grid located to the north of the project.

The Applicant recently submitted documentation to the Department (14 November 2014) which removed landowner 16 from the proposal. Although the document states that proposed infrastructure from this property has now been removed and alternate access has been provided to infrastructure surrounding this property, the Applicant has not provided a corresponding assessment of the potential impacts from newly proposed tracks, overhead reticulation and underground reticulation (as proposed on maps dated 25/11/2014). Additionally, the Applicant has not provided an assessment of the visual impacts of the turbines on landowner 16, as the Applicant previously nominated this landowner as “associated”. Landowner 16 has ten turbines within approximately three kilometres of its residence, with the closest turbine being approximately 1 km away. The Applicant has not assessed the impacts of the surrounding infrastructure on Landowner 16.



Similarly, if the Applicant is unable to secure agreements with landowners 8/9 to become “associated landowners”, these landowners would become “non-associated” and the full visual impacts of the proposal should be assessed by the Applicant. In the event both of these landowners remain “non-associated” and all proposed infrastructure was removed from their respective properties, each property would still have the nearest turbine approximately 2 km from each residence and the Applicant has not assessed these potential impacts on these properties.

The recent document from the Applicant (14 November 2014), together with the revised PPRs demonstrates a failure on the Applicant’s part to consistently commit to the footprint of the whole project, consistent with the land it has secured for the proposed development. The Applicant has shown a track record of submitting various options for siting project infrastructure, such as wind turbines, substations, switchyards, transmission lines, grid connections, access routes, underground cabling and internal access tracks. The Applicant has continually and iteratively amended the project (or provided various options) and has failed to commit to a consistent project layout and assess the full extent of impacts such that the Department, other government agencies and the local community can evaluate the environmental and social impacts of the proposal with confidence and in a transparent manner. Additionally, it is the Department’s position that the Applicant proposes to undertake an unacceptable amount of impact assessment work in the pre-construction phase, particularly in relation to aviation and biodiversity aspects.

#### 5.1.4. Conclusion and recommendations

The Department considers the western part of the site (the Coppabella precinct) may possibly be suitable (depending on the project layout and outcomes of the corresponding environmental impact assessment) to support a wind farm development. However, the Department considers the Applicant has failed to adequately commit to a consistent project layout and footprint which ensures the proposal’s environmental and social impacts can be appropriately evaluated by the Department and other stakeholders.

At this point in time, the Department considers there are too many aspects of the project which have not been confirmed and committed to by the Applicant, which introduces an unacceptable level of risk in the ability of the Department to properly assess the impacts of the proposal. Additionally, the Applicant has not reasonably assessed all of the impacts of the proposal on nearby landowners that may become “non-associated” landowners, or in instances where the landowner is “non-associated”, however, was previously nominated by the Applicant as “associated” through the life of the proposal. . The Department considers the lack of assessment of potential “non-associated” landowners to be a serious flaw in the Applicant’s assessment.

Due to the unacceptable level of uncertainty in the project layout, coupled with significant uncertainties regarding some aspects of the environmental and social impacts of the proposal (as discussed below), the Department concludes there is inadequate justification for the proposed wind farm to proceed at this time.

The Department considers the Applicant, in future, should resolve the majority of issues in the planning and community consultative phases of the proposal, prior to the submission of a Development Application to the Department, to ensure the Applicant does not need to iteratively revise and assess the proposal for many years following the original application.

## 5.2 Aviation

### 5.2.1. Issue

The proposed turbines are up to 150m tall (measured to the tip of the turbine blades), which have the potential to impact on aviation safety. Two aviation issues associated with the proposal are the potential impact on:

1. the safe operation of Air Traffic Control Radars associated with airports; and
2. surrounding airstrips.

### 5.2.2. Submissions

Airservices Australia has advised that it cannot support the Yass Valley Wind Farm as currently presented. Airservices has repeatedly requested that the Applicant undertake a full aeronautical assessment to determine the full impacts of the proposal on the operation of the Mt Majura PSR/SSR Air Traffic Control radar and Mt Bobbara SSR Air Traffic Control radars that support Canberra and Albury airports. Airservices further advise that making decisions based on incomplete information could potentially jeopardise the integrity of its critical safety surveillance systems.

These concerns were originally raised by Airservices Australia, in its letter to the Applicant dated 19 December 2012. The letter states it was unable to assess the operational impact that the proposed wind farm would have on the surveillance environment until the matters raised in its meeting, dated 27 September 2012, with IDS aeronautical, are clarified, such as:

- the proper scaling of plots and images, detailed line of sight diagrams in the regions covering controlled airspace around Canberra and Albury and clarification of onboard transponder sensitivity;
- clarification of certain definitions, distances between radars and the wind farm, sufficient large scale diagrams and delta coverage diagrams; and
- mitigation strategies for SSR and PSR, methodology for false target computation and to expand the area of study to include larger distances over Canberra and Albury.

The Applicant has not provided this information.

Submissions were also received with respect to the impact of the project on air safety, and in particular the impact on aerial spraying for agriculture and wake turbulence for local airstrips in the vicinity of the proposed wind farm.

### 5.2.3. Consideration

The Applicant prepared an Aeronautical Impact Assessment and Obstacle Lighting Review and Qualitative Risk Assessment and an assessment on the aviation navigation services for the Coppabella Hills and Marilba Hills Precincts. These assessments concluded that:

1. There is minimal probability of an aircraft impacting with a turbine day or night or in poor weather;
2. There is a low/medium risk to approved low flying operations for aerial applications, emergency service activity and firefighting activity. In particular the location of the wind farm and any of its individual turbines will not impact on the approach, circuit work or take-off of aircraft from any of the identified aerodromes, airfields or airstrips in the region; and
3. With the exception of the MT Bobbara radar there will be no aeronautical impacts caused by the location and proposed heights of the wind turbines. However, there are a number of turbines in the proposed Yass Valley Wind Farm that infringe upon the Air Traffic Control radar clearance plane for the Mt Bobbara Radar.

The Department engaged an independent expert to review the Applicant's aeronautical/aviation impact assessment, with the intent of identifying any gaps within the Applicant's assessment and whether it accords with all relevant guidelines and industry standards (refer to **Appendix H**).

#### *Potential Impact on Air Traffic Control Radars*

The Department has consulted with AirServices Australia and understands that AirServices Australia is unable to assess the potential impacts of the wind farm on the Mt Majura PSR/SSR Air Traffic Control radar and Mt Bobbara SSR Air Traffic Control radars without a detailed Aviation Impact Statement (undertaken in accordance with the EUROCONTROL Guidelines). The detailed Aviation Impact Statement would include a full assessment of the impacts of the final design and location of the wind turbines on the integrity of the critical safety technical systems.

The Applicant however suggests undertaking the detailed impact assessment following the detailed design of each project stage to determine the final placement of wind turbines prior to construction. The Applicant's reasoning is that it will not be able to commit to the final design location and final design of the turbines until the completion of detailed engineering studies and a tender process for turbine selection.

The Department acknowledges this creates a "catch-22" situation where the Applicant is unable to commit to detailed design specifications at this stage, however, these are required as input data into the Aviation Impact Statement to determine whether material impacts would potentially occur. The EUROCONTROL Guidelines set out an impact assessment process for assessing the potential impacts of wind turbines on air control, and shows that a number of inputs are required to determine whether there is an engineering operational impact and whether this impact is significant. In the event the impact is considered significant, the process recommends exploring a number of mitigation measures which could include modifying the wind farm or the surveillance engineering or operational aspects. The EUROCONTROL Guidelines highlight the benefits for Applicants to consult with airport operators early in the design process, where there is more scope for adaptation, whereas at later stages, viable mitigation options could be more difficult to define and agree on.

The Department notes the Applicant has frequently revised the location of wind turbines (as well as other project components), including in its latest response (dated 14 November 2014). The Department is concerned that it cannot assess the aviation impacts in a thorough and transparent manner, on the integrity of the operation of the Mt Majura PSR/SSR Air Traffic Control radar and Mt Bobbara SSR Air Traffic Control radars. The Department considers that without an appropriate level of assessment of these risks and viable mitigation options (which would be agreed to by AirServices Australia), the Department is unable to support the current proposal.

#### *Potential Impact on Surrounding Airstrips*

The Independent Review (refer **Appendix H**) was also commissioned to inform the Department on how well stakeholder and community issues relating to aviation impacts had been addressed in the Environmental Assessment and Preferred Project Reports, the suitability of the proposed mitigation/management measures and whether any changes were required to make the proposal acceptable (in particular the potential impacts of the turbines or related infrastructure on aerial agriculture spraying on surrounding properties).

The Review highlighted that the Applicant's impact studies did not accurately identify and assess the impacts on surrounding airstrips, and that in its view, some airstrips in the area will be affected. In this respect the review recommends that:

- all identifiable unregistered aerodromes/airstrips within 55.56km from the perimeter of the proposed wind farm be identified;
- all known and usable airstrips within 10km from the perimeter of the proposed wind farm be identified;
- the nature of flying activities at all identified aerodromes and airstrips be listed; and
- following the collation of the above information, a review of the potential impacts on these airstrips be undertaken.

The Review did not agree with a number of the methodologies used in the Applicant's assessment and how the subsequent value of these results was obtained. The Review further found that the consultation process and results of the impact assessment report were not accurate enough, including incomplete information supplied to the owners of airstrips, ineffective communication methods used with the owners of airstrips and that not all owners of airstrips were consulted during the assessment process.

In particular, the Review noted nine private airstrips in the vicinity of the wind farm proposal, where the aircraft may not achieve sufficient altitude before reaching the wind turbines. The Review found that impacts at these airstrips need to be fully understood, particularly in relation to aircraft

performance and departure gradients. This will determine whether or not an aircraft would be able to obtain sufficient obstacle clearance and turn safely.

The Review also highlighted that wind turbines generate turbulence and recommends a review of wind turbulence, inclusive of a single turbine and multiple turbines.

The Department notes it repeatedly advised the Applicant that its aeronautical impact assessment did not identify and therefore undertake a risk assessment of all private airstrips surrounding the proposal, inclusive of agricultural aircraft movements.

The Department requested the Applicant on a number of occasions to update its aeronautical impact assessment to identify and undertake a risk assessment of all surrounding airstrips. Part of the request was for the Applicant to undertake additional consultation with the owners/users of these airstrips, and any additional airstrips identified during this process, including an assessment on any impacts associated with take-off, landing and circling procedures.

The Applicant was provided with a map of surrounding airstrips by a member of the Community Consultative Committee in March 2014 which indicated numerous airstrips (approximately 23) in proximity to the wind farm. At the request of the Department, the Applicant undertook additional consultation with the owners of the airstrips identified in this map. The Department believes this consultation was inadequate as it was not undertaken by an expert in the field of aviation impact assessment and did not seek to adequately inform the outcome of the proposal by taking into consideration any impacts of the wind farm on the surrounding airstrips. To date, the Applicant has failed to satisfy the Department's request to update its aeronautical impact assessment report to adequately reflect the number of surrounding airstrips and the potential safety and operational impacts that the wind farm may have.

#### 5.2.4. Conclusion and recommendation(s)

The Department considers the Applicant has failed to demonstrate the level of risk to the integrity of the operation of the Mt Majura PSR/SSR Air Traffic Control radar and Mt Bobbara SSR Air Traffic Control radars, which are critical to the safe operation of the Canberra and Albury Airports. In the case the level of risk is predicted to be unacceptable, the Applicant has also not demonstrated whether viable mitigation options could be implemented to lower the risk to a level acceptable to AirServices Australia. Therefore, the Department considers there is too much uncertainty about the level of risk to both the operation of Canberra and Albury airports. The Department does not support the Applicant's approach to undertake the key impact assessment work of the aviation aspects in the pre-construction phase of the project. The Department requires the aviation issues to be assessed fully in the proposal's detailed impact assessment, so that it can determine the level of acceptability of predicted impacts and whether appropriate environmental and social outcomes can be secured (with a reasonable degree of confidence) as a result of the proposal. Additionally, these outcomes need to satisfy the requirements of AirServices Australia.

The Department also considers the Applicant has not fully evaluated the level and nature of adverse impacts on local commercial and/or non-commercial aviation. Therefore, based on the high level of uncertainty about the proposals potential impacts on Canberra and Albury airports and local aviation, the Department cannot support this proposal at this time.

## 5.3 Biodiversity

### 5.3.1. Issue

The proposal has the potential to impact on the biodiversity of the region, through the construction of the proposed infrastructure, access routes and wind turbines sites, operation of the wind turbines and the ongoing maintenance of the project.

### 5.3.2. Submissions

The Office of Environment and Heritage (OEH) has raised a number of concerns in relation to the

development which include avoiding impacts on biodiversity, the provision of adequate mitigation measures and an appropriate offset strategy. The Applicant provided OEH with a significant amount of additional assessment information in May 2014 which had not been presented in the Environmental Assessment. However, following review of this additional information, OEH still has a number of outstanding concerns which relate to:

- the constraints mapping;
- impacts on hollow bearing trees;
- overall vegetation impacts and the adequacy of the proposed mitigation measures; and
- the offset strategy.

### 5.3.3. Consideration

The Applicant prepared an ecological impact assessment, which included flora and fauna surveys and vegetation mapping, to assess the impacts of the development (inclusive of the wind farm site and transmission line easement) on ecological values. The assessment was undertaken to identify threatened species, populations and ecological communities that could potentially occur on the site and surrounds, based on suitable habitats present. During 2014, the Applicant provided a suite of additional information, for the consideration of OEH and the Department, as follows:

- Revised turbine and infrastructure design for the project (several iterations with the most recent being a document dated 14 November 2014 and map dated 25/11/14);
- Revised Statement of Commitments;
- Updated “high constraints” files with information about the high constraints areas;
- Results of new Hollow Bearing Assessments; and
- Clarification of transmission line requirements and easements.

The additional information provided by the Applicant has been provided in an ongoing, iterative process and has not been consolidated into a single report. The PPR dated September 2014 does not include the updated ecological information provided throughout 2014 and refers to an ecological report dated in 2013. Although the Applicant provided some ecological information in its most recent correspondence dated 14 November 2014, there are still a number of outstanding ecological issues as outlined below.

#### Constraints mapping

The Applicant developed a ‘high constraints layer’ (constraints map) that the Department and OEH understand the Applicant used for the siting of infrastructure. OEH remain concerned that there are a number of inconsistencies with the constraints mapping produced by the Applicant, and it is unclear why certain areas have been identified as high, medium or low constraint, or not ranked at all. This is an important issue because if an area of high conservation value is not ranked accurately in the constraints map, infrastructure may be sited inappropriately (on areas of high conservation). Further, any resulting offset proposal may not reflect the true values of the vegetation/habitat being impacted by the project.

Whilst it is acknowledged that the Applicant has made some refinements to the constraints mapping and provided some clarification around its rationale and methodology for ranking, both OEH and the Department remain concerned that the current constraints map is not an accurate reflection of the environmental values across the site.

OEH has stipulated that the predominant vegetation type (Box-Gum Woodland) in the impact area is listed as an endangered ecological community, and is a highly cleared vegetation type warranting protection. Both the Department and OEH note there is one turbine that is still proposed within a high constraints area (turbine 138) and a number of other turbines that are within 50m of a high constraint area. OEH is concerned that placing turbines within close proximity of woodland areas is likely to limit the value of that habitat for many species and suggests a greater buffer between turbines and woodland areas is warranted.

The Department notes that the new electrical connections and access tracks (See section 2.2)



have not been adequately assessed within the Applicant's biodiversity assessment. These project elements include approximately 1.5km-2km of new underground cabling, a new alternate substation location, a new alternate switchyard, new 300kV and 132kV overhead power line routes and revised primary access point and access track from the Hume Highway to turbine 118. The consequential environmental impacts on biodiversity values and whether these impacts can be managed to an acceptable level is therefore still unknown.

In summary, the Department considers that as the constraints mapping used by the Applicant cannot be wholly relied upon, the justification for siting various infrastructure components including turbines, access tracks and reticulation lines is not supported. More broadly, the OEH remains concerned the vegetation and endangered ecological mapping cannot be relied upon for selecting offset sites.

#### Hollow bearing trees

Hollow bearing trees provide important habitat for birds and bats. There are a number of different impacts that could occur as a result of the proposal. These include:

- direct clearing of hollow bearing trees resulting from turbine placement;
- the potential sterilisation of habitat, as birds and bats stop utilising a hollow bearing tree, or a large area containing a collection of hollow bearing trees, due to the close proximity of the turbines to the tree (50-100 metres); and
- bird and bat strike may result from placing the turbines in close proximity to the trees as certain species trying to access them are struck by the turbine blades in the process

There has been significant debate between the Applicant and OEH regarding how the hollow bearing trees should be surveyed. To estimate the hollow bearing tree resource, the Applicant settled upon a sampling method that included analysing aerial imagery to identify tree canopies over 15 metres diameter, that are likely to contain hollows. The Department and OEH remain concerned regarding the veracity of this sampling methodology. The Department also notes that the Applicant has not undertaken fauna surveys to determine which fauna species may be using the hollow bearing tree resources in the project area.

From the additional documentation received during 2014, OEH estimates that there will be impacts upon at least 449 hollow bearing trees identified within the project area (as a result of clearing or placement of turbines in close proximity to the turbine). This takes into account the 10 turbines the Applicant removed from the proposal in June 2014 in the M4 cluster and the relocation of another turbine. OEH has advised that the removal of hollow bearing trees is a key threatening process for many hollow-dependent species, as the trees offer very important habitat for threatened species such as the Superb Parrot that has the potential to occur in the area. Impact on such a significant number of hollow bearing trees is a concern to both OEH and the Department, particularly in an over-cleared and fragmented landscape such as the Yass Valley area.

Whilst it is acknowledged that the removal of the 10 turbines by the Applicant in the M4 cluster is likely to have reduced the impacts of the proposal, OEH has consistently recommended to the Applicant that the placement of turbines adjacent to woodland and forest remnants most likely to contain a high number of hollow bearing trees should be avoided. The Applicant has not adhered to this approach for certain turbines, such as turbines 145, 56, 102 and 148, which together would account for over 33% of the hollow bearing trees to be impacted across the whole project. The Department therefore considers the Applicant has failed to make an appropriate attempt to avoid impacts to biodiversity.

In November 2014, the Applicant undertook a site survey at these four turbine locations, and proposed the relocation of these four turbines (145, 56, 102 and 148) by up to 148m in an attempt to reduce impacts on hollow bearing trees. In addition, the Applicant proposes to relocate turbine 144 by 330m for wind engineering reasons. The Department acknowledges that these relocations are likely to result in the total number of hollow bearing trees being reduced from at least 449 to 320. However, the Department considers the total quantity of hollow bearing trees to be impacted

by the whole project is still significant and that the Applicant has failed to make an appropriate attempt to avoid impacts to biodiversity in the overall design of the wind farm.

The Department also notes that no indication has been given as to whether an ecologist experienced in identifying hollow bearing trees was present during the field survey to identify the number of hollow bearing trees surrounding the 4 turbines. The Department further notes that in relocating the 5 turbines, the Applicant has not quantified the consequential impacts of relocating the turbines, such as impacts to aviation, visual and noise impacts on surrounding receivers. Any consequential impacts on biodiversity as a result of the movement of the turbines, which include the associated access tracks and underground cabling have also not been addressed.

In addition, OEH notes the impacts on the hollow bearing trees adjacent to turbines have not been appropriately mitigated in the draft Preferred Project Report, Statement of Commitments or Project Design. OEH further states that these impacts have not been quantified in the offset strategy, nor potential sites nominated that may contain suitable compensation for this impact. Both OEH and the Department therefore conclude that impacts to biodiversity have not been appropriately mitigated or offset leading to unacceptable biodiversity outcomes.

#### Overall impacts to vegetation and the Offset Strategy

The development is estimated to have a total expected impact of approximately 225ha on native vegetation, with approximately 196ha (or 8%) of this being Box-Gum Woodland, which should be offset accordingly. The Department notes however, that the most recent PPR (September 2014) states the area of vegetation to be impacted will be 204 ha. In this respect, OEH has raised concerns with the Offset Strategy presented by the Applicant. The Offset strategy does not include hollow bearing tree quantities nor does it have specific offset sites nominated. Further, high conservation habitat is not clearly defined, the offset ratios (and methodology) are not supported, and there are other deficiencies in the offset strategy including the use of nest boxes to offset hollow bearing trees.

A fundamental aspect of an Offset Strategy is that the Applicant is required to demonstrate that it can secure appropriate land for an offset (for appropriate vegetation types and quantities), which interested landowners would agree to such that a covenant or similar form of protection would be applied to the land. The Applicant provided a map of potential offset sites in 2013, however, none of these offset sites were considered suitable by OEH, as the proposed offset locations were adjacent to the turbines. The Department has also been informed that the Applicant's submission to the Commonwealth under the *Environment Protection and Biodiversity Conservation Act (1999)* identified the land of an adjoining landowner as a potential offset site without the permission of the landowner. Despite the Applicant providing several additional documents throughout 2014, none of these documents has included appropriate offset sites. The Department considers the Applicant has not been able to demonstrate that it can secure landowner support for an appropriate offset area which will offset the biodiversity loss of the project. The Department requires the Applicant to be able to demonstrate that it can provide and secure an appropriate offset area in the impact assessment phase of the project, as this strategy underpins the offsetting of biodiversity that would be lost as a result of the proposal. The biodiversity outcomes of the proposal will be determined by the correct calculation and assessment of biodiversity loss as a result of the proposal and the successful selection and implementation of the offset area, to offset the biodiversity loss. The Department cannot support this proposal whilst several aspects of the biodiversity impact assessment remain outstanding and that a feasible and appropriate offset site for the biodiversity has not been secured by the Applicant.

#### 5.3.4. Conclusion and recommendation

Both the Department and OEH have a number of fundamental outstanding concerns in relation to the Applicant's assessment of biodiversity matters. Specifically, the Department concludes that the Applicant has not made an adequate attempt to avoid impacts to hollow bearing resources. The proposal would result in a significant number of hollow bearing trees being impacted across the development area. This impact is considered significant and unacceptable due to the over-cleared

and fragmented landscape context in which these impacts would occur.

Further, due to the various gaps in the Applicant's biodiversity assessment, the Department is unable to determine the acceptability of impacts on the regions biodiversity. The Department's assessment has concluded that the development will result in unacceptable impacts on biodiversity, as a result of inadequate avoidance by the Applicants project design, inadequate provision of mitigation measures, and a failure to adequately and with certainty, offset the biodiversity impacts of the proposal. Therefore, the Department cannot support the proposal.

## 5.4 Visual Impacts

### 5.4.1. Issue

Wind turbines are significant pieces of infrastructure that have the potential to cause adverse visual amenity outcomes on local communities and residents.

### 5.4.2. Submissions

Public submissions have expressed concern with the size and scale of the wind farm and general underestimation of visual impact within the assessment. Concerns have also been expressed that there would be cumulative impacts because of the proximity of the Conroy's Gap Wind Farm.

### 5.4.3. Consideration

A total of 377 residences were identified by the Applicant within 8.5km of a turbine, of which 345 were neighbours (non-associated) (refer to Table 4 for the distribution of residences within 8.5km and **Figure 3**). The Department notes that the Applicant included a revised table of surrounding residence numbers within its final Preferred Project Report, dated September 2014, which indicates an additional 3 non-associated residences beyond 2km of a turbine. During its assessment, the Department also identified 3 landowners who have potentially been misrepresented as associated with the proposal. This includes property C27 (landowner 16) who has a turbine within 2km.

Irrespective of the final number of non-associated residents within 8.5km of a turbine, the Department notes the Applicant has failed to assess the visual impacts of the proposal at all non-associated residences. As the Applicant has frequently amended the proposal, or submitted inconsistent information in regards to the proposal and changed the project layout, some non-associated properties that are in proximity to the wind farm remain unassessed from a visual impact perspective. For the sake of clarity, discussion below is generally focused around the 345 non-associated residences within 8.5km identified in the Applicant's original EA.

**Table 4. Number of residence within 8.5 km**

| <i>Distance to nearest turbine</i> | <i>Total number of residences</i> | <i>Involved residences</i> | <i>Non-involved residences</i> | <i>Residential viewpoints assessed</i> | <i>Number of photomontages</i> |
|------------------------------------|-----------------------------------|----------------------------|--------------------------------|----------------------------------------|--------------------------------|
| 0 - 1 km                           | 1                                 | 1                          | 0                              | 0                                      | 1                              |
| 1 - 2 km                           | 22                                | 16                         | 6                              | 6                                      | 5*                             |
| 2 - 3 km                           | 29                                | 6                          | 23                             | 4                                      | 5                              |
| 3 - 4 km                           | 35                                | 5                          | 30                             | 2                                      | 7                              |
| 4 - 5 km                           | 37                                | 5                          | 36                             | 3                                      | 2                              |
| 5 - 6 km                           | 25                                | 3                          | 18                             | 1                                      | 1                              |
| 6 - 7 km                           | 32                                | 0                          | 32                             | 0                                      | 0                              |
| 7 - 8.5 km                         | 200                               | 0                          | 200                            | 1                                      | 1                              |
| >8.5 km                            | -                                 | -                          | -                              | 1                                      | 4                              |
| <b>Total</b>                       | <b>377</b>                        | <b>36</b>                  | <b>345</b>                     | <b>18</b>                              | <b>26</b>                      |

\*Note that one resident did not provide permission for a photomontage to be used for further assessment

The Department notes that the final Preferred Project Report also deletes 10 turbines from the proposal due to potential biodiversity impacts within the Marilba precinct. While the removal of these turbines is likely to reduce visual impacts on some sensitive receivers, the Applicant has not provided a revised visual assessment.

The Department's assessment included a site inspection and a review of all of the relevant documentation, including the Applicant's documentation and submissions. The Department also commissioned Richard Lamb and Associates, specialist visual impact and landscape consultants, to undertake an independent review of the proposal. Its report was based on consideration of the information provided in the Environmental Assessment and draft fourth Preferred Project Report dated May 2014. A site inspection was also conducted. It did take account of changes that would result from the Applicant's removal of 10 turbines, but did not consider other changes that might result in visual amenity impacts, such as some landowners not being "associated" with the development. A copy of the report is at **Appendix I**.

The Report found that a number of important issues had not been properly considered with some of the key points being:

- the 5 landscape units used in the Applicant's assessment were not well defined, did not recognise more scenic features within the landscape, and this characterisation was too simplistic;
- the evaluation of landscape values relied too heavily on professional judgement and took little account of the community's values of the landscape;
- the lack of public participation and establishment of community landscape values was seen to be the most consistent deficiency with the assessment as the community values had not been appropriately weighted, in particular the size and scale of the proposal, and the cumulative impacts resulting from this scale;
- consideration of cumulative effect of the wind farm took no account of the 'dynamic' effect of moving around the region where a number of wind farms are built or proposed;
- impacts should have been considered at 10km rather than 8.5km;
- there was an under representation of public viewpoints, including locations closest to roads and townships;
- it was noted that the proposed removal of 10 turbines would reduce impacts along the Hume Highway, but others in close proximity to the Highway would remain;
- the approach used in the preparation of photomontages of the public domain provided a useful means of demonstrating the horizontal effect of the landscape affected by the wind farm, but it did not give a realistic interpretation of the relative scale of the turbines in the views;
- there is a lack of photomontages for an area along the Hume Highway to the west of Bookham, where there is a group of non-associated houses, including C75, C06, C08, C60 and C41, which are also identified as being some of the most affected receivers;
- concerns were also raised about technical aspects of photomontages for residential receivers, particularly that the horizontal field of view is oversized compared to the vertical, and that it varies between montages which could lead to misinterpretations; and
- mitigation options, including for areas within the more turbine dominant 2km area, were limited to landscaping where turbine removal or acquisition would have been more appropriate.

As a consequence, the Report made a number of recommendations including:

- the need for more effective community consultation which may result in removal of turbines;
- removal of a number of turbines in the Marilba precinct due to unacceptable visual impacts, including the North East Illalong Road area (turbines 110,111,112,114,115,116 and 122) and the Conroy's Gap and Black Ridge Hills area (turbines 131,133,134,136 and 100-106);
- provision of more appropriate landscaping; and
- appropriate colours (mid grey or blue grey) should be used for turbines.

It is clear from the Report and from the Department's own inspection that there are more scenic areas within the broad landscape that have not been identified or considered in the Applicant's assessment. Further, community input in defining the value of local landscape elements has been minimal and insufficient to gain a reasonable understanding of these values and what may be appropriate in terms of impact.

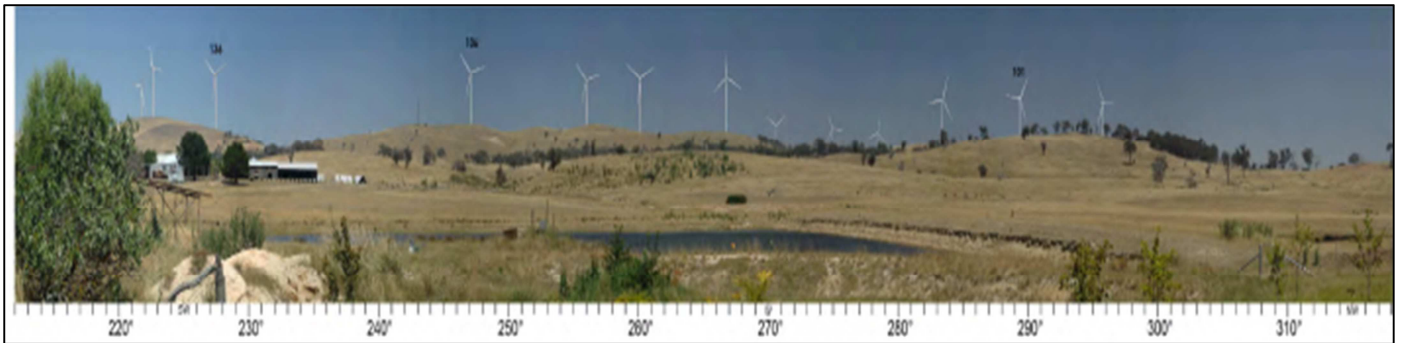
The Department's site visit included visiting areas adjacent to the proposed site. Particular consideration was given to the six identified properties within 2km, and other properties including C27 (which appears to have a turbine within 2km) and C67 and M8. The following observations were made:

- G11 – The Applicant's assessment concluded that the overall impact on living areas is low, because of the good existing screening around the house. The Department generally agrees with this conclusion and notes that the independent report did not raise any specific issues about impacts on this property. However, outside the immediate house curtilage, there are likely to be extensive, elevated and prominent views of both Yass Valley and Conroy's Gap turbines, and that the provision of additional landscaping would be required.
- G14 – this property would have extensive, elevated and prominent views of turbines to the west. The Applicant acknowledges that impacts will be medium to high and the independent Lamb Report recommends that the most prominent turbines in the G14 view shed should be deleted (turbines 131,133,134,136 and 100-106). In addition, these turbines have the potential to impact on other receivers including M20, M24 and M8 discussed below, and also have the potential to compromise the scenic value of Conroy's Gap.
- M20 – a number of turbines would be visible to the south west and the Applicant has concluded the impacts would be high. The independent Report recommends that a number of turbines be removed (the same turbines affecting G14 being 131,133,134,136 and 100-106) to address concerns related to this property as well as other properties including (G14, M24 and M8).
- M24 – this is located in close proximity to M20. The Applicant has concluded the impacts would be moderate. As indicated in relation to M20, the Department does not agree with the Applicant's conclusion and believes the impacts are unacceptably high due to the close proximity of existing residence M20 and the prominence of the turbines.
- M8 – this property is occupied by the Crisp Galleries, a business which makes use of its outdoor areas for a range of functions such as wedding ceremonies. The closest turbine is about 2.3km away. The Applicant's assessment concluded that there would be negligible to medium impact because of existing screening. There are a large number of turbines in the backdrop to this property (refer **Figure 5** and **Figure 6**) resulting in views from the property being dominated by the Proposal. A number of these turbines will also have an adverse impact on other properties including G14, M20 and M24 for the reasons identified above. On the basis of these cumulative impacts, the Department concludes that turbines 131,133,134,136 and 100-106 are unacceptable, consistent with the recommendations of the independent report;



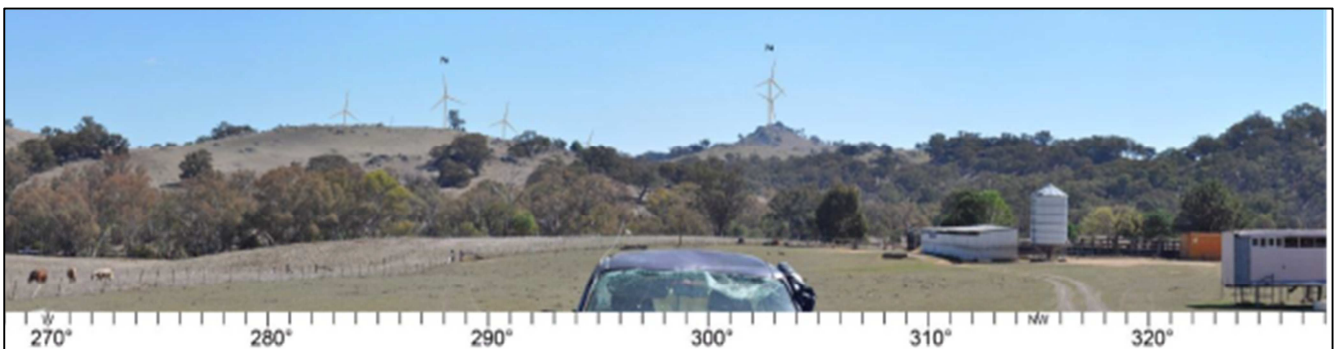
**Figure 5.M8 – Looking towards the south west**





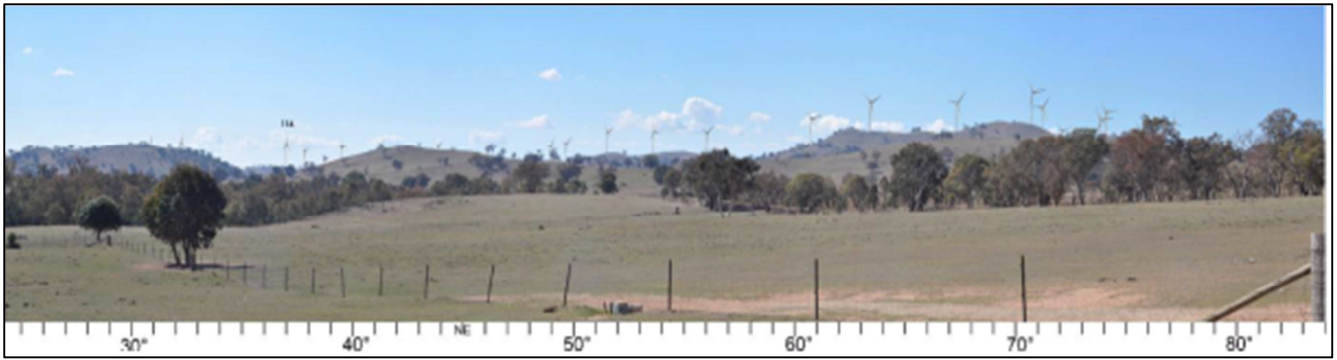
**Figure 6.M8 – Looking towards the west**

- G16 – it is noted that the closest turbines and all those within 2km have now been deleted;
- M42 – the topography in the vicinity of the living area of this property provides some reduction in turbine visibility, and the Applicant has concluded the impacts would be moderate. The independent Report notes that due to the generally higher scenic nature of this locality and the proximity of another non associated dwelling within 2km (C89), it would be appropriate to remove a number of turbines (110,111,112,114,115,116 and 122). The Department considers that some of these (111,115 and 122) are unacceptable in any event because of issues relating to C27 (refer below). It should be noted that property C89 only appears on some of the Applicant's documentation, and is not discussed by the Applicant. Its status is unclear and needs to be resolved before any determination on the acceptability of turbines in this location;
- C27 – this property had been identified as associated. However, information provided to the Department suggests this is not the case. Accordingly, it should be treated as a non-associated property. Turbines 115 and 122 and all infrastructure located on this property by the Applicant would need to be removed, as the Department understands the infrastructure is not supported by the landowner. In addition, turbine 111 appears to be about 1km from the living area of this property. The Department has inspected this property and considers that turbine 111 is likely to be unreasonably dominating. No assessment has been carried out by the Applicant; and
- C67 – this property is located further away from the turbines, with the closest being about 3.2km away. The Applicant considers there will be a medium to high impact. Although the turbines are at a greater distance than some other properties, this property is effectively in an amphitheatre, which means that it would be surrounded by turbines on three sides. In addition, the ridge to the north west of this property has a prominent and scenic rocky knoll that would be impacted by turbines (refer to Figure 7 and Figure 8). The deletion of 10 turbines by the Applicant will reduce some of the visual impacts. However, the Applicant has not updated its photomontages and it is not possible to clearly identify which turbines have been removed, and whether this impact is now acceptable. Regardless, the impacts to the north west remain a concern.



**Figure 7. C67 – looking towards the north west**





**Figure 8.C67 – looking towards the north east**

- The independent Report also raised concerns about a number of properties located along the Hume Highway to the west of Bookham (impacts of turbines 73, 74, 75, 76, 77 and 79). No specific assessment has been undertaken of these properties by the Applicant. The Report recommends further investigation of the impacts. It also notes that most of these turbines also affect C67. Should the impacts of these turbines on the Hume Highway properties be identified as unacceptable it would provide additional reason for their removal, with benefits for C67.

In summary, the Department agrees with the recommendations of the independent review that there are unacceptable visual impacts associated with the location of at least 18 turbines. There are also up to an additional 20 turbines that the Department has serious concerns with, but is unable to confidently identify the acceptability of these turbines given the lack of supporting analysis.

#### Other impacts

There is some uncertainty about which transmission lines will be used, and it appears that one of the lines that would cross the Highway may not be possible because the relevant landowner is not associated. There are also some other uncertainties about exact routes because of the uncertainty in relation to associated landowners (refer **Section 5.1**).

The transmission lines are generally well within the development site, unlikely to be visually prominent in most instances, and similar to other infrastructure already in the area. As such, the Department does not consider the visual impact of the transmission line to be of concern in most instances. In the case of C67, the dominant issue is the presence of turbines, and this has been discussed above. The Department also notes that there is an overhead transmission line on the western boundary of receiver G11. As indicated above in relation to turbine impacts, further analysis is required regarding impacts on this property.

A number of substation locations have been identified, but final details have not been provided. The Applicant's assessment has concluded that impacts are likely to be low, particularly because of the ability to screen them. The Department acknowledges that there is substantial scope to screen substations. However, the analysis of individual sites was limited to a brief description, and it is not possible to come to a definitive conclusion on how visually intrusive they could be.

With regard to cumulative impacts, the independent Report has raised some concerns, noting that the Applicant's assessment does not fully address the cumulative impacts on the wider region being the number of other wind farms which could be passed in a relatively short space of time by a traveller. The Department agrees that the assessment did not fully consider the potential change in the region's landscape character.

#### **5.4.4. Conclusion and recommendation**

The Department has a number of fundamental concerns with the visual impacts of the development, particularly within the Marilba precinct. The Department agrees with the recommendations of the independent reviewer that there are unacceptable visual impacts

associated with the location of at least 18 turbines. There are also up to an additional 20 turbines that the Department has serious concerns with. However, the Department is unable to determine the acceptability of these turbines given the uncertainty surrounding the number of non-associated residents and the various inadequacies of the Applicant's documentation.

The Department is also concerned about the oversimplification of the landscape values, the lack of community input into landscape values and lack of certainty and detail (in particular the various potential changes that could result from 3 landowners being incorrectly identified as being associated with the development).

The Department concludes the development will result in unacceptable visual impacts associated with the siting of a number of turbines, and further, the Applicant has also failed to demonstrate the acceptability of the visual impacts in relation to a number of turbines.

## 5.5 Traffic and Transport

### 5.5.1. Issue

Construction of the project involves the delivery of plant and equipment and materials including the movement of 'oversize' and/or 'over-mass' vehicles. The proposal has the potential to impact on the local and regional traffic system.

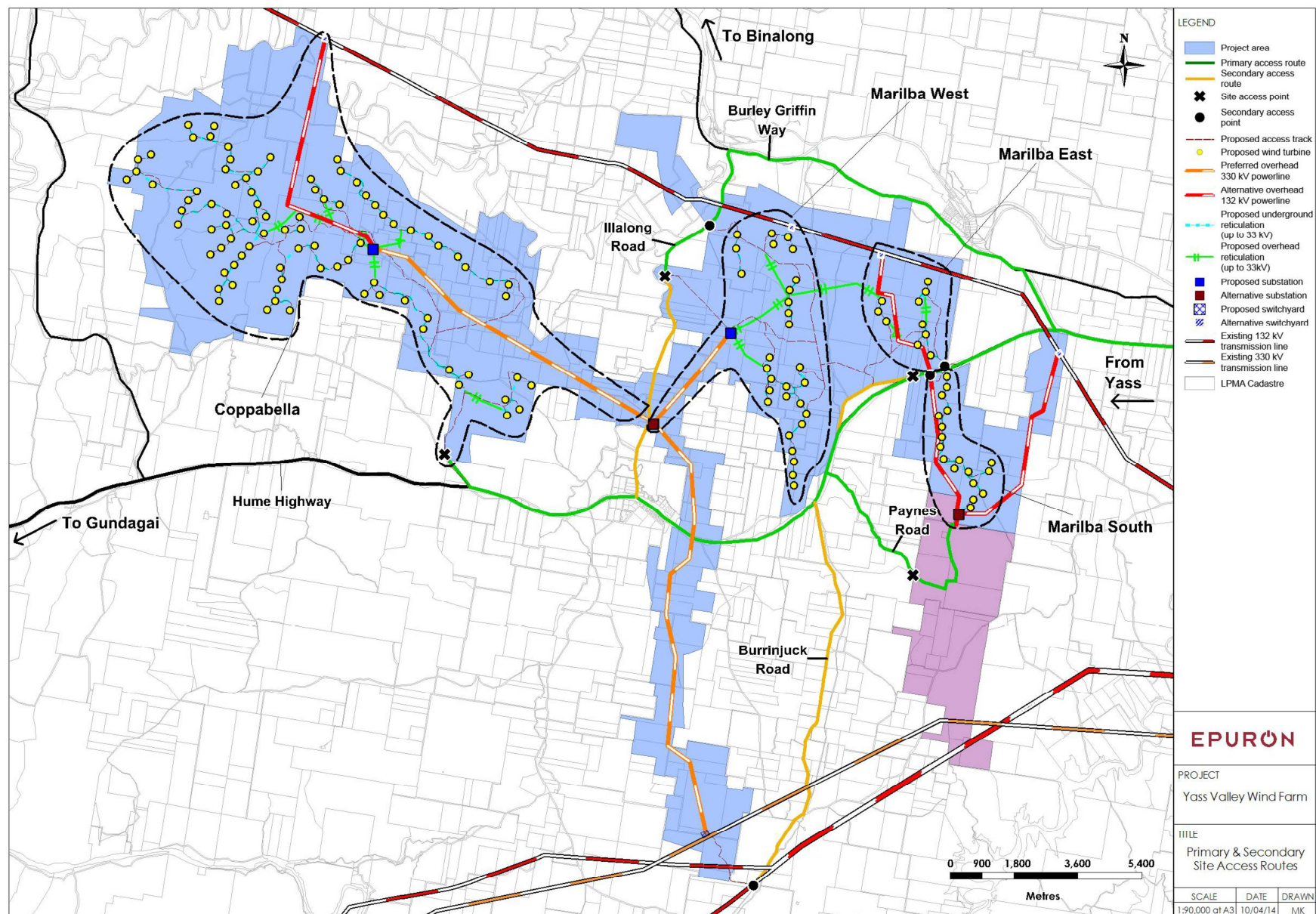
### 5.5.2. Construction Traffic and Transport

The primary and secondary access points into the Coppabella and Marilba precincts for the movement of construction vehicles are detailed in **Figure 9** (which have been updated in Section 7 in the final Preferred Project Report but not reflected in the Applicant's Traffic Impact Study and associated traffic access route map). The Department is therefore unsure on the final location of some access points.

### 5.5.3. Submissions

Yass Valley Council raised concerns relating to the impact construction traffic may have on the local road network. These concerns are:

- that the local road network is unsuitable for the large numbers of heavy vehicles proposed and the increase in heavy vehicle movements will have a detrimental effect on the overall life of the road pavements and safety of the road network;
- the undertaking of a dilapidation report, as proposed by Applicant, prior to the commencement of construction is an inappropriate method to address the overall reduction in pavement life and impact on bridges and drainage structures caused by the development;
- Council may be left with a future liability as it is inappropriate to repair defects that appear during the construction period rather than addressing the overall deterioration of the roads; and
- Council requests that a more detailed traffic impact study be undertaken, inclusive of the undertaking of structural assessments prior to construction of the project.



**Figure 9: construction traffic access routes (as indicated in the Applicant's traffic impact study)**

Roads and Maritime Services also states that:

- the assessment fails to quantify some major traffic issues relating to the haulage of the major components of the turbines and substations, which need to be finalised to allow for the proper assessment of the impacts on the road network;
- it does not have a significant concern with the capacity of the Hume Highway to accommodate the construction traffic;
- concern exists in relation to the impacts on the local road network and any impacts on the intersections with the Hume Highway and the Burley Griffin Way;
- it does not agree with construction traffic passing through the rest areas on the Hume Highway to access the Marilba Hills Precinct, as this is inconsistent with the intent of the rest areas;
- the source and transportation of the raw materials to be used in the concrete batch plants needs consideration; and
- the method of installation of the proposed transmission line over the road reserve is unknown.

For the Coppabella precinct, the primary access point will be from Whitefields Road, located 1.1km north of the Hume Highway Junction.

For the Marilba West precinct, the primary access point (as assessed in the Applicant's Traffic Impact Study) will be the northern section of Illalong Road, 4.5km south of its intersection with Burley Griffin Way.

The Department notes that the primary access point into the Marilba West precinct and access track to service the construction of the 19 turbines is via the property of landowner 16. Landowner 16 is a property owner which is no longer an 'associated' residence (see **Section 5.1** for further details). Given infrastructure associated with the development (including the access track) maybe removed from landowner 16's property, the access point to the precinct is uncertain.

The Department notes that the Applicant has provided a revised primary and secondary site access route map within Section 7 of its final Preferred Project Report. The Report indicates that there may be 2 primary access points to access the Marilba West Precinct. The Department also notes that the Applicant's Traffic Impact Study has not assessed the impacts of these 2 access points into the Marilba West Precinct.

A secondary access point into the Marilba West precinct is also proposed as indicated in the Applicant's Traffic Impact Study. The secondary access point is located 2.4km south of the intersection of Illalong Road and Burley Griffin Way. The Applicant initially indicated that this access point may be required for light vehicle access to the site. It is noted in Section 7 of the final Preferred Project Report that this secondary access point may now be proposed as a primary access point. The use of this access point as a primary access point has not been assessed within the Applicant's Traffic Impact Study.

For the Marilba East precinct, the primary access point will be from the Hume Highway, which will provide access to the site for the construction of 10 turbines and associated infrastructure. The Department notes that the location of the primary access point into the Marilba East precinct may have been changed in the final Preferred Project Report. This change has not been adequately reflected and assessed in the Applicant's Traffic Impact Study. Preliminary swept analysis has not been undertaken for this proposed access point.

For the Marilba South precinct, the primary access point will be from Paynes Road, which will provide access to the site for the construction of 18 turbines and associated infrastructure.

Secondary access points into the Marilba precincts are also proposed from the roadside truck stop areas either side of the Hume Highway. These access points are proposed to be utilised for restricted temporary access for light vehicles only.

#### 5.5.4. Consideration

The Department acknowledges that an increase in vehicle movements, particularly heavy vehicles, has the potential to impact on the safety and operation of the traffic system, the safety of pedestrians and cyclists, and condition of the roads if not managed appropriately.

The construction of the wind farm will introduce a significant amount of over-mass or over-dimensioned vehicles to the local road network. Whilst the Applicant has undertaken some preliminary assessment of the potential impacts on the road network, the Department does not consider that the traffic impact study adequately addresses the potential upgrades that are required to determine whether the impacts of the development on the road network are acceptable.

The Department notes that the Applicant is proposing to undertake dilapidation reports to determine the level of deterioration of the road pavements over time. Yass Valley Council identified concerns with this approach, in that there may be deterioration of the road pavement which may not be visible from the surface, not detected in the dilapidation survey, which could result in future costs to Yass Valley Council as the road deteriorates more rapidly into the future. This is particularly the case for Illalong road, which has recently been resurfaced. Under these circumstances any impact of the heavy vehicles may be difficult to initially detect via dilapidation survey inspections. The Applicant has not provided sufficient assurance that this issue can be managed.

The Department notes the concerns of Roads and Maritime Services with respect to the need for additional analysis in relation to the haulage of the major components of the turbines and substations, to allow for the proper assessment of the impacts on the road network. In addition, the concerns of Roads and Maritime Services regarding the use of the truck stop rest areas for access to the sites are considered valid given it would be contrary to the intent of the rest areas and is likely to compromise their operation.

The Department has on a number of occasions requested that the Applicant provide full details on any potential impacts/upgrades required for the project (in accordance with the Austroad Guide to Road Design), to ensure the roads/structures are at the required standard to accommodate the proposed construction traffic/loads (inclusive of swept path assessments, structural assessments, feasibility and any constraints). In particular, detailed requests were made in correspondence dated 18/9/13 and 5/3/14.

Whilst some swept path assessments were eventually provided, the Applicant has not provided any detail and/or recommendations on proposed intersection works, particularly at the proposed primary access points to the wind farm site along Whitefields Road, Illalong Road and into the Marilba East precinct from the Hume Highway. The Applicant has also failed to undertake requested structural assessments of the existing bridges and major drainage structures.

For instance, the bridge 3.32km from the intersection of Burley Griffin Way and Illalong Road has been replaced with a new bridge that has a 10 tonne load limit, significantly lower than the load weights of over-mass vehicles that could be utilised during the construction of the project. The ability of this bridge to withstand the proposed heavy vehicle loads is unknown. The Applicant states that a full detailed assessment will be undertaken post approval and prior to construction. However, the Department is concerned that there may be significant constraints that exist on the road network that have not been identified by the Applicant prior to determination.

The Department does not agree with the Applicant's suggestion that as Paynes Road is to be utilised for the Conroys Gap Wind Farm, that additional improvements will be undertaken to accommodate the construction of this wind farm, and are not necessary for the construction of the Yass Valley Wind Farm. There is no certainty as to which wind farm would likely proceed to construction first, should the Yass Valley wind farm proceed.

The Department also notes that the Applicant has included a number of existing access tracks in its revised primary and secondary access route plan as shown in Section 7 of its final Preferred Project Report. The Applicant states that these may be used for survey work, geotechnical investigations and power line infrastructure. The Department notes that the Traffic Impact Study has not considered the impacts of utilising these existing tracks for access to the site, although it is acknowledged that these impacts are likely to be minimal.

The Department also requested that the Applicant revise its Traffic Impact Study to account for vehicle weights and load allowances. The Applicant has not provided this information, stating that these would be determined by the transport contractor post approval and prior to construction.

#### 5.5.5. Conclusions and recommendation

The Department is not satisfied there has been sufficient assessment by the Applicant on potential impacts/upgrades/site access points required for the project. Further, the extent of any improvement measures required to ensure the roads are upgraded to the appropriate standard and/or the capacity of the bridges to accommodate the volume of heavy vehicles and ensure the safety of other road users is not known.

Therefore, the Department considers the Applicant has failed to demonstrate the availability of appropriately designed access and haulage routes to the site.



## 6. Assessment of other issues

This Chapter provides an assessment of the remaining potential impacts of the proposal. There are a number of outstanding assessment issues, particularly in relation to noise and heritage. However, it is expected that many of the issues considered in this chapter could be appropriately addressed through the implementation of best practice management and mitigation measures should the proposal be approved. The assessment of other issues is provided in **Table 5**.

**Table 5. Summary assessment of other issues**

| Issue | Consideration and recommendation                                                                                                                                                                                                                                                                                                                                                           |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noise | Concerns were raised in public submissions regarding the noise impacts of the wind farm, including noise generated during both construction and operation. The dominant operational noise sources associated with the operation of the wind farm include rotating electrical and mechanical parts, noise as the blades pass through the air, transformer noise and maintenance activities. |

A noise assessment of the revised turbine locations as presented in the final Preferred Project Report, was undertaken by the Applicant's consultants in accordance with the 2003 South Australian EPA Environmental Noise Guidelines: Wind Farms-February 2003. The Applicant based its assessment on 2 turbine options, being the REPower MM92 2.05MW turbine and the Vestas V90 3MW turbine. The Department notes that the background noise levels at receivers M42 and C74 have not been undertaken by a qualified noise specialist.

The Applicant's noise modelling determined that with all turbines operating at maximum output, there would be compliance with the relevant criteria at all receivers. Cumulative noise levels were also considered, with the inclusion of the Conroy's Gap Wind Farm. Whilst noise was predicted to increase at 5 receivers when compared to the predicted noise levels from the Yass Valley turbines alone, the noise predictions were still compliant with the relevant criteria.

The noise assessment also provided low frequency noise predictions for both turbine options, and compared these predictions to the low frequency noise criteria within the Draft NSW Wind Farm Planning Guidelines of 65dB(C) and 60dB(C) for day and night time. The assessment indicates that the criteria will be met for the REPower MM92 turbine, however the night time criteria will be exceeded at 5 non-associated receivers for the Vestas V90 turbine. With respect to the potential for tonality of noise emissions from the turbines, the Applicant states that tonality is not an audible component of either the MM92 or V90 turbines.

The Applicant states that mitigation measures available for the reduction of C-weighted noise levels could be similar to those undertaken for A-weighted noise levels, such as: varying the operation of turbines (such as the pitch of the blades) according to environmental constraints to reduce the noise emissions; or selectively shutting down turbines under relevant wind speeds and directions.

The Department accepts the Applicant has assessed the impacts under the South Australian Guidelines and that those impacts are acceptable in accordance with the layout as shown in its assessment. The Department notes however that it is unable to determine if the noise levels at Landowners 8 and 9, Landowner 16 and Landowners 23, 24 and 25 would comply with the noise criteria, given the uncertainty over whether these properties are 'associated'.

With respect to low frequency (20 hertz to 250 hertz) noise, the Applicant's noise assessment predicts that low frequency noise levels would exceed the night time low frequency noise criteria by up to 4dB(C) (as stipulated within the draft NSW Wind Farm Planning Guidelines) at 6 non-associated receivers for the Vestas V90 turbine. Again, the Department is unable to determine if exceedances would occur at Landowners 8 and 9, Landowner 16 and Landowners 23, 24 and 25.

| Issue  | Consideration and recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|        | <p>Whilst the Applicant has stated that similar mitigation measures that are available for the reduction of A-weighted noise levels could be implemented to ensure the project complies with any low frequency noise criteria (such as contractual requirements for the supply of turbines to include permissible characteristics with respect to low frequency noise and noise reduction management strategies), given exceedances have been predicted, and any additional exceedances are unknown, the Department does not support the use of the Vestas V90 turbine.</p> <p>With respect to infrasound, the South Australian Environmental Protection Authority study on infrasound levels near operating wind farms concluded that measured infrasound levels at rural locations both near to, and at a distance away from, wind farms were no higher than infrasound levels experienced in other urban and rural environments, and that both indoor and outdoor infrasound levels were well below the perception threshold.</p> <p>Further, the Victorian Department of Health technical document titled “Wind farms, sound and health” (April 2013) further concluded that evidence indicates that sound can only affect health at sound levels that are loud enough to be easily audible, which means that if you cannot hear a sound, then regardless of the frequency, there is no known way it can affect health. The Department considers noise emissions are expected to be below the recognised perception for acoustic energy within these ranges, and are therefore unlikely to pose an unacceptable risk of infrasound and low frequency noise impacts to surrounding receivers.</p> <p>In addition to the turbines, two substation layout options are proposed. These are described in the Applicant’s noise assessment, however the revised site layout plan in the Applicant’s final Preferred Project Report suggests that all substations are now proposed. Option A involves locating one substation in each of the precincts (one with a 200MVA transformer and 300 MVA transformer). Option B involves locating a single substation with a 500MVA transformer in the centre of the two precincts.</p> <p>Noise generated by the operation of the substation(s) is required to comply with the NSW Industrial Noise Policy. The Applicant’s assessment concludes that the predicted noise levels from the substation(s) are likely to be approximately 31dB(A) at the closest receiver. However, this will need to be revisited once final locations for the substations are confirmed.</p> <p>With respect to construction noise, noise levels would exceed the noise criteria as specified in the Interim Construction Noise Guidelines by up to 15dB(A) during standard construction hours for the closest receivers. The Applicant notes that the “worst case” construction noise levels would only occur if all of the construction activities occurred simultaneously, which is unlikely to occur. Further, the predicted noise exceedances only relate to the use of certain noisy equipment (e.g. during the turbine foundation construction), and none of the non-associated receivers detailed above would experience noise exceedances for more than a few weeks in total. Measures are proposed to be investigated as part of the Construction Environmental Management Plan to reduce any impacts, including selecting equipment with lower overall sound power levels. The Department concurs with the Applicant’s conclusions that construction noise (including road traffic noise) resulting from the project is unlikely to pose a significant detrimental impact on the amenity of existing receivers.</p> <p>The Department is generally satisfied with the Applicant’s noise assessment, however considers the noise assessment would need to be revised with consideration of the Landowners nominated in Section 5.5 as being “non-associated” and to rectify other issues such as the properly establishing the background noise levels at receivers M42 and C74.</p> |
| Health | The Department acknowledges that potential health impacts from wind turbines are a significant concern within the surrounding community. The Applicant’s noise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Issue | Consideration and recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|       | <p>assessment concluded that the operation of the turbines can comply with the noise criteria and will not emit a significant amount of low frequency noise or infrasound. For associated residences, the Applicant has adopted the World Health Organisation criteria for sleep disturbance of an outside noise level of 45dB(A), which the Department supports.</p> <p>The Department has consulted with NSW Health regarding potential health impacts resulting from wind farms. NSW Health has advised it supports the National Health and Medical Research Council position. In this respect the National Health and Medical Research Council (NHMRC) conducted a review of the evidence relating to the adverse health impacts caused by the wind turbines and concluded that it supports the statement that <i>"There are no direct pathological effects from wind farms and that any potential impact on humans can be minimised by following existing planning guidelines"</i>. The NHMRC has also issued a draft systematic review of the potential health impacts of wind farms and an update of the Public Statement: Wind Farms and Health. This draft review has concluded that there is no reliable evidence that wind farms directly cause adverse health effects in humans.</p> <p>The PAC, as reported in its Bodangora Wind Farm assessment, also consulted with NSW Health which stated that noise from turbines would only cause disturbance to people who were within 700m of a turbine. No associated, or non-associated receivers are within 700m of a turbine. Further, the Victorian Government recently released Fact Sheets on wind farms, sound and health which recognise that many symptoms have been attributed to wind turbines, including "wind turbine syndrome" and that these have been reported in individual studies or non-peer-reviewed literature. Based on the evidence reviewed, it did not support claims that inaudible sounds (such as infrasound when at an inaudible level) can have direct physiological effects.</p> <p>The Department considers that, subject to the deletion of the Vestas V90 turbine model, noise emissions are expected to be below the recognised perception for acoustic energy for infrasound, and are therefore unlikely to pose an unacceptable risk of infrasound and low frequency noise impacts to surrounding receivers. However given the unknown acceptability of any noise impacts on Landowner 16, the Department is unable to determine whether the impacts of the group of turbines in close proximity to Landowner 16 are acceptable and whether any adverse health impacts are expected.</p> <p>With respect to electric and magnetic fields, the Department notes that these fields are produced by virtually all electrical equipment and occur wherever electricity is being used. The electric field is proportional to the voltage, whilst the magnetic field is proportional to the current. For the wind farm, the main sources of Electric and Magnetic Fields would be the electrical equipment within the turbine structures, the substation, interconnecting underground cables and overhead transmission lines. The Applicant's assessment concludes that all equipment is at a sufficiently large distance from the nearest residence for the magnetic field and electric field contributions to be negligible.</p> <p>Assessments of Electric and Magnetic Fields with respect to the potential of any health affects largely focus on magnetic fields, as electric fields have been known to diminish rapidly with distance from a source in addition to being effectively shielded by common building materials and human skin (the Applicant's assessment also indicates that the measured levels, at source, are well within the relevant health guidelines). Magnetic Fields however are not readily shielded by common building materials and human skin like Electric Fields are, although they also diminish rapidly with distance from the source.</p> <p>In Australia there is no established health standard for the assessment of Magnetic Fields, however in 2006 the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) issued a draft guideline for public comment Draft Standard on Exposure Limits for Electrical and Magnetic Fields which proposes a 24 hour</p> |

| Issue    | Consideration and recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|          | <p>exposure limit for Magnetic Fields to the general public of 1000mG. The ARPANSA draft standard has not to date been finalised.</p> <p>More recently (in 2010), the International Commission on Non-Ionising Radiation Protection (ICNIRP), an independent international organisation which works in close collaboration with organisations such as the World Health Organisation, published a guideline on Electric and Magnetic Fields – Guideline for Limiting Exposure to Time-Varying Electric and Magnetic Fields 1Hz-100kHz. This guideline recommends a Magnetic Fields exposure level for the general public unrelated to exposure time of 2000mG. This level has not been adopted in Australia.</p> <p>Although any adverse effects of Magnetic Fields are yet to be proven, the Department takes a conservative approach and does not rule them out. For the proposal, the main source of any Magnetic Field for the general public would be with the transmission lines, which is related to the current (amps) flowing through the line. The field strengths are also dependent on other factors such as the height of the wires above ground, line design and geometry.</p> <p>The Department is satisfied that the Applicant has demonstrated the principles of prudent avoidance by locating transmission and power lines as far as practical from residences. The Department is also satisfied that as the levels of Magnetic Fields (even for the worst case scenario being directly under/beside the source of Magnetic Fields) are significantly lower than the current international acceptable level for human health, impact on human health would not occur. It is also noted the levels produced by the turbines themselves, are extremely low. However, the Department is unable to determine the acceptability of all the transmission and power lines given the final location of lines relating to those landowners that have potentially been misrepresented as 'associated' is unclear.</p>                                                                                                                                        |
| Heritage | <p>The Applicant undertook an Archaeological and Heritage Assessment for the project that identified 101 Aboriginal archaeological sites were located within the Coppabella Hills (70) and Marilba Hills (31) precinct areas.</p> <p>A total of 9 Aboriginal archaeological sites were located within the transmission line easement. All of these locales comprise stone artefacts. The items were considered to have low or low to moderate local scientific significance. No known historical villages or towns are located within the project area, however there is potential for sites associated with agriculture, potential for roads tracks and paths, and also a limited potential for evidence of small mining ventures. The Applicant indicated in its assessment that consultation was undertaken in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment &amp; Community Consultation 2005 (DEC, July 2005).</p> <p>Whilst OEH has advised that it endorses the cultural heritage strategies of salvage excavation and minimisation of the extent of impacts proposed by the Applicant, OEH is not satisfied that the Applicant has surveyed the entire project area with respect to an assessment of heritage values. Given this assessment has not been completed, OEH has raised concerns that there is a reduced capacity to adequately consider all Aboriginal heritage values up front and thereby allow for appropriate consideration of management measures prior to proposed impacts.</p> <p>The Applicant indicates that the ridges in which the turbines and associated impacts will be primarily located contain eroded and skeletal soils as a result of high levels of erosion which generally have low potential to contain intact and/or stratified archaeological deposits. The potential for evidence of early settlement such as homes and huts, is also considered relatively low.</p> <p>Both OEH and the Department consider there is insufficient information to establish the potential impacts to Aboriginal Heritage, and whether or not the impacts of the proposal are acceptable.</p> |

| Issue                      | Consideration and recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| Bushfire                   | <p>With respect to bushfire risk, the Applicant has provided a number of mitigation measures which include the preparation of a Bushfire Management Plan in consultation with the Rural Fire Service and NSW Fire Brigade as part of the Construction and Operation Environment Management Plans.</p> <p>The Department notes that aerial fighting of fires has been raised as a significant concern in public submissions. In this respect the Department notes that the RFS did not raise any concerns about wind farm impacts on aerial bush firefighting. However, the Department considers if any revised aviation impact assessment was prepared for the project, then it should include consultation with, and consideration of, any issues raised by the RFS.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Telecommunications         | <p>The Applicant's assessment concluded that there is some probability of noticeable ghosting at times of analogue TV reception within 5km of a turbine, should antennas have turbines located within an +/- 20 degrees angle of reception direction. However, analogue television signal transmission has terminated, and digital TV is not susceptible to ghosting degradation.</p> <p>There is some possibility that impacts could occur to radio communication services, however the Applicant has concluded that potential impacts would be able to be mitigated using techniques such as relocation of the antennae, installation of directional antennae, installation of amplifiers to boost the signal or via the utilisation of onsite optical cables to reroute the original signal. No impacts are considered likely to mobile phone or radio services.</p> <p>Once operational, the Applicant has committed to investigating the status of television reception at residences immediately surrounding the wind farm and rectifying any interference that is a result of the development via potential measures such as replacing aerials or installing a digital set top box.</p> <p>The Department is generally satisfied that these matters have been adequately addressed in the Applicant's Environmental Assessment.</p> |
| Community Enhancement Fund | <p>In its submissions, the Harden Shire Council and Yass Valley Council questioned what mechanisms would be in place for funding of community infrastructure. The Applicant has included a commitment that it would contribute \$2,500 per wind turbine built per annum to a Community Enhancement Program. The money will be paid to the community consultation committee for distribution.</p> <p>With the exception of local roads that are utilised during construction, the Department notes that infrastructure development of this type is unlikely to place any significant demands on Council services during the operation of the project.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Property Impacts           | <p>The Department acknowledges that, in relation to impacts on land values, the NSW Valuer-General commissioned a report on the impacts of wind farms on land values in Australia. The report states as its principal finding, based on analysis of previous studies and its own investigations, that the majority of wind farms erected in Australia appear to have had no quantifiable effect on land values.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Mineral Resource Land Use  | <p>One mining exploration licence (EPL) exists over the project site, with the Applicant stating that there is no reason why the exploration of minerals could not occur around the operational wind turbines as the direct footprint of the wind farm infrastructure is less than 0.5 % of the EPL site area.</p> <p>The Department acknowledges there could be some impact on future mining exploration during the construction and operation of the wind farm.</p> <p>The wind farm however would not preclude exploration from occurring within the project site, only in proximity to the turbines and associated electrical infrastructure. In this respect mineral exploration drilling over the majority of the site can still occur, as well as electromagnetic surveying. The wind farm would</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Issue         | Consideration and recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|               | <p>also be decommissioned following the completion of its working life, therefore ensuring the land beneath, and in proximity to, infrastructure will not be sterilised in the long term.</p> <p>However, this matter could be addressed by way of a condition.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Water Sources | <p>The Applicant estimates that 16.23ML of water would be required over the 24 month construction period of the Project, with a number of potential water sources supplying the project (such as Jugiong Creek, Lake Burrinjuck, Yass Dam, Murrumbidgee River and groundwater).</p> <p>Harden Council raised concerns about the impact that the construction of the wind farm will have on water availability for agricultural and potable water supplies.</p> <p>The Applicant states that none of the potential water sources would be used to the extent that they placed any restrictions on existing agricultural or potable water usage. Further the impact on Yass Dam, the Murrumbidgee River, Lake Burrinjuck and groundwater would be negligible. A quantification of impact on Jugiong creek was not provided.</p> <p>The Department requested a hydrological assessment of on-site extraction of groundwater be undertaken, inclusive of drawdown and recovery pumping tests, to determine and validate any impacts on groundwater, should groundwater be the source of water during construction. The Applicant however did not undertake such an assessment, stating that the owner of the water supply will restrict the water supply to the wind farm to ensure there are no impacts on existing water use. This matter however, could be addressed by way of a condition.</p> |



## 7. Conclusions and recommendations

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### 7.1 Conclusions

The Government supports the development of wind farms as a form of renewable energy, subject to the suitability of the location of the wind farm proposal. Wind farms play an important role in providing a sustainable energy supply, but it is critical that these developments do not compromise social and community outcomes.

The Department acknowledges that the Yass Valley Wind Farm proposal could result in benefits including a reduction in greenhouse gas emissions and contribution to the Renewable Energy Target. However, the Department has a number of fundamental concerns with the proposal and the Applicant's assessment that prevents the Department from supporting the proposal.

The Department's assessment has considered all the relevant documentation including submissions received from public agencies, key stakeholders and the community. The Department's assessment has found a number of fundamental concerns with the Proposal including: lack of clarity in the final project design and correct nomination of "associated" landowners; aviation impacts; and biodiversity impacts

Further, the Department considers that the Applicant has failed to meet the objects of the Act and the principles of Ecologically Sustainable Development. In particular, the Department's assessment of the ecological impacts of the proposal has found that the proposal's impacts are contrary the principle of conservation of biological diversity and ecological integrity and contrary to the object of protection of the environment.

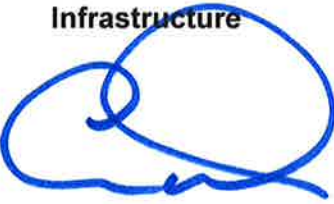
The Applicant has had ample opportunity to work with the community and public authorities to resolve concerns and demonstrate the acceptability of its proposal.

## 7.2 Recommendations

The Department recommends that the Development Application be refused for the reasons outlined in the instrument of refusal at **Appendix K**, and copied below:

1. The Applicant's failure to demonstrate a consistent project design that can be wholly and feasibly constructed including the secure provision of interconnecting infrastructure and access across the site. This also includes the Applicant's failure to undertake an appropriate level of impact assessment of all aspects of the proposal.
2. The Applicant's failure to demonstrate that the proposal will not have an adverse impact on either commercial or non-commercial aviation, including the safe operation of Canberra and Albury airports.
3. The development will result in unacceptable impacts on the biophysical environment as a result of inadequate avoidance of biodiversity, inadequate provision of mitigation measures, and a failure to adequately offset biodiversity impacts.
4. Given the above, the proposal is not in the public interest and should be refused.

  
Karen Jones 28.1.15  
**Director  
Infrastructure**

  
Chris Wilson 28.1.15  
**Executive Director  
Infrastructure and Industry Assessments**

## Appendix A. Abbreviations

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|                 |                                                               |
|-----------------|---------------------------------------------------------------|
| Department      | Planning & Environment                                        |
| CIV             | Capital Investment Value                                      |
| DGRs            | Director-General's Requirements                               |
| EA              | Environmental Assessment                                      |
| EP&A Act        | Environmental Planning and Assessment Act 1979                |
| EP&A Regulation | Environmental Planning and Assessment Regulation 2000         |
| EPI             | Environmental Planning Instrument                             |
| MD SEPP         | State Environmental Planning Policy (Major Development) 2005  |
| Minister        | Minister for Planning                                         |
| PAC             | Planning Assessment Commission                                |
| Part 3A         | Part 3A of the Environmental Planning and Assessment Act 1979 |
| PEA             | Preliminary Environmental Assessment                          |
| PFM             | Planning Focus Meeting                                        |
| PPR             | draft Preferred Project Report                                |
| Applicant       | Epuron Projects Pty Ltd                                       |
| RtS             | draft Response to Submissions                                 |
| Secretary       | Secretary of the Department of Planning and Environment       |

## Appendix B. Environmental Assessment

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See the Department's website at

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=2765](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2765).

## Appendix C. Submissions

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See the Department's website at

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=2765](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2765)

Also see the Department's website for the OEH submission (dated 22 August 2014) on the Fourth draft Preferred project Report (dated May 2014).

## Appendix D. Draft Response to Submissions

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See the Department's website a

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## Appendix E. Consideration Under Section 79C

Section 79C of the EP&A Act requires that the consent authority, when determining a development application, must take into consideration the following matters:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(a) the provisions of:</p> <p>(i) any environmental planning instrument, and</p> <p>(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and</p> <p>(iii) any development control plan, and</p> <p>(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and</p> <p>(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and</p> <p>(v) any coastal zone management plan (within the meaning of the Coastal).</p> <p>that apply to the land to which the development application relates.</p> | <p>Detailed consideration of the provisions of all environmental planning instruments (including draft instruments the subject of public consultation under this Act) that apply to the proposed development is provided in <b>Appendix F</b> of this report.</p> <p>DCPs do not apply to State Significant Development under Clause 11 of the SRD SEPP.</p> <p>The Department has undertaken its assessment of the proposed development in accordance all relevant matters as prescribed by the regulations, the findings of which are contained within this report.</p> <p>The Applicant has not entered into any planning Agreement under section 93F.</p> <p>The site is not located within the coastal zone. Therefore, no coastal zone management plans apply to the proposed development.</p> |
| <p>(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>The Department has considered the likely impacts of the development in detail in <b>Section 5</b> of this report.</p> <p>The Department has concluded the development will result in unacceptable impacts on the natural environment as a result of inadequate avoidance of biodiversity, inadequate provision of mitigation measures, and a failure to adequately offset biodiversity impacts.</p>                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>(c) the suitability of the site for the development,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>The Department has a number of outstanding assessment concerns with the Applicant's assessment (refer <b>Section 5</b>), and therefore suitability of the site for the development.</p> <p>In this respect the Department has concluded that the Applicant has failed to demonstrate that the development will not have an adverse impact on either commercial or non-commercial aviation,</p>                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                          |                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          | <p>including Canberra airport.</p> <p>The Department also concludes that there is unacceptable visual impact of the development associated with a number of turbines.</p>                                                |
| (d) any submissions made in accordance with this Act or the regulations, | All matters raised in these submissions have been summarised in <b>Section 4</b> of this report and given due consideration as part of the assessment of the proposed development (see <b>Section 5</b> of this report). |
| (e) the public interest.                                                 | The Department has concluded that the development is not in the public interest.                                                                                                                                         |

## Appendix F. Consideration of Environmental Planning Instruments

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### **State Environmental Planning Policy (State and Regional Development) 2011**

The proposal was declared a major project under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act) because it is development described in Schedule 1, Group 8, clause 24 of the State Environmental Planning Policy (Major Development) 2005 namely development for the purpose of a wind electricity generation facility that has a capital investment value of more than \$30 million.

Part 3A of the EP&A Act was repealed on 1 October 2011. Subject to the amended Schedule 6A of the Act, Part 3A provisions continued to apply to transitional Part 3A projects from the date it was repealed. Transitional Part 3A projects were deemed to be projects where the environmental assessment requirements were issued within two years before its repeal, providing the EA was lodged before 30 November 2012.

However, on 21 March 2014 the project was transitioned to the State Significant Development (SSD) assessment system as the Government sought to remove outstanding projects from Part 3A. The previous actions undertaken under the Part 3A process, including exhibition of the environmental assessment (EA), have been accredited under the SSD process. The project has subsequently been assessed and will be determined as an SSD application.

The Minister for Planning (or her delegate) is consent authority for SSD under section 89D of the Act.

### **State Environmental Planning Policy (Infrastructure) 2007**

The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and providing for consultation with relevant public authorities about certain development during the assessment process.

Development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone under the State Environmental Planning Policy (Infrastructure) 2007. Therefore, as the proposal is for the purpose of generating electricity within a prescribed rural zone, it is permissible with consent.

### **State Environmental Planning Policy No.55 – Remediation of Land**

SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

The development is not located on land identified as contaminated land, nor is it adjacent to land identified as contaminated land. Construction activities would also not significantly disturb soil or groundwater at the site.

### **Yass Valley Local Environmental Plan 2013**

The wind farm and transmission line are located on land zoned RU1 – Primary Production.

The Generation of electricity is prohibited in RU1, however development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone under the State Environmental Planning Policy (Infrastructure) 2007.

Clause 8 of the Infrastructure SEPP states that if there is an inconsistency between the SEPP and any other environmental planning instrument, whether made before or after the commencement of

the SEPP, the SEPP prevails to the extent of the inconsistency. As the development is for the purpose of generating electricity within a prescribed rural zone, it is permissible with consent.

#### **Harden Local Environmental Plan 2011**

The wind farm and transmission line are located on land zoned RU1 – Primary Production.

The Generation of electricity is prohibited in RU1, however development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone under the State Environmental Planning Policy (Infrastructure) 2007.

Clause 8 of the Infrastructure SEPP states that if there is an inconsistency between the SEPP and any other environmental planning instrument, whether made before or after the commencement of the SEPP, the SEPP prevails to the extent of the inconsistency. As the development is for the purpose of generating electricity within a prescribed rural zone, it is permissible with consent.

## Appendix G. Compliance with Draft NSW Wind Farm Planning Guidelines

The Department has developed the *Draft NSW Wind Farm Planning Guidelines* ('the Guidelines'), which were publicly exhibited from 23 December 2011 to 14 March 2012. The Guidelines provide a regulatory framework to guide investment in wind farms across NSW while minimising potential impacts on local communities, and it is intended that the guidelines will be finalised in 2014. The interim arrangements for wind farms such as the Yass Valley Wind Farm and the application of the draft Guidelines vary depending on the stage of an application in the assessment process.

As the Yass Valley Wind Farm has substantially progressed (the project had been exhibited but not determined) the Applicant had not addressed the new requirements of the Guidelines in the EA. However the Applicant has addressed, where possible, the relevant sections of the Guidelines in the Response to Submissions (some of which the Department has found to be inadequate or concluded that unacceptable impacts exist). The Department has also considered relevant provisions of the Guidelines in its assessment.

Table 6 below shows a consideration of the Yass Valley wind farm has adopted, where possible, the Guidelines.

**Table 6: NSW Planning Guidelines Wind Farms Checklist**

| <b>Issue</b>                        | <b>NSW Planning Guidelines Checklist</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Response</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Consultation</b>                 | <ul style="list-style-type: none"> <li>Form a Community Consultation Committee (CCC);</li> <li>Document the consultation process undertaken, including stakeholders consulted. Identify and tabulate issues raised by stakeholders during consultation. Describe how issues raised have been addressed;</li> <li>Consult with all neighbours with dwellings within 2km of a proposed wind turbine. Identify the neighbours' issues and potential approaches to mitigate any adverse impacts; and</li> <li>Consider seeking agreement with neighbours with dwellings within 2km of a proposed wind turbine.</li> </ul> | <ul style="list-style-type: none"> <li>Section 6.0 of the draft Preferred Project Report documents the consultation process.</li> <li>The Applicant has formed a CCC for the Project.</li> <li>The Applicant consulted with residents within 5km of the project which included a newsletter for all, a phone call for some, and in some cases a face-to-face meeting.</li> <li>All neighbours within 2km of a turbine received mail outs concerning the project. The Applicant indicates it has met with 5 out of 6 of these residents (with the sixth indicating support for the wind farm).</li> <li>The Applicant has not reached agreements with all properties within 2km.</li> <li>See Section 5 of this assessment report, the Department does not believe that an appropriate and justified level of consultation has been undertaken during the preparation of the Applicant's assessment.</li> </ul> |
| <b>Landscape and visual amenity</b> | <ul style="list-style-type: none"> <li>Provide photomontages from all non-host dwellings within 2km of a proposed wind turbine;</li> <li>Identify the zone of visual influence of the wind farm (no less than 10km) and likely impacts on community and stakeholder values. Consider cumulative impacts on landscape and views; and</li> <li>Outline mitigation measures to</li> </ul>                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Appendix 5 of the Preferred Project Report.</li> <li>Photomontage locations were selected from publically accessible sections of surrounding road corridors as well as areas of private property in the vicinity of residential dwellings or from residential dwellings. Photomontages were selected to provide representative views from a single or multiple residential properties located within the vicinity of the</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Issue                    | NSW Planning Guidelines Checklist                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | avoid or manage impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>photomontage location where possible; and</p> <ul style="list-style-type: none"> <li>• The zone of visual influence and mitigation measures to avoid or manage impacts were addressed within Appendix 1 of the EA and Appendix 5 of the draft Preferred Project Report.</li> <li>• The Department considered visual impact in section 5 of this assessment report.</li> <li>• The Department concluded the development will result in unacceptable visual impacts associated with the citing of a number of turbines.</li> </ul>                                                                                                   |
| <b>Noise</b>             | <ul style="list-style-type: none"> <li>• Undertake an assessment based on separate daytime (7am to 10pm) and night-time periods (10pm to 7am);</li> <li>• Predict noise levels at all dwellings within 2km of a proposed turbine;</li> <li>• Consider special audible characteristics, including tonality, amplitude modulation, and low frequency noise (apply penalties where relevant); and</li> <li>• Outline measures to avoid, minimise, manage and monitor impacts.</li> </ul> | <ul style="list-style-type: none"> <li>• The noise assessment in Appendix 2 of the Environmental Assessment and Appendix 9 of the draft Preferred Project Report was produced giving consideration to the South Australian Guidelines, which was required by the DGRs. The NSW Guidelines follow closely but improve on the methodologies and practices of the SA Guidelines. The NSW Guidelines give greater consideration to low-frequency noise, tonality, excessive amplitude modulation and auditing and compliance issues.</li> <li>• The Department considered noise impact in section 5 of this assessment report.</li> </ul> |
| <b>Health</b>            | <ul style="list-style-type: none"> <li>• Consider and document health issues, focusing on neighbours with dwellings within 2km of proposed wind turbines.</li> </ul>                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Section 8.10 of the Environmental Assessment addresses health impacts.</li> <li>• The Department considered health impacts in section 5 of this assessment report.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ecological issues</b> | <ul style="list-style-type: none"> <li>• Consider potential impacts on birds and bats, particularly migratory species and outline the proposed monitoring and mitigation strategy</li> </ul>                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Appendix 3 of the Environmental Assessment and Appendix 1 to the PPR; and</li> <li>• The Department considered ecological issues in section 5 of this assessment report.</li> <li>• The Department concluded the development will result in unacceptable impacts on the natural environment as a result of inadequate avoidance of biodiversity, inadequate provision of mitigation measures, and a failure to adequately offset biodiversity impacts.</li> </ul>                                                                                                                            |
| <b>Aviation safety</b>   | <ul style="list-style-type: none"> <li>• Outline current agricultural aerial uses on neighbouring properties; and</li> <li>• Consider the potential for the proposed wind farm to impact on aviation safety associated with agricultural aerial uses consistent with the draft guidelines.</li> </ul>                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Attachment 11 to draft Preferred Project Report.</li> <li>• The Department considered aviation issues in section 5 of this assessment report.</li> <li>• The Department concluded the Applicant has failed to demonstrate that the development will not have an adverse impact on either commercial or non-commercial aviation, including Canberra airport.</li> </ul>                                                                                                                                                                                                                       |

| <b>Issue</b>                             | <b>NSW Planning Guidelines Checklist</b>                                                                                                                                                                                                                                                                                                                                                              | <b>Response</b>                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          |                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li></li> </ul>                                                                                                                                                                                                                                                                                                                                 |
| <b>Bushfire hazard</b>                   | <ul style="list-style-type: none"> <li>Consider bush fire issues consistent with the draft guidelines, including the risks that a wind farm will cause bush fire and any potential impacts on the aerial fighting of bush fires.</li> </ul>                                                                                                                                                           | <ul style="list-style-type: none"> <li>Section 7.11 of the Environmental Assessment.</li> <li>The Department considered bushfire issues in section 6.0 of this assessment report.</li> </ul>                                                                                                                                                                                       |
| <b>Blade throw</b>                       | <ul style="list-style-type: none"> <li>Assess blade throw risks consistent with the draft guidelines; and</li> <li>Outline measures to avoid, minimise, manage and monitor impacts.</li> </ul>                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Section 7.7 of the draft Preferred Project Report.</li> <li>The Department would recommend conditions including the requirement to develop a comprehensive Safety Management System.</li> </ul>                                                                                                                                             |
| <b>Economic issues</b>                   | <ul style="list-style-type: none"> <li>Consider whether the wind farm use is consistent with relevant local or regional land use planning strategies;</li> <li>Consider potential to impact upon mining/petroleum leases and exploration licences; and</li> <li>Consider any potential impacts upon property values consistent with the draft guidelines, including properties within 2km.</li> </ul> | <ul style="list-style-type: none"> <li>Section 8.3 of the Environmental Assessment addresses mineral exploration.</li> <li>Section 8.4 of the Environmental Assessment and section 3.4 of the Submissions Report address the potential impact on property values.</li> <li>The Department considered land values in section 5 of this assessment report and Appendix F.</li> </ul> |
| <b>Decommissioning</b>                   | <ul style="list-style-type: none"> <li>Include a Decommissioning and Rehabilitation Plan in the EA, including proposed funding arrangements; and</li> <li>Confirm that the Applicant not the landowner is responsible for decommissioning.</li> </ul>                                                                                                                                                 | <ul style="list-style-type: none"> <li>Decommissioning is addressed in Appendix 20 of the draft Preferred Project Report.</li> </ul>                                                                                                                                                                                                                                               |
| <b>Monitoring and compliance program</b> | <ul style="list-style-type: none"> <li>Outline program to monitor environmental performance to ensure compliance including mechanisms for reporting outcomes and procedures to rectifying non-compliance – including any provisions for independent reviews.</li> </ul>                                                                                                                               | <ul style="list-style-type: none"> <li>Monitoring and compliance programs have been discussed in the draft Preferred Project Report, statement of commitment number 10, however the Department would recommend specific conditions ensuring suitable monitoring and compliance programs are in place.</li> </ul>                                                                   |
| <b>Council planning controls</b>         | <ul style="list-style-type: none"> <li>Outline whether the proposal is consistent with any relevant provisions of the relevant council's Development Control Plan and list any variations.</li> </ul>                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Section 5 of the Environmental Assessment addresses relevant local or regional land use planning strategies, however this is outdated. The Draft Preferred Project Report does not address relevant DCPs.</li> </ul>                                                                                                                        |



## Appendix H. Aviation Review

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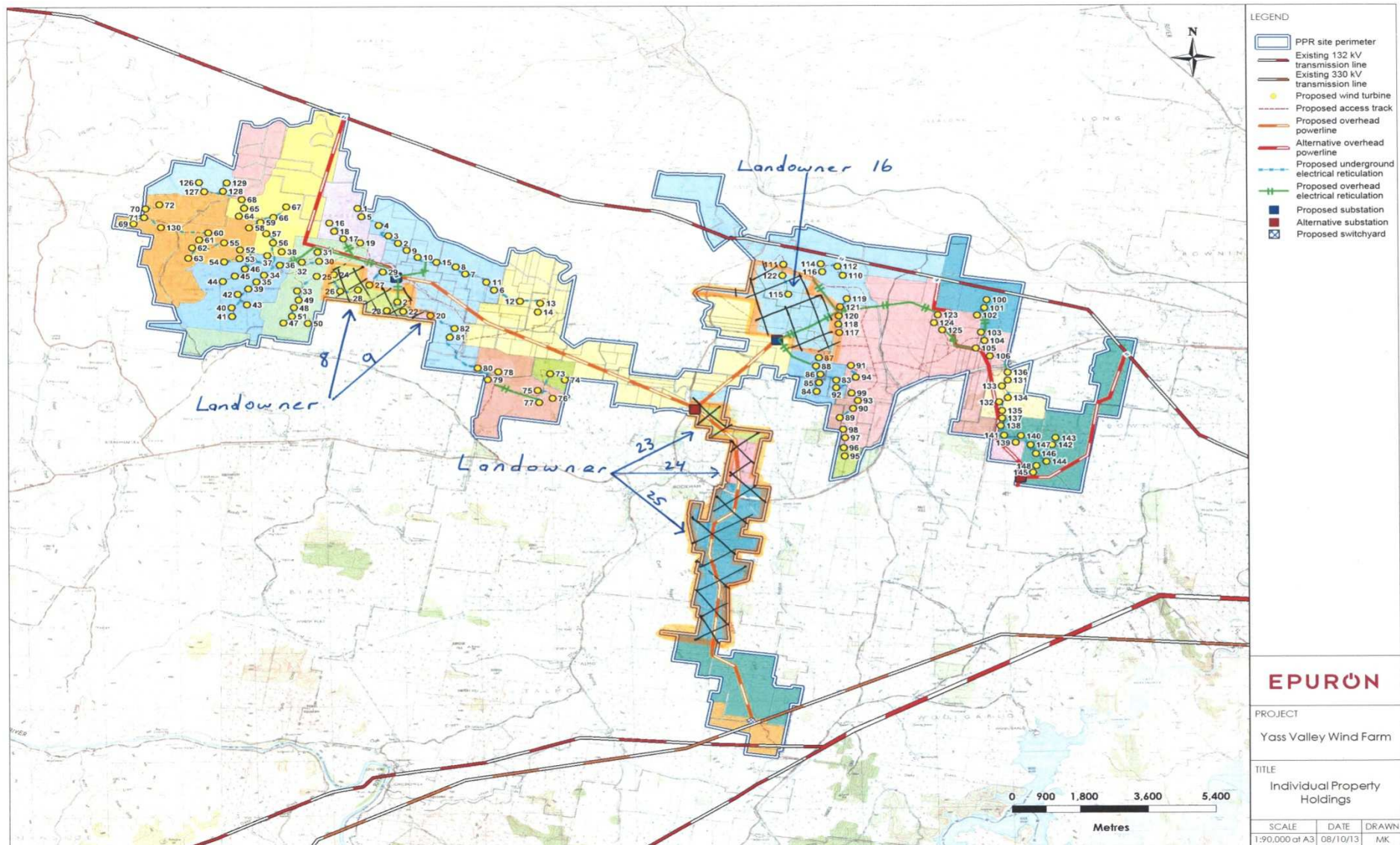
# Appendix I. Visual Review

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## Appendix J. Landowner and Infrastructure Map (as provided in the fourth Draft PPR dated May 2014)



## **Appendix K. Instrument of Refusal**

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Attached