



26th May 2006

Mr Chris Wilson

A/Executive Director

Office of Sustainable Development Assessments and Approvals

NSW Department of Planning

23-33 Bridge St

Sydney NSW 2000

Reference: A. Dept of Planning Letter of 9 May 06, request for Submissions Report re Proposed Capital Wind Farm (PA No. 05_0179).

Dear Sir,

As requested in Ref A, the following report is Renewable Power Ventures (RPV) response to issues raised in public submissions to the Department of Planning.

Construction Impacts

1. *What measures will be taken to ensure access and construction tracks do not cause increased run-off, exacerbate soil erosion, and impacts on Lake George? (Sub 76, 59, 33, 31)*
 - A. RPV has committed to preparing a Construction Environmental Management Plan (CEMP) to address a raft of environmental issues and mitigation plans. The CEMP must be approved by the Dept of Planning before commencing construction. The CEMP will include specific measures to prevent erosion from new roads. This will include ensuring that all roads are correctly engineered for the geology, topography and planned use. Specific measures will include building culverts and other storm water measures where required, deploying erosion netting and in locations such as the site office or batch plants, construction of silt traps. All work sites will be rehabilitated during the construction process, including the sowing of pasture and planting of trees in certain locations.

An assessment of the project soil types and geology, potential construction and operational impacts and mitigation has been conducted and is presented in Chapter 5 of the EA.

2. *What measures will be taken to ensure construction impacts on the local roads as a result of the use of large vehicles and heavy equipment, will be fixed? (Sub 72, 66, 23)*
 - A. Prior to commencing construction, RPV must prepare a Traffic Management Plan (TMP), in consultation with Palerang Council and Goulburn Mulwaree Council. The TMP will require that prior to construction an access road dilapidation report is compiled by the Councils and RPV. Immediately post construction, these parties will conduct a further road dilapidation report. RPV will be responsible to ensure that the

roads are repaired to the same standard they were in prior to construction commencing.

During construction, RPV will undertake regular grading to ensure access is maintained. This is crucial to the success of the construction phase. Further, RPV proposes to conduct some capital works on Taylors Creek Road, including straightening one bend and sealing approximately 400m of road on the Western Leg Road / Taylors Creek Road intersection.

3. *How will spoil from levelling turbine sites be disposed of? (Sub 66)*
 - A. Surplus spoil will be used to form the pad at the base of each tower and as road base for new roads. Any surplus material beyond this will be used to repair areas of very extensive erosion that currently exists on some parts of the project land.

4. *Has the Proponent done any subsurface geology testing to determine if the geology is appropriate for turbine construction? (Sub 66)*
 - A. Yes. 13 bore holes were drilled in July 2005 to enable detailed foundation design to be undertaken. The subsurface material is suitable for this type of structure. Geotechnical Assessment is discussed in Para 5.4.4, Chapter 5 of the EA.

5. *Is it possible to relocate the proposed substation to the "other side" of Hammond's Hill? (Sub 74)*
 - A. The current substation site has been selected after exhaustive studies to determine the most suitable location. The current location was selected due the following factors:
 - a. Proximity to the 330kV transmission line and the wind turbines, therefore reducing the amount of cabling required and increasing the efficiency of the wind farm.
 - b. Distance from neighbouring residences. The nearest residence is over 1200m from the substation. At this distance, there will be no noise impact.
 - c. Visual Amenity. The substation is obscured from all neighbouring and public land.
 - d. Transgrid, as the transmission network operator, believes this to be a suitable location.

6. *Can the Proponent identify what water sources it proposes to use to meet the construction demands (concrete footings and dust suppression) of the wind farm and are these water sources proven? (Sub 72, 68, 23, 10)*
 - A. RPV will rely predominantly upon groundwater for the construction phase. Palerang Council has recently identified ground water beneath Butmaroo Creek as a future long term source of water for Bungendore. The test bores have shown a vast sustainable supply. The Butmaroo Creek aquifer runs through the project site. RPV's one off construction water requirements (~19.5 ML) is only a tiny fraction of that proposed to be drawn by Palerang Council to supply Bungendore in the future.

7. *Are there likely to be better environmental outcomes if the access to the substation was made by extending the road currently used by the trucks who lease the Sand Mine at Lakelands? (Sub 66)*
 - A. At its closest point to the substation (the intersection with Bungendore-Tarago Road), the road used for sand mining is approximately 6km to the SW of the substation site. As such, this option would require a new road to be built from the intersection, running NE to the substation, over a distance in excess of 6km. This new road would largely run parallel to the Tarago-Bungendore Road. In contrast, the 1 km access

track proposed by RPV utilizes an existing track over a much shorter route and as such has the least environmental impact.

8. *How will the Proponent control the introduction and spreading of weed species? (Sub 66, 59)*
- A. All heavy vehicles arriving on site from outside the local region will be required to be washed down in a bay where seeds can be captured. Vehicles departing the local region will also be required to be washed down prior to departure. This is standard practice at construction sites of this nature. Weed management will be incorporated into the CEMP that must be approved prior to construction.
9. *What measures will be taken to ensure protection of flora and fauna, including native grasslands, from construction activities associated with road and track construction and other infrastructure works such as the turbine footings? (Sub 72, 66, 59, 52, 33, 31, 7`)*
- A. RPV has already taken extensive measures to protect flora and fauna by redesigning the wind farm during the consultation phase. For instance, one area was identified as a yellow box grassland community i.e. the yellow box trees had been removed, though the native grassland remained. This area will no longer be touched by the development. Other measures that are to be undertaken to mitigate the impact on flora and fauna during construction include:
- a. Road and infrastructure locations have been designed to avoid trees and areas of native grassland where ever possible. This has been undertaken in consultation with the flora and fauna expert who completed the flora and fauna studies in the EA.
 - b. A small number of turbines have been sited in proximity to trees. Where this has occurred, the site has been designed to minimize the number of trees that need to be cleared permanently. Further, where space is required to lay down blades prior to erection, only those trees in the immediate vicinity of the blades will be cut down. The vast majority of these trees will be coppiced, i.e. the stump and root system will remain, so that they will be able to re-grow.
 - c. Felled trees will be used to create new habitats for fauna, by piling the trees into clusters.
 - d. In some rare instances, large boulders may need to be moved. Any movement will be minimised and the boulders left to form new habitat.
 - e. Rehabilitation of sites will include sowing of native pasture seeds and native tree species (ten trees are to be planted for every tree removed).
 - f. Extensive erosion control practices will be incorporated into the CEMP. Surplus soil from any excavations will be used to repair existing erosion areas.
 - g. A qualified flora and fauna expert has assessed the proposed road routes to confirm that impacts on flora and fauna are minimised.
10. *Will the Proponent provide transport and access to alternative areas for exercising horses during the construction of the wind farm? (Sub 50)*
- A. No. The current project landowners do not permit neighbours to utilize their land and this will not change during the construction or operation of the wind farm. Neighbouring properties are a considerable distance from the construction works and will not be prevented from using their land.
11. *Can Taylors Creek Road be used for construction of the wind farm without sealing it first? If so, how is it proposed to control dust off the road surface? (Sub 49)*

A. Yes, Construction of wind farms with dirt access roads is the norm. As discussed earlier, the TMP will require on going maintenance of Taylors Creek Road and this will include dust suppression by water trucks. Further, the Western Leg Road / Taylors Creek Road intersection will be sealed prior to construction. Concern has been raised by a local resident about the use of wetting agents. RPV has decided that wetting agents will not be used to suppress dust.

12. Will the Proponent conduct pre-construction structural surveys prior to any blasting? (Sub 23)

A. As a result of geotechnical surveys conducted to date, RPV does not anticipate the need to conduct any blasting. Please refer to the Geotechnical Assessment discussed in Para 5.4.4, Chapter 5 of the EA.

13. Are you still proposing to use chemical dust suppression methods? (Sub 23)

A. No. See above.

14. Will fire risks posed by construction activities be addressed in a plan? (Sub 23)

A. Yes, a Bush Fire Risk Management Plan will be developed by RPV, in consultation with the Queanbeyan RFS Fire Mitigation Officer and the Taylors Creek Road RFS. An outline of this plan is described in the EA Statement of Commitments. Practical measures in this plan will include detailing what fire fighting equipment / personnel are required on site during hot works e.g. welding may require the presence of a fire tender or other fire fighting equipment. The Taylors Creek RFS currently has two fire tenders, though one is petrol driven and therefore not compliant. RPV has undertaken to purchase the Taylors Creek RFS a new Cat 7 Fire Tender at commencement of construction.

15. Will Survey Unit 9 in the archaeological and cultural heritage surveys, a rare intact environment, be protected? (Sub 10)

A. Survey Unit 9 was an area surveyed by the archaeologist and Aboriginal group representatives. The same area was surveyed by an ecologist. Appendix F2 of the EA should be read for a specific brief on the proposed cable and road route through this area. The ecologist found these routes to be environmentally satisfactory. It is certainly not described as a rare intact environment, nor is any particular conservation value attributed to it. That said, the archaeologists point regarding its potential from an archaeological perspective has been noted and discussed at length with the archaeologist. As a result of these discussions, RPV wrote to the archaeologist to explain our intentions for this area. A copy of that letter is at Appendix A to the Aboriginal Cultural Heritage Report (Appendix E to the EA). In summary, RPV undertook to not excavate in that area and that if this situation were to change, RPV will refer the matter back to the archaeologist for advice. RPV's position has been accepted by the archaeologist as prudent.

16. How will stock and deer be managed when constructing the wind farm? (Sub 10)

A. Stock will continue to be grazed on the project properties. Experience has shown no issues with regards to stock interacting with the construction works. Stock will generally avoid the area where work is currently occurring. Though as the bulk of such work is conducted on the high ground, stock are uncommon in this area anyway.

Feral deer are present on the properties where the Hammonds Hill and Ellendon groups of turbines are to be located. These deer also roam over neighbouring properties, especially to the east, where there is extensive suitable habitat. No change in this behaviour is expected as a result of the construction works. The deer will avoid

the construction works, however they currently roam unhindered over thousands of hectares of land and will continue to do so.

Ecology

Note: It should be noted that many answers refer back to the original studies. RPV wishes to remind the reader that many amendments were made to the layout of the wind farm as a result of the Flora and Fauna studies, such that turbines and infrastructure do not impact on a variety of habitats identified by the ecologist, including native grasslands. The amended layout was subsequently surveyed by the ecologist and his report from this survey is at Appendix F2 of the EA.

17. *Do turbines contribute to the drying of the surrounding soil as a consequence of the aerodynamic disturbances from the turbine blade movements? (Sub 76)*
- A. No. Aerodynamic disturbance does not extend greatly beyond the immediate area down wind of the blades and certainly not to 35m below the swept area.
18. *Have any likely impacts, including collision risks and disturbances to habitat, on the wedge-tailed eagle population living on Hammonds Hill and in other areas of the proposal, and brown falcons living on and in the vicinity of the proposal, been taken into account? (Sub 74, 72, 59, 53, 52, 51, 30, 26)*
- A. Yes, the likely impact is assessed to be minimal due to the natural behaviour of these birds and mitigation measures to be undertaken by the project. Wedge-tailed Eagles are present in the project area, though in small numbers (one Wedge-Tailed Eagle was seen on Governors Hill Ridge (where turbines have been removed) and in the vicinity of Hammonds Hill). As tree removal is very limited and in most cases, temporary (coppicing used in preference to removal), the disturbance to remaining woodland habitat is very small. The vast majority of foraging habitat will remain completely unaffected by the proposal. Breeding by these species was not evident at any area where construction will occur; i.e. no likely stick nests were located.

Measures to mitigate any impact on birds of prey such as Wedge-tailed Eagles and Brown Falcons include the removal of carcasses from within 200m of any turbines, an annual rabbit baiting programme, prevention of lambing within 200m of turbines and removal of a handful of tall dead trees from within 200m of turbines. The location of the turbines relative to the area in which both birds generally range will be minimal. Wedge-tailed Eagles have demonstrated a high degree of adaptability with regard to wind farms across Australia. The Brown Falcon is far less likely to hunt on ridge lines, preferring lower paddocks. It also very rarely fly's at the height of the lower blade sweep (35m).

19. *Has the Proponent investigated the likely impacts of the wind farm on grass owls which have been observed to nest on the ground? (Sub 52)*
- A. The Commonwealth Government Department of Environment and Heritage does not list the Southern Tablelands as a breeding area for this species. Breeding occurs from northern NSW through to QLD, NT and the Kimberly in WA. There have been no recorded sightings of grass owls in the project area in previous studies of the area, or listed in the DEC Wildlife Atlas, or sited during the flora and fauna studies. The absence of sightings is likely due to an unsuitable climate and the absence of habitat (native grassland) in the area. Para 3.4 of Appendix F1 of the Environmental Assessment (Flora and Fauna Study) identifies that its habitat, being good quality native grassland, is rare in this district. Native grassland is defined as grassland with > 50% of vegetation cover composed of indigenous species, >50% of species are native, and minimum vegetation cover, alive or dead is >10%. The project avoids native grassland areas. The occurrence of the Grass Owl this far south would be a very rare event, probably involving vagrant, non-breeding birds.

20. *Will the proponent make use of flora and fauna data collected by the local naturalists and LandCare groups when preparing management plans? (Sub 59)*
- A. Yes. Most of the project landowners have an active interest in the native species that are or were once present on their land. Further, Taylors Creek Landcare will be approached to provide advice on species selection and other relevant matters in the management plans.
21. *Is it necessary to clear any Yellowbox gums? (Sub 74, 33)*
- A. RPVs flora and fauna studies discovered the yellowbox community in the SE corner of the project land. It may be necessary to coppice up to three yellowbox gums, located on the edge of the extant access track to the proposed substation site. These trees will be permitted to regenerate. The remainder of this large area of yellowbox community will be fenced off and allowed to regenerate after being used for stock grazing over several decades. The effect of preventing stock access to this area will greatly outweigh the coppicing of three trees.
22. *Is the Proponent aware of any Koala habitat on land within the area proposed for the wind farm? (Sub 73)*
- A. No koalas been sighted on the land in at least the past 70 years. A small area of Mana Gums does exist on land within the broader project area. However, these are distant from the turbines and associated infrastructure and will not be impacted by the development. The turbines themselves would not interfere with Koala movements or their other activities in any way, should they be present in the area.
23. *Can the Proponent confirm that the ridges have been pasture improved as this is inconsistent with local knowledge? (Sub 66)*
- A. The flora and fauna survey identified that the bulk of any pasture grasses in the project area are exotic species, which are generally introduced as part of a pasture improvement process. Para 3.4 of Appendix F1 of the Environmental Assessment (Flora and Fauna Assessment) states that 'Most of the cleared ridge crests support exotic grassland and native pasture.' Native pasture is defined as grassland containing native and introduced species, where introduced species occupy > 50%, but < 75% of both cover and species present where pasture species have been mechanically sown. Exotic Grassland is defined as grassland where >75% of species and cover are introduced. Para 3.4 also identifies that good quality native grassland is rare in this district. Native grassland is defined as grassland with > 50% of vegetation cover composed of indigenous species, >50% of species are native, and minimum vegetation cover, alive or dead is >10%. The project avoids native grassland. Para 3.4 of Appendix F1 should be read as a description of vegetation found in the broad project area. Finally, the project landowners have also confirmed that extensive pasture improvement has been undertaken at almost every location where turbines are proposed to be placed. With the exception of one landowner, these families represent three to five generations of local farming knowledge.
24. *Would the Proponent extend the area it proposes to fence off from grazing along the Tarago/Bungendore Road to a larger area so that active environmental reclamation works can be carried out? (Sub 55)*
- A. RPV will fence of the area as proposed in the EA. RPV will also undertake extensive environmental reclamation works on various sites throughout the project land. This work will include repair of extant erosion, planting ten native trees for every tree removed and conduct of an annual rabbit baiting programme. Native trees will also be

planted around the substation site, and this will most likely involve propagating seeds collected from within the Yellow box community to the SE.

25. *Will the Proponent consider participating in a raptor protection program? (Sub 55)*
- A. Yes. RPV has undertaken a number of measures to mitigate risk to raptors, including the removal of carcasses from within 200m of a turbine, prevention of lambing within 200m of a turbine, conduct and annual rabbit baiting programme. RPV is happy to consider what other measures may be undertaken to promote the health of the regional raptor population.
26. *When assessing the potential for bird and bat strikes on the turbines, was the winter fog phenomena taken into account? (Sub 47)*
- A. Fog occurs for a limited time of the year, with the vast majority of fog occurring between 0500 and 0800 in winter. Bats are not widely found on the site (absent on most areas) and will not be active during those hours in winter. Nor do they rely on sight for guidance. Raptors are the most common type of bird on the ridgelines and are present there when searching for prey. They rely on sight to hunt and therefore would not be hunting in fog. Fog is formed by a combination of light winds, clear skies and cold moist air. As discussed previously, average temperatures in the region are increasing. Night time temperatures are rising faster than day time averages and as such the number of nights on which fog may start to form is also decreasing. The final factor to note is that the turbines will not operate in the still conditions required for fog to be formed and sustained, as such there will be no discernable impact by fog on the potential for bird or bat strike.
27. *Did the fauna investigations extend to the habitats that are found on the western side of Lake George, where many of the avian species make use of the eastern side of Lake George? (Sub 38)*
- A. The fauna studies were focused on attempting to identify what fauna are present in the project area. Naturally, this includes any species that might travel from the western side of the lake. These species would also form part of the data identified in the databases (e.g. DEC Wildlife Atlas and local bird survey lists) and other information collected as part of the flora and fauna study process, such as correspondence from the NSW DEC and 'A Planning Framework for Natural Ecosystems of the Act and NSW Southern Tablelands' (Falding 2002).
28. *Will the Proponent re-assess the flora and fauna report because the original surveys were done during the worst drought on record? (Sub 23, 10)*
- A. The flora and fauna studies were conducted on three occasions over two springs (2004 and 2005) and in accordance with accepted survey practices. The survey conducted in 2005 was during a period where sufficient rainfall had occurred to allow the NSW Department of Primary Industries to change its drought assessment from 'In Drought' to 'Marginal'. Surface water in Lake George was at its highest volume (5%) for at least the previous 8 years (and any time since). Research from the CSIRO ('Climate Change in NSW' commissioned for the NSW Greenhouse Office) suggests that the current long term drought represents a significantly more frequent component of this region's future climate and that there is a general trend for decreasing annual average rainfall, that has been evident since 1950. Average temperatures have also been increasing, which will result in increased loss of soil moisture. The general environment in the region is in steep decline. The existence of the wind farm will help to support the health of the local environment through the measures previously discussed.

29. *Why wasn't flora and fauna information collected from local residents? (Sub 23)*
- A. RPV relied on experts to conduct these studies. Misidentification of species or collection of data in a non scientific manner would reduce the validity of the study findings. Requests were made to the Canberra Ornithologists Group who, at the request of one of the project landowners, have conducted bird surveys in the area. Whilst the COG did not provide any information on bird surveys, the information was obtained from the project landowner; see Appendix 7 in the Flora and Fauna Study. Lists of native flora will be requested from the Taylors Creek Landcare Group during the drafting of the CEMP and OEMP to allow rehabilitation or repair with native species wherever practicable.
30. *How can the flora and fauna survey done for this project account for any seasonal variations given the limited field surveys that were conducted? (Sub 10)*
- A. As previously stated, the flora and fauna studies were undertaken in accordance with widely accepted study procedures. In fact, as they were conducted on three occasions over two springs, the results are more detailed than normal. Spring is generally accepted as the most important time to conduct surveys as the bulk of species are present and visible. As noted above, the study obtained information from several long-term data bases that gathered information over many years and during all seasons.
31. *The Regent Honeyeater is a threatened species whose prime habitat is yellowbox woodland. Shouldn't this species be assessed in an 8-Part Test? (Sub 10)*
- A. Aside from minor improvements to an existing access track, the Yellowbox Woodland community is not part of the project. RPV is proposing to protect it from stock due its identified value. The three trees that may be coppiced will be inspected beforehand to ensure no bird nests or bat hollows are occupied. The wind farm does not otherwise impact on this woodland area. The Regent Honeyeater was assessed in Section 5.2 of the flora and fauna study.
32. *Is the fencing off of the yellowbox woodland a compensatory measure or was it just good planning to avoid any disturbance to it? (Sub 10)*
- A. The ecologist who conducted the flora and fauna studies identified the area as having high conservation value. Its value had not been previously identified. As it is an area that is not impacted upon by the wind farm, yet does have ongoing management problems due to the grazing of livestock, RPV believed that offering to protect this area was an appropriate suggestion.
33. *Fawning is just as important as lambing and will need to be controlled to avoid attracting raptors. Should the assessment address the management of deer in the vicinity of the turbines as well as other grazing stock? (Sub 10)*
- A. Deer are highly unlikely to fawn on the exposed ridgelines. Rather, they will find shelter in extant woodlands, well distant from the turbines. As with any large animal carcass, if deer die within 200m of a turbine, their carcass will be removed.
34. *Will all trees within 200 metres of the turbines be cleared? If so, what compensatory measures will be applied to replace lost habitat e.g. hollows? (Sub 10)*
- A. Absolutely not. Only trees that are on the proposed pad for each turbine will be permanently cleared. This is an area of about 20m by 30m as described in Chapter 3 of the EA. The blades will be located on the ground so that, wherever practical, they extend into cleared areas. If absolutely necessary, any trees that lie in their path will be coppiced and permitted to re-grow after erection of the turbine. Finally, in accordance with the flora and fauna study recommendations, tall dead trees within

200m of a turbine will also be removed. However, due the short stature of the small tree population on the ridges, only a very small number of dead trees will be removed.

Felled trees will then be used to create new habitat for fauna.

35. *Are there likely to be microclimatic effects such as soil moisture reduction or heating effects of underground cabling upon soils? (Sub 10)*

- A. Cabling is buried to a depth of 1m. These trenches are then backfilled with low thermal resistivity soils to allow for absorption of some heat. The backfilled soil will be more fertile than the extant soil in the area and experience has shown that pasture grows faster and higher along the cable trench route as a result. The heat will be absorbed over the immediate 25cm of sub surface soil surrounding the cable. There is no discernible change in soil moisture as a result.

Economics

36. *Can the wind farm be financially competitive in a real market situation? (Sub 76, 40)*
- A. Yes, RPV has selected this site after examining 26 sites throughout NSW. This site is the most productive site within NSW and has further advantages due to its proximity to a 330kV transmission line and several large loads (e.g. Canberra, Wollongong). Most importantly, the wind profile means that the wind farm will be producing at capacity when the power is in greatest demand, i.e. during summer afternoons and evenings and winter nights. This means that the electricity produced by the wind farm is considerably more valuable than would be produced at other locations in NSW.
37. *How will the noise generated by the operating wind farm affect property values? (Sub 76, 51, 30, 26, 10)*
- A. The noise regulations under which this wind farm has been designed are the strictest in the world. As a result, there will be no noise impact on neighbouring households. Therefore noise will have no impact on land values.
38. *What evidence is there that property values could increase as a result of the construction of the wind farm and is there any local (i.e. Australian) evidence? (Sub 74, 67, 41, 38, 23, 10, 7)*
- A. In Esperance, WA, an informal investigation was made into property prices at Salmon Beach, a premier residential area 200 metres away from Australia's first wind farm. Of 15 properties investigated, only one reduced in value after the wind farm had been constructed. This was due to the property being subdivided and sold as two separate lots. Since then, Esperance has seen another two wind farms and 15 more turbines installed without a single negative comment.

No negative impact on land values has been identified at the two main NSW wind farm projects, Crookwell and Blayney. Further, RPVs experience with Alinta Wind Farm in WA has also shown no impact on property values. The sealing of Taylors Creek Road at Capital Wind Farm will also boost the value of properties in that area.

In the USA, research in 2002 by ECONorthWest¹ concluded there was “no evidence supporting the claim that views of wind farms decrease property values”. This was backed up by a May 2003 Analytic Report for the Renewable Energy Policy Project² involving the review of over 25,000 records of property sales within a distance of five miles of wind farms and interviews with property tax assessors. The report found that property values increased faster within the view shed of the wind farm than in comparable locations away from wind farms. The rate of change in average sales price within the view shed was 18% greater over the study period. Once again the report's summary concluded: “we found no evidence supporting the claim that views of wind farms decrease property values”.

Denmark: A report by the Institute of Local Government Studies (AKF) found that “the economic expenses in connection with noise and visual effects from wind mills are minimal”.³ Noise regulations and therefore distance to turbines are far less stringent in Denmark than Australia.

United Kingdom: A British Wind Energy Association investigation based on a number of different studies, found no evidence that wind farms caused house prices to decrease. This is backed up by the experience of more than 70 operating wind farms in England, Wales and Scotland. In fact, when an opposition group advertised that a wind farm in Glens of Foudland, Scotland would have a detrimental effect on

house prices, they were censured by the Advertising Standards Authority (ASA) when the group could not provide evidence to support its claims.⁴ An independent market research study in the UK carried out two public opinion surveys involving hundreds of face to face interviews with residents living near wind farms :**At Novar Wind Farm, Scotland:** “In regards to house prices, 72 per cent say the wind farm has had no effect, with a further 26 percent saying “don’t know”. None of the respondents say house prices have decreased as a result of the wind farm.” ⁵ **At Taff Ely Wind Farm, South Wales:** A new housing development has been built just a few hundred metres away from Taff Ely, with views across open fields towards the wind farm. According to a study⁶ 70% say they are able to see the wind farm from their home. “In regards to house prices, 78% say the wind farm has had no effect, with a further 15% saying “don’t know”. As many residents say house prices have increased a little because of the wind farm (3%) as say they have decreased a little. Similarly, as many say they have increased a lot (1%) as say decreased a lot.” In Nymphsfield in Gloucestershire, house prices continued to gain after plans for a wind turbine were announced in 1992. They have continued to increase since the turbine began operating in 1997.⁷

1. Pheonix Economic Development Group
<http://www.kvalley.com/phoenix/Kittitas%20Wind,%20final.pdf>².
Sterzinger, Beck, Kostiuik: May 2003 Analytic Report **3. Institute of Local Government Studies Denmark:** Social assessment of wind power, Jorgen Jordel-Jorgensen, April 1996.**4. Renew online:** Wind Works for Farmers, extracts from the Jan-Feb 2002 edition of Renew. <http://technology.open.ac.uk/eeru/natta/renewonline/rol35/55>. **Novar residents survey:** Robertson Bell Associates, July 1998**6. Taff Ely, Residents survey:** Robertson Bell Associates, December 1997. **7. BWEA:** <http://www.bwea.com/ref/stroud.html>

A 2001 Auspoll (VIC) survey found that the words most commonly used to describe wind farms were “interesting” (94%) and “graceful” (74%). Capital Wind Farm will provide a 25-30 year buffer and a net benefit to the landscape and environment by occupying an area that would otherwise have been subject to other development initiatives, most notably, further subdivision.

It should also be noted that ‘Bonnie Doon’, a residence on Taylors Creek Road, with perhaps the most pronounced view of both Woodlawn and Capital Wind Farms was recently sold after a brief time on the market for a good market price. The marketing of this house including briefing on the proposed wind farms.

39. *Is it possible to benchmark or evaluate all concerned properties prior to the project commencing to determine their current market value and how this may be affected once the project is completed? (Sub 49)*
- A. Property values are subject to thousands of local, regional, national and international influences, including interest rates, local economy, government economic policy, drought, etc.... As discussed previously, the wind farm is not a relevant factor in determining property values.
40. *What assurance can the Proponent offer to ensure that properties are not adversely financially affected? (Sub 49, 48, 47)*
- A. The wind farm is not in close proximity to any local residence and has been designed to not impact on these properties. The vast majority of those households can either

not see the wind farm or are only able to view a small portion of it. Experience from other Australian wind farms has shown no impact on property values.

41. *Will the Proponent accept liability for damages to neighbouring properties if a bush fire is ignited as result of the operation of the wind farm? (Sub 74, 73)*
- A. The wind farm will operate in accordance with an approved Bush Fire Risk Mitigation Plan. In the tens of thousands of wind turbines that are currently operating worldwide, fire is an extremely rare event. Normal risk management practices and modern technology further reduce the likelihood of fire. The wind farm will be subject to extant liability provisions under common law and will hold public liability insurance.
42. *Can the Proponent demonstrate that there is a need for the electricity that this wind farm will produce? (Sub 72, 10)*
- A. Demand for electricity in NSW increased by 11% between 1999 and 2005. Demand is forecast to continue to increase dramatically over the coming decade due to economic growth and changes in lifestyle. This wind farm is particularly well suited to meet this demand as the wind profile correlates well with the electricity demand curve, i.e. a significant proportion of the generation occurs at periods of high diurnal and seasonal demand.
43. *Can the Proponent justify that there will be local economic benefits from employment and contracting works? (Sub 72, 50, 42)*
- A. The owners of the land on which the development is sited will receive rental payments. Further, during construction, approximately 200 personnel will be employed. Some of these personnel will be local subcontractors and others will be specialists brought in to the area. These personnel will contribute to the local economy via their salaries and demand for services such as accommodation, food and recreation. The construction phase will also require the supply of large quantities of materials, much of which can be sourced locally. Post construction, 6-8 full time jobs will be created on site. These will most likely be locally based. This is the experience of RPV at its Alinta Wind Farm development in Geraldton, WA.
44. *What arrangements have been made by the Proponent to finance the decommissioning of the proposal if it fails or it is decided not to upgrade after the anticipated 20-25 year lifespan? (Sub 60, 53, 46)*
- A. An upgrade of the facility is the most likely outcome, given the value of the infrastructure that has been installed, especially those items with a very long life span, such as the substation, underground cables, tower foundations, roads, etc... However, should this not occur, the wind farm would be expected to be decommissioned in 25-30 years. At this point in time, recovery of the various valuable materials in the wind farm will occur. The turbines themselves are a valuable commodity, given the scrap value of the steel, copper, aluminium, etc... and would certainly make recovery a profitable exercise. However, as stated previously, this would be the least likely outcome, with some form of upgrade the most likely.
45. *Can the Proponent provide a review report which examines the changes in land values for properties adjacent to other wind farms in Australia and in comparable locations in the world? (Sub 60)*
- A. Please refer to the answer provided previously on this issue.
46. *The value of our property will fall as a result of the wind farm. Can the Proponent buy us out at a fair and reasonable market value? (Sub 50)*

- A. No. Please refer to the information provide in question 38.
47. *How will the removal or a decrease in the Federal Government's subsidy scheme affect the financial viability of the Proposal? (Sub 60)*
- A. The MRET scheme is operated under Commonwealth Government legislation and is planned to terminate at the end of 2020. Investment in Australia is deemed to have a low sovereign risk due the long history of Australian governments not renegeing on legislated programmes such as the MRET scheme. As such, RPV believes that a premature termination of the MRET scheme is an extremely remote scenario.
48. *Do the benefits of the proposal outweigh the costs? i.e. the environmental and social costs. (Sub 59, 39, 38)*
- A. Yes. The wind farm has been proposed for this site due its outstanding wind resource and the compatibility of that wind resource to NSW electricity demand. The environmental benefits include significant GHG emission reductions, which contribute to a reduction in the GHG intensity of the NSW economy. A number of local environmental benefits will also be generated through protecting the identified Yellowbox Woodland Community, rehabilitating several areas that are currently badly degraded by severe erosion and potential for reduced stocking rates. Further, the local community will benefit from employment and a significant long term investment in the local community, evident as opportunities for local business during construction and operation of the wind farm, payment of rents to landowners and wages. The wind farm offers a significant opportunity to diversify the local economy, establish a drought proof industry and create significant environmental benefits at a local and national level.

Energy Saving/Greenhouse

49. *Need to have an independent energy audit to assess whether wind energy produced by this proposal has a net benefit in reducing burning of coal for electricity. (Sub 79, 74, 10)*
- A. This wind farm will produce electricity that is supplied to the grid. As a result, other generating plant will not produce that amount of electricity. As stated in our submission in February 2006, the outputs calculated for this wind farm are very conservative and in all likelihood will be exceeded. As a result, the volume of electricity that other generating plants do not need to produce will be increased and the net greenhouse benefit will increase. Please refer to RPV's February 2006 submission for further comment on this issue.
50. *Does the requirement for additional spinning reserve, because of the intermittency of wind supplied generation, reduce the need to burn non-renewable fuels? (Sub 76, 46)*
- A. Spinning Reserve is not provided on the basis of a specific generators existence or otherwise. All generators on a network create the need for spinning reserve, regardless of their fuel type. In the case of this wind farm, its construction will not increase the requirement to build new spinning reserve capacity at all. Further, the wind farm will only be one of a large number of geographically diverse wind farms (Located across the National Electricity Market of Tasmania, Victoria, South Australia, NSW and Queensland) that already exist on the network. These wind farms will operate under different wind regimes and thus average out the variability in their supply to the common network. Within the boundaries of this project, the wind will take approximately 15 minutes to move from the NW corner of the project (prevailing wind direction) to the SW corner of the project. As such, power output from this wind farm (or other moderate to large scale wind farms) does not simply spike up and down with the minor changes in the wind speed. Rather, changes in electrical output are smoothed by the progress of wind changes over the entire wind farm site.

These changes are predictable on a seasonal, monthly and weekly basis and new research is currently underway to allow / require forecasting for wind farm output down to a matter of hours. This research is being conducted by the CSIRO and Bureau of Meteorology. This wind farm will be required to comply with the requirement to forecast electrical output within the next few years. At that time, it will not be accurate to describe wind powered generation as intermittent. In the meantime, the network is well suited to accept some local variation in output, especially as more wind farms are connected over a wide geographic area.

Spinning reserve is not provided by coal as the reaction must be near instantaneous. As a result hydro and gas fired generators compete for this service. Please refer to RPVs February 2006 submission for further comment on Spinning Reserve.

51. *Has there been any consideration given as to how climate change could affect the proposal i.e. does the wind modelling take into account climate change? (Sub 60)*
- A. Predictions for changes to the local climate suggest wind speeds will increase. The turbines are designed to withstand extreme wind speeds and are more than capable of withstanding any forecast changes in wind speed over the next 30 years. Total electrical output may increase as a result of the increase in average wind speeds.

Noise

52. *Why didn't the Proponent register "noise easements" so that prospective buyers of properties in this area would have been made aware of the proposal before buying?* (Sub 45)
- A. The wind farm has been designed to comply with the SA noise guidelines. These impose the strictest requirements for wind farms in the world. Further, the Noise Impact Assessment has been undertaken in a very conservative manner to ensure that compliance is achieved. As a result, there will be no annoying noise impact on neighbouring residents.
53. *Are the "exclusion zones" surrounding the wind farm, as proposed, adequate to ameliorate the nuisance to householders already living in the vicinity of the wind farm?* (Sub 76)
- A. No exclusion zones are proposed around the wind farm. The distance to neighbouring residences is more than adequate to prevent any noise nuisance.
54. *What is the distance from the proposed substation to the residence known as Blackwood Park and will there be any noise impacts on this residence?* (Sub 74)
- A. 1200m. As shown in Table 3 of the Noise Impact Assessment, noise at this residence (H27) will be significantly lower than the criterion noise level at all wind speeds.
55. *What are the likely "infrasound" sound impacts from the wind farm?* (Sub 74, 66, 50, 10)
- A. None. Current wind turbine designs (such as those proposed for use at Capital Wind Farm) do not emit infrasound above the threshold of human perception.
56. *Which residences are likely to be affected by infrasound?* (Sub 74, 66, 26)
- A. Nil.
57. *What is the basis of the statement in the EA on page 10-4, paragraph 10.6 that the turbines would not cause health effects? How or who qualified this statement?* (Sub 53)
- A. This paragraph refers to infrasound. As stated above, current wind turbine designs (such as those proposed for use at Capital Wind Farm) do not emit infrasound above the threshold of human perception and do not cause adverse health effects. This is a finding of the Noise Impact Assessment, Para 7.3.
58. *On page 10-8 paragraph 10.7.2 it says "The exceedances predicted may not occur.....". What is the position of the Proponent if it does occur as "may" does not imply certainty?* (Sub 53)
- A. The wording in 10.7.2 makes it clear that a small noise exceedance may occur at three relevant receivers, however the conservative nature of the noise modelling suggests that these exceedances, which are predicted to be of a minor nature (0.5 to 1 dB(A) and only occurring at wind speeds of either 4-5 m/s or 6 m/s, depending upon the residence), may not occur in reality. In paragraph 10.10, RPV has undertaken to conduct noise monitoring at the closest neighbouring residences to confirm compliance or otherwise. Should exceedance occur, RPV will identify certain turbines that would need to be subject to sector management, i.e. those turbines would be programmed to de-rate under the 4-5 m/s or 6 m/s wind speed and for the specific wind direction during which exceedance occurred. Failure to do so would likely be a breach of the licence conditions. This process will ensure that the wind farm operates within the required noise criteria.

59. *Will the Proponent include in the commitments that one or more turbines will be decommissioned if the noise levels are exceeded? (Sub 53)*
- A. No. Were noise exceedance to occur, RPV would undertake sector management to prevent recurrence, i.e. particular turbines would be shutdown under certain wind speeds and directions to ensure compliance (refer to EA para 10.10 (Mitigation)). However, as the noise modelling that has been conducted is very conservative, RPV firmly believes that noise exceedance will not occur.
60. *Will turbines G2, G10, and E7 be relocated, removed or switched off as suggested in the Executive Summary of the Noise Impact Assessment Report? (Sub 53)*
- A. The Executive Summary does not refer to removing G2, G10 or EY. These are houses. The Noise Impact Assessment does find that the criterion is slightly exceeded at these houses and that some mitigation measure may be needed to ensure compliance. The options listed are relocation or removal of turbines, or switching certain turbines off at certain very limited wind speeds and directions. A detailed report of these mitigation options, particularly detailing up to six turbines that may need to be switched off under certain very limited wind directions and wind speeds is provided in Para 7.2 of the Noise Impact Assessment. The report concludes that any exceedance would be for a small percentage of the time and that the modelling is conservative. As such, it is very likely that exceedance will never occur. The report therefore recommends that the actual impact be confirmed, followed by turbine operation modification (if required) to ensure compliance. RPV has already undertaken to conduct post construction noise monitoring to ensure compliance.
61. *What was the basis for deciding which residences to take background noise measurements? (Sub 74)*
- A. Appendix H1, Background Noise Monitoring Report, para 5.2 states that ten sites were selected for the collection of background noise information. At the time of the background noise monitoring, the proposed scale of the wind farm was larger than the final plan and as such, a number of the houses selected for monitoring were not relevant to the later reduced scale project. However, for completeness, the full report including the monitoring no longer considered necessary, was include in the Environmental Assessment. The original layout had four groups of turbines over a wide area. As such, a broad range of sites were selected to provide a distribution across the project area and obtain data from sites with differing physical characteristics. Where possible, sites which are neighbours to the wind farm were sought; however, access was not available to one of these and in that instance a nearby 'Wind Farmer' site has been used. An explanation as to why each site was chosen is also provided in Table 1 of Appendix H1 (Background Noise Monitoring Report). The monitoring sites that would be considered unnecessary in the final layout are S4 Collins, as it was near the Mt Fairy area which has been abandoned, S6 Gray as the proposed turbines to the south of this residence have been removed and the nearest turbine is 2.1km distant, S7 Lot 8 for the same reason as S6. Background monitoring conducted at two locations as part of the Woodlawn noise impact assessment were also used in the CWF Noise Impact Assessment. The *SA Environmental Noise Guidelines: Wind farms, 2003*, require that background noise monitoring be conducted at a sufficient number of receivers to represent the broader area (representative of a range of premises), to a range of 1500m from the wind farm. This has been achieved with the houses selected for monitoring. There are only 3 relevant receivers within 1500m of the wind farm.

62. *Who will bear the responsibility for shutting down turbines if they are identified as too noisy? (Sub 74)*
- A. RPV. However as discussed, sector management would be undertaken. This is an extreme scenario. RPV cannot foresee it occurring due to the conservative nature of the noise modelling.
63. *Are there any references in the literature which describe how noise from wind farms affect cattle and sheep grazing? (Sub 67, 26)*
- A. Noise from wind turbines is minimal and experience has shown that there is no impact on cattle or sheep grazing. Stock appear to enjoy the shade provided by the towers during summer, as is evidenced by the collection of dung on the southern azimuth of turbines.
64. *Is it fair to only consider noise at the residences when activities on the properties often take place out-of-doors and along boundary fences? (Sub 50, 10)*
- A. Yes, noise studies and wind farm design are focused primarily on ensuring sleep is not disturbed. To achieve this, other activities, especially those conducted in daylight (when background noise levels are much higher) are even less likely to be impacted upon.
65. *What noise mitigation is available to residents when they are conducting out-of-doors activities e.g. bar-b-ques, sports etc? (Sub 74, 50)*
- A. As per the last question, wind farm noise will be even lower relative to background noise during daylight and normal waking hours as the wind farm is designed to avoid sleep disturbance when background noise levels are at their lowest. Further, our studies have been conducted using a very conservative model. In short, there is no noise impact.
66. *Would you take noise measurements at the boundary of my property so that I know the true affect of your proposal? (Sub 26)*
- A. No. A noise contour map has already been prepared based on the background noise monitoring and turbine acoustic modelling. These contours cover the entire geographic area of the project and neighbouring properties. The maps are located in the EA at Figure 10.2 and within the Noise Impact Assessment.
67. *How was the noise model, used in this assessment, selected? (Sub 74)*
- A. The noise modelling algorithms (ISO9613 and Concawe) were selected for this assessment based on their extensive use and validation around the world over many years. The ISO9613 algorithm is stipulated in an international standard on environmental noise prediction/calculation (for no-wind or neutral conditions only) and Concawe is one of the most widely used algorithms for taking into account the noise propagation effects due to wind and other meteorological influences. Concawe has been shown to be conservative (ie. slightly over-predicts levels) compared to other algorithms.
68. *The noise monitoring that was carried out seems to have been done in too short a time frame. Is this best and/or acceptable practice? (Sub 53)*
- A. The noise monitoring was conducted over a two to three week period. Para 5.3 of Appendix H1 to the Environmental Assessment explains that after discarding some data that was recorded during periods of rain or high ground-level winds, a total of about 2000 synchronised data pairs were obtained at most of the sites, although some sites had marginally fewer as a result of the potentially unsuitable data being omitted. A regression analysis was then conducted at 8 sites (Monitoring equipment at Site 4

and 7 failed, however these sites were not required for the final scaled down layout of the wind farm due to the large distance between these residences and the wind farm). The noise monitoring process and analysis was conducted in compliance with the *SA Environmental Noise Guidelines: Wind farms, 2003*. A complete reading of Para 5.3 is necessary to fully understand the process undertaken and the results acquired.

69. *Why should people who purchased rural land have to put up with background noise that has increased as a result of the proposal? (Sub 53, 45)*
- A. The wind farm has been designed to comply with the strictest noise regulations for wind farms in the world. The layout of the wind farm has allowed considerable setback from neighbouring residences. Conservative wind modelling has been undertaken to ensure compliance will be achieved. As a result, the development will comply with the SA noise guidelines and will not impact on neighbouring residents.
70. *Can the Proponent re-examine the noise and visual impacts on the property called "Clearview", 145 Taylors Creek Road. In the Environmental Assessment reports, "Clearview Lot 8" is identified as H7 (at a distance of 2358 metres away from the nearest WTG). The property "Clearview, 145 Taylors Creek Road is in fact H4 with the residence being only 1915 metres to the nearest WTG. (Sub 50)*
- A. The report incorrectly assigned the name "Clearview" to house H7 instead of H4. However, this has no impact on the results of the various studies, as the studies relate to the geographic locations of each residence, not the name given to it.
71. *Can the Proponent make a commitment that any increase in noise at my residence will be dealt with by tree planting or double glazing and insulation? (Sub 49)*
- A. As a result of discussions with and a request from the landowner, RPV has already committed to planting a large number of trees on this property. Background noise at this residence remains significantly below the criterion for all wind speeds and directions and as such, there will be no detectable noise from the wind farm.
72. *Can the noise data taken at my residence be independently reviewed? (Sub 47)*
- A. The noise data has already been analysed in accordance with accepted procedure by qualified noise consultants.
73. *Our residence (Widgemoor) is located in a natural amphitheatre and we believe the noise assessment may be inaccurate for our property. Will the Proponent re-assess noise at our residence? (Sub 23)*
- A. No. The noise assessment has to take account of many variations in topography and operates on worst case scenarios. The noise prediction model took into account the topography across the whole site in the vicinity of the wind farm. The noise assessment is conservative.
74. *How does the Proponent reconcile the fact that the Hammond Hill wind monitoring tower did not commence operation until 14 March 2006, which is 20 days after the noise monitoring trial was completed? Is this consistent with the SA guidelines? (Sub 10)*
- A. The Groses Hill Monitoring Tower has been in operation since April 2003 and was in operation throughout the background noise monitoring period (9th Feb – 25 Feb 2005). 100% wind speed data capture occurred for this tower during the monitoring period. This tower records data at 10 minute intervals, and these recording times were synchronized with all background noise monitoring equipment. The use of this data is consistent with the SA Guidelines, which require recording of wind data at the wind farm site and at a selection of background noise monitoring sites.

75. *How does the background noise monitoring account for seasonal variations? (Sub 10)*
- A. The requirement to monitor over a 2 to 3 week period is meant to provide a large representative sample that covers a wide range of wind speeds and directions (that may be experienced throughout the year).
76. *Is the background noise data for Site 5 (H15) representative of the Mt Fairy/Hammond Hill locality or is it representative of the Grose Hill Group? (Sub 10)*
- A. The background noise monitored at H15 is representative of the background noise at H13, H17, H18, H20, H21, H22, H26 and H27, as marked on the map in Figure 10.1 (page 25) of the Noise Impact Assessment Report (Appendix H2 of the EA).
77. *Have extraneous noises been removed from the noise monitoring data? (Sub 10)*
- A. No. Specific extraneous noises have not been removed from the noise monitoring data. This would be done only when a period of extended extraneous noise was present during the monitoring period. Extraneous noise over short periods of time would not significantly affect the L_{A90} background noise level measured during the monitoring period. The only data discarded are those that were measured during periods of rain or high ground-level winds, in accordance with the *SA Environmental Noise Guidelines: Wind Farms 2003*.
78. *Are regression analysis available for the full range of winds experienced? (Sub 10)*
- A. No. The regression analysis must be performed for operational wind speeds from turbine cut-in speed (4 m/s) to rated power speed (14 m/s), in accordance with the *SA Environmental Noise Guidelines: Wind Farms 2003*. This is what was carried out for this project. A regression analysis over the full range of speeds would be erroneous and would not be compliant with the requirements of the guidelines.
79. *Will the planned relocation of the monitoring towers prevent compliance testing? (Sub 10)*
- A. No. A 10m mast will be erected on the current site of the monitoring tower. This is the height required for noise compliance testing.
80. *Which turbine was used for the power curve data in the noise assessment, the 2 MW Vesta V90, the 3 MW Vesta V90, or the 2.1 Suzlon S88? (Sub 10)*
- A. Suzlon 2.1 S88 was used as it produces the highest operational noise. This is stated in Section 6 of the Noise Impact Assessment Report (Appendix H2 to the EA).
81. *What was the pitch of the blade for the noise assessment used for the power curve? (Sub 10)*
- A. The guaranteed wind turbine sound power level for each wind speed is determined by testing at a wind turbine test facility. An actual turbine is erected in an area with minimal other noise and the sound power level of the wind turbine is measured during its operation over a period of time. This covers the actual range of blade pitching during the operation of the turbine. The results are then verified by an international certification authority and provided to the wind turbine manufacturer. The manufacturer will then provide a Guaranteed Sound Power Level Curve to the developer which is used for modelling. This curve will generally be more conservative than the measured sound power levels.

82. *How do you explain the differences in the background noise data collected for Torokina and Bonnie Doon for the Woodlawn Wind Farm from those collected for the Capital Wind Farm? (Sub 10)*
- A. The background noise levels measured at Torokina and Bonnie Doon (average background level at 8 m/s varied between 33 and 35 dB(A)) are similar to those measured for the Capital Wind Farm (average background at 8 m/s varied between 31 and 36 dB(A)).
83. *How does the Proponent propose to address the cumulative impact of noise on these properties from Woodlawn Wind Farm and its own wind farm? (Sub 10)*
- A. The cumulative impacts of noise from both wind farms was addressed in the studies and the net result is that combined noise impact from both wind farms would result in noise levels at 1.5 to 2 dB(A) below the noise criteria at 'Torokina' and 'Bonnie Doon' respectively. No other residence has a recordable increase in noise resulting from the cumulative impact. Please refer to Para 7.1 of the Appendix H2 (Noise Impact Assessment Report) for a discussion of this issue.
84. *Does the modelling software (ConCawe) account for the topographic conditions and different absorption rates? (Sub 10)*
- A. Yes, the modelling software does take into account the topography of the whole area in the vicinity of the wind farm and takes into account the likely (conservative) effects due to air absorption, ground absorption and other processes such as reflection and diffraction.
85. *Does the modelling software (ConCawe) account for inversion layers as is often experienced in valleys? (Sub 10)*
- A. The modelling software algorithm, ConCawe, does include the generalised effects of inversions and wind propagation under differing conditions.
86. *Does the modelling software (ConCawe) predict the noise effect of multiple turbines being in synchronous harmony? (Sub 10)*
- A. Yes, the modelling software was used to predict the total combined noise due to all turbines running simultaneously at maximum rated power.
87. *Does the modelling software (ConCawe) allow for carriage of noise upon the laminar flow winds that sweep up and over the crests before arching down some distance later? (Sub 10)*
- A. The modelling software does assume a uniform/laminar wind field, which represents a conservative situation compared to reality (where fluctuating wind fields would help to diffuse and disperse the noise).
88. *Has any cumulative affect been applied in the noise prediction modelling? (Sub 10)*
- A. Yes, the noise predictions did determine and assess the combined impact of both the Capital Wind Farm and the Woodlawn Wind Farm. Please refer to Para 7.1 of Appendix H2 for a discussion of this issue.
89. *Isn't the upper limit, according to the SA guidelines 35 dBA, and not the minimum e.g. if the background noise is 25dBA at Site 8 (4m/s) then the criteria should be 30 dBA not 35 dBA as has been applied in the assessment? (Sub 10)*
- A. No. The SA Environmental Noise Guidelines: Wind Farms 2003 stipulates that the criterion is determined as the greater of 35 dB(A) or background noise level plus 5 dB(A). Hence, the criterion of 35 dB(A) is to be used until the background noise plus 5 dB(A) level exceeds it.

90. *Does the noise assessment account for distance from the source, wind speed, temperature, humidity, precipitation, and the presence of barriers and buildings? (Sub 10)*
- A. Yes. The modelling software takes into account the distance from the source and the topography of the whole area in the vicinity of the wind farm. The model also takes into account the likely (conservative) effects due to wind speed/direction, temperature, humidity, air absorption, ground absorption/reflection and other processes such as reflection and diffraction due to barriers/buildings.

Operational Impacts

91. *Will the Proponent develop a fire response and mitigation plan? (Sub 68, 66, 53, 49, 48, 47)*
- A. Yes. A Bushfire Risk Management Plan will be developed by RPV, in consultation with the Queanbeyan RFS Fire Mitigation Officer and the Taylors Creek Road RFS and in accordance with the commitments made in the Statement of Commitments. This will cover the construction and operational periods. The Taylors Creek RFS currently has two fire tenders, though one is petrol driven and therefore not compliant. RPV has undertaken to purchase the Taylors Creek RFS a new Cat 7 Fire Tender at commencement of construction.
92. *Will the Bushfire Risk Management Plan map, at the zone level of the NSW Rural Fire Service, the extra resources that will be required? Will it also include the Lake George Zone and the Boro-Mt Fairy Rural Fire Brigade that is located directly to the east of Hammonds Hill Group at 419 Mt Fairy Road? (Sub 42, 10)*
- A. The Bushfire Risk Management Plan will focus on risk mitigation as well as reaction to fire. This plan will be developed in conjunction with the Queanbeyan RFS Risk Mitigation Officer and the Taylors Creek RFS. RPV will not have any say in how the new fire tender that will be supplied to the Taylors Creek RFS may be employed during emergencies, though it is understood that the local RFS's provide assistance to each other as required.
93. *Is it likely that the Currandooley deer will seek out paddocks away from the wind turbines? (Sub 66)*
- A. No. Experience has shown that grazing animals are not concerned by the presence of turbines. In fact, in summer many grazing animals use the wind turbines for shade, as evidence by the large collection of droppings on the path of the towers shadow.
94. *If the turbines are responsible for a greater number of deer being displaced onto neighbouring properties not associated with the wind farm, then will the Proponent be prepared to construct a deer-proof fence to fence off these properties? (Sub 66, 10)*
- A. Deer currently move freely between properties. The wind farm will not affect this behaviour. The photo below shows deer located 40m from Bungendore Road. Bungendore Road has traffic of about 550 vehicle movements per day.



95. *Will the underground cabling present any adverse health affects to either humans or stock including horses i.e. stray voltage? (Sub 66, 10)*
- A. No. The cabling will operate on a voltage of 33 kV. This cabling is buried to a depth of 1m and designed and installed in accordance with Australian Standards. These standards cover the range of voltage that will be experienced within the cable and ensure its safe operation.
96. *Can the Proponent provide a commitment to ensure the timely correction to any electromagnetic interference from any of the installed turbines i.e. television, radio, and radio communications? (Sub 66, 49, 45, 42, 23)*
- A. Yes, this is provided in the EA para 11.6 and the Statement of Commitments. Interference to AM/FM or digital radio will not occur. Any interference to CB radio would be limited to radios located within several metres of a turbine. As such no neighbours CB radio will be impacted. The small number of neighbours that receive analog TV reception from Canberra may have some interference and in this instance, RPV will correct the reception problem by installing an improved aerial, digital tv receiver or satellite tv.
97. *How will the wind farm be secured from vandals and terrorists? (Sub 66)*
- A. Each turbine is secured by a high security lock, which is the only means of access to the steel towers. The substation will be protected by appropriate measures, including security fencing. There have been no notable instances of vandalism against any wind turbines located in Australia. Protection from terrorism is a federal and state responsibility, conducted through the assessment of intelligence, law enforcement investigation and enforcement.
98. *How will the operational wind farm affect horse behaviour i.e. can horses be safely ridden in close proximity to the turbines and does shadow flicker affect horses? (Sub 66, 50, 48, 10)*
- A. Horse behaviour is not altered by the presence of wind turbines. Further, the project landowners have repeatedly informed RPV that no external party is permitted to ride horses or to enter their property. As such, no horses, other than those permitted or owned by the project landowners will be in close proximity to a turbine. The nearest turbine to public land is several hundred metres distant.
99. *If it is demonstrated that an existing equestrian operation is adversely affected by the installation of turbines, will the Proponent be prepared to negotiate a suitable ameliorative/compensatory arrangement? (Sub 66, 50)*
- A. Equestrian operations appear to be located at least 1800m to 3000m from the nearest turbine. A few turbines are located about 750m from public roads, though the bulk are well over 2000m from public roads. These roads may be utilized by horse riders, however the wind turbines will have no impact on this activity. The turbines will not adversely affect their equestrian operations and as such RPV sees no requirement for compensation.
100. *Will the Proponent discuss the risks that the project poses for ultra light aircraft? (Sub 23, 10)*
- A. Ultra Light Aircraft are restricted to operating during clear daylight conditions. CASA notes that wind turbines are sufficiently prominent to be noticed by pilots and avoided and that no daylight marking is required. The wind farm will also be notified to Air Services, CASA and the Department of Defence, with grid references supplied for Notices to Airmen. As such, there is no discernible risk to ultra light aircraft.

Public Consultation

101. *Was a public meeting on the proposal ever held in Bungendore and if not, why not?* (Sub 79, 10)
- A. Yes, a public meeting was held prior to Council deliberating on its position on the wind farm. This was widely advertised and reported. Two days of community open days were also conducted in Tarago, which was attended by over 40 locals. Most of the near neighbours live closer to Tarago than Bungendore.
102. *Why didn't the Proponent consult with Lakelife, a catchment management group?* (Sub 79)
- A. Lakelife does not appear to be an incorporated body and has never been mentioned by any party during our extensive community consultation. No representatives ever identified themselves as attending the meetings in Bungendore or Tarago and have never contacted RPV. The Murrumbidgee Catchment Management Authority was consulted, though raised no issues (although Lake George is an evaporation plain, the Murrumbidgee CMA is responsible for this area).
103. *What consultation is required and has been undertaken, if any, with the Rural Protection Board?* (Sub 66)
- A. No consultation is required with the Rural Lands Protection Board, however RPV did make them aware of the project in 2005. The RLPB's stated role is as the 'frontline in the management of animal health, pest animal and insect control, travelling stock reserves, stock movement, stock identification, and natural disaster relief.' As such, the proposed wind farm does not appear to be within their area of responsibility.
104. *Where are the turbines being sourced from and will they be thoroughly inspected for quarantine purposes?* (Sub 66)
- A. It is not yet possible to say from which factory any components of the wind farm will be sourced from. Where components are imported they will be subject to normal customs and quarantine controls.
105. *Was the apparent community support for the proposal, as indicated in the Environmental Assessment report, based on polled data?* (Sub 60, 53, 50, 42, 36)
- A. No. Support was gauged from public and private meetings, phone calls, etc... Hundreds of people in the local community have been asked for their thoughts on this project and many have made unsolicited expressions of support.
106. *Would the Proponent consider cash grants for local community groups such as pre-schools, schools, LandCare, Rural Fire Services in order to gain more favourable community acceptance of the proposal?* (Sub 49)
- A. RPV has committed to the provision of \$2 million to enable sealing of Taylors Creek Road and the purchase of a Cat 7 Fire Tender for the Taylors Creek RFS. RPV will also be undertaking extensive rehabilitation works of areas affected by construction or other areas on the project land that need stabilization or rectification works. RPV has offered to work with Taylors Creek Landcare and the landowners to ensure the best outcome for this rehabilitation work.
107. *Why hasn't there been an open day on the proposal held in Bungendore?* (Sub 47)
- A. A community meeting was held in Bungendore during the exhibition period. This was widely advertised and reported.
108. *Why weren't the residents of Mt Fairy consulted?* (Sub 42)

- A. Residents of Mt Fairy were invited to attend community open days in Tarago and the public meeting in Bungendore, which were widely advertised and reported. Residents from this area attended both. They were also invited to make comment on the EA in letters from the Dept of Planning. Palerang Council requested that consultation be focused on residents within 3 km of wind turbines. The nearest resident on Mt Fairy Road is approximately 3.5 km distant, with the vast majority of residents over 5km distant. There are only very limited areas where part of the wind farm may be visible. There will be no construction traffic or other impacts on this area.
109. *Why weren't residents on the western side of Lake George consulted? (Sub 38, 36)*
- A. Residents on the western side of Lake George were invited to attend the community open days in Tarago and public meeting in Bungendore, which were widely advertised and reported. Residents from this area attended both. Palerang Council requested that consultation be focused on residents within 3 km of wind turbines. The nearest residence on the western side of Lake George is over 7km to the west of the nearest turbine.
110. *Have the Ngunnawal Aboriginal community been consulted on the proposal? (Sub 36)*
- A. Yes, representatives of this community have inspected the site and submitted a report which is attached as Appendix B to the Aboriginal Archaeological and Cultural Heritage Assessment in Appendix E to the EA.

Traffic

111. *Will the operation of the wind farm increase traffic on local and arterial roads? (Sub 73)*

- A. Yes, a marginal increase in traffic during operations will occur. This will predominantly take the form of staff driving to and from work. The main place of work will be the substation. RPV anticipates a full time staff of between 6-8 personnel. This would be a very minor increase in traffic on the Bungendore-Tarago Road, which a 2004 survey showed to have about 550 two-way movements per day. Other equipment and supplies may intermittently be required at site and this would likely involve travel on the Bungendore-Tarago Road on an irregular and infrequent basis.

Staff will also travel around the site to conduct turbine maintenance and as such traffic on parts of Taylors Creek Road will also increase marginally, though this will not be a daily occurrence once fully commissioned. Taylors Creek Road is to be sealed at RPV's expense and as such any increased traffic impact will be more than adequately addressed by the capital works undertaken on the road.

112. *What measures will the Proponent take to ensure that the views of the turbines from the Bungendore/Tarago Road, a tourist route, do not cause a road safety issue i.e. are a distraction to motorists? (Sub 66, 10)*

- A. The closest point at which a turbine is clearly visible is about 2.6 km from the Bungendore-Tarago Road. For the majority of this road, the view of the turbines is significantly more distant. Hundreds of turbines have been installed in Australia, with many being located very close to public roads busier than the Bungendore-Tarago Road. RPV built the Alinta Wind Farm in WA, where five of the 54 turbines are within 150m of an arterial road. The presence of these turbines has caused no traffic safety issues whatsoever.

113. *How will the proposal affect road safety during both construction and operation? (Note: Mixed traffic presents risks and low traffic volumes do not necessarily equate to low risks) (Sub 60)*

- A. A Construction Traffic Management Plan will be drafted by RPV in consultation with Palerang and Goulburn-Mulwaree Council, the RTA and NSW Police. This plan will incorporate prudent safety procedures for driving on the various approach and access roads. The plan will state when it is and is not permitted for certain vehicle types to be operating (e.g. outside school zone hours and school bus hours for RAVs), speed limits at various locations and road conditions (sealed / unsealed) for different vehicle types, vehicle escort requirements and other safety measures required, e.g. flashing orange lights or orange flags. The TMP will also take into account non vehicular use of the road, i.e. stock, horse riders, etc... and state appropriate speeds or actions to take under these circumstances.

114. *Will the Proponent ensure that special attention is paid to all school zones that fall within the travel route of the trucks and oversized vehicles and provide additional fencing where required for safety? (Sub 49)*

- A. RPV has already committed to ensuring any RAV traffic avoids the enroute school zones during the school zone periods and Taylors Creek Road during school bus hours. Individual schools are responsible for the provision of adequate fencing, particularly as the Braidwood Road (on which the Tirranville and Tarago schools are located) is a busy road (1100 vehicles per day, 2003 survey) with frequent heavy truck traffic on a daily basis and at all hours.

115. *What contingencies will be made to allow emergency vehicles access where a road is blocked for wind farm construction purposes? (Sub 66)*
- A. Construction vehicles will not be parking across private driveways nor will RPV be requesting any roads be closed. As such, emergency services vehicles will continue to have normal access to local residences.
116. *Will construction crews be briefed on the need to give-way to horse riders? (Sub 66)*
- A. A Construction Traffic Management Plan will be drafted by RPV in consultation with Palerang and Goulburn-Mulwaree Council, the RTA and NSW Police. This plan will require drivers to be briefed on the possible presence of horse riders on public roads and that they are to be approached considerately and safely, i.e. overtaking should be at a safe speed considering the road state, sight lines, vehicle type and space available. If in doubt, the driver should wait for a more appropriate time to pass. When approaching horse riders head on, drivers will be briefed to slow down to a safe speed to prevent rocks being thrown up. Input will be sought from council on this issue during drafting.
117. *Will the Proponent construct a bridle path alongside the section of Taylors Creek Road that is to be sealed? (Sub 50)*
- A. No.
118. *How does the Proponent propose to deal with construction traffic on the currently dangerous section of the Bungendore/Tarago Road that is located approximately 3 kilometres from Taylors Creek Road leading back to Tarago? (Sub 49)*
- A. A Construction Traffic Management Plan will be drafted by RPV in consultation with Palerang and Goulburn-Mulwaree Council, the RTA and NSW Police. A pre construction road dilapidation report must also be prepared with the councils prior to construction commencing. If this area is deemed to be a hazard, a reduced speed limit may be applied to certain or all construction vehicles. Where appropriate, over sized vehicles will have escort vehicles and other standard warning equipment such as flashing lights.
119. *It is anticipated that a left hand turn from the Tarago/Bungendore Road into the substation access will be a traffic hazard due to the heavy sand trucks using this road. How will the Proponent fix this road safety issue? (Sub 42)*
- A. The substation entrance does have adequate sight distances and in any event the entrance design must comply with Palerang Councils entrance standards for access from a public road. The Palerang Council engineering staff will approve the final design on this basis. Sand truck movements are a minor component of the traffic that utilises that road. The access will not pose a safety hazard to their operation.
120. *How will Taylors Creek and Western Leg Roads be able to cope with the forecast 34 000 trips during construction? (Sub 23)*
- A. The number of 34,000 vehicle movements on these roads is incorrect. On public roads, the total number of truck movements is forecast as 8,568 and car movements are forecast at 9,000. Please refer to Table 2 of Appendix I (Traffic and Transport Issues Assessment) to the EA for a more detailed breakdown. These movements are spread over the 8 month construction phase and over different areas of the project, including the substation which will generally not involve traffic on these roads. Western Leg Road provides access to 17 of the 63 turbines. Traffic on this road may average about 10 to 20 vehicle movements per day, including cars. Taylors Creek Road will be busier, however by ensuring empty RAVs supplying turbines off

Western Leg Road leave the area via the northern end of Taylors Creek Road, traffic at the eastern end of this road will be reduced.

RPV has also undertaken to seal the approaches to and intersection of Taylors Creek Road and Western Leg Road prior to construction commencing. Finally, RPV will be undertaking regular maintenance of these roads to ensure that access is maintained for construction vehicles and local residents. Palerang Council grades these roads once per annum. The maintenance provided by RPV will be very significantly greater than this.

121. *What measures will be put into place to ensure the safe use of the current stock crossings, and other daily agricultural activity uses, on Taylors Creek and Western Leg Roads during construction? (Sub 23)*
- A. A Traffic Management Plan (TMP) must be prepared by RPV, in consultation with Palerang and Goulburn-Mulwaree Councils, the RTA and NSW Police. An outline of this plan is the Statement of Commitments in the EA. This TMP will take into account other road users and how the construction traffic will interact with them. Normal speed limits will be enforced and heavy vehicle users may be briefed to drive at a reduced speed on unsealed road to protect their load and maintain safety. Local residents will be informed in advance of significant traffic events. Likely stock crossing on Taylors Creek Road and Western Leg Road will be identified in the TMP and drivers briefed on their location. Drivers will also be briefed on safe speeds when approaching on-coming traffic on Western Leg Road and Taylors Creek Road.
122. *What are the planning issues for the alternative access routes for the proposed Ellenden Group as identified in Table 1 of the Traffic Issues Assessment? (Sub 10)*
- A. Should unforeseen circumstances prevent access to the Ellenden Group via Taylors Creek Road during construction, Currandooley Road would be the alternative route. Currandooley Road intersects with the Bungendore-Tarago Road at southern end of the project area. If this road were utilized, it may mean strengthening some minor creek crossings and minor realignment of Currandooley Road and general maintenance of this road. If major components were to be sent via this road, then residents on this part of the road would also be informed of significant traffic as part of the normal traffic notification process. The Bungendore-Tarago Road has been assessed as suitable for use by RAVs.
123. *In Table 2 of the Traffic Issues Assessment, where will the raw material for the road foundations be sourced from i.e. not the aggregate? (Sub 10)*
- A. Material for constructing roads will be predominantly sourced from an existing on-site quarry to the SE of Governors Hill (see Figure 1 in Appendix F2 of the EA for location map). Some material will also be sourced from material excavated from turbine footings. Please refer to Chapter 3 para 3.9.3 of the EA for further explanation.
124. *In Table 2 of the Traffic Issues Assessment, where will the 4000+ (two way) movements be coming from? Will these be on public roads? (Sub 10)*
- A. Most vehicular movements will be on public roads. RAVs will arrive via Goulburn, Tarago and Collector Road as will many other construction vehicles. The precise route of each vehicle will be dependent upon the source of the material or service provided. However, Bungendore-Tarago Road will be required for most movements. Please refer to Chapter 9 of the EA and Appendix I for a detailed description of traffic and proposed routes.

125. *Will the entrance to the substation be the one at 3 km south of the Mt Fairy Road or the one at 2 km south of the Mt Fairy Road? If it is the 3 km entrance then the endangered yellowbox woodland will be affected, while if it is the 2 km entrance there is a potential for traffic accidents. (Sub 10)*
- A. The entrance is approximately 2km south of Mt Fairy Road intersection. The entrance will be constructed in accordance with Palerang Council engineering specifications to ensure adequate sight lines and safe use.
126. *How will the watercourses for the access to the substation be treated? (Sub 10)*
- A. All new access tracks will be properly engineered to cope with specific topography, soil structure, runoff, etc... Dry Creek will most likely be crossed by a new culvert.
127. *The proposal to seal the steeper grade for the access track from the substation to the Hammond Hill ridge will need to be visually assessed as it is visible from the Bungendore-Tarago Road. (Sub 10)*
- A. The track from the substation to Hammonds Hill will not be sealed.
128. *What level of traffic movements can be expected for water and foundation raw material i.e. not just turbine components? (Sub 10)*
- A. Table 2 of Appendix I to the EA provides a forecast of traffic movements, broken down into the supply of various materials. 2510 movements are predicted for foundation supplies (including water) and a further 1080 water trucks are forecast for dust control.
129. *How does the Proponent propose to negotiate the return movement of turbine related vehicles at a point approximately 5km north of the Taylors Creeks and Collector Road intersection, an area where there is poor pavement and moderate curves? (Sub 10)*
- A. RPV does not propose to use this part of Collector Road. Access and some egress will be from the eastern end of Collector Road.
130. *What is the split of construction traffic movements on the northern and southern ends of the Bungendore-Tarago Road involving return trips for RAVs, the import of foundation raw materials, the possible import of water, and the substation construction and site work activities? (Sub 10)*
- A. Table 2 of Appendix I to the EA provides a forecast of traffic movements, broken down into the various major components. Approximately 494 one-way RAV movements will use the northern end of this road. Raw materials supplied by approximately 6490 one-way movements will arrive and return to a variety of origins, so both the southern and northern end of this road may be used. The 74 one-way truck movements and approximately 9000 car movements associated with the site works may also approach and depart in either direction. Water is expected to be sourced from on site. Approximately 81 truck movements to the substation may require use of both ends of the road.
131. *How does the Proponent propose to control the displacement of deer during construction activities in order to prevent road safety issues? (Sub 10)*
- A. Deer are generally present on the project land south of Taylors Creek and neighbouring properties to the east of Hammonds Hill. The public road is generally over 3 km to the west of the nearest turbine. Deer are often sighted from or on this road (see previous photo taken from Bungendore-Tarago Road). Due to the significant distance from this road to the area of construction, there would not be a discernible change to this behaviour, i.e. deer will continue to graze in the immediate vicinity of this road.

Visual

132. *The visual impact analysis fails to acknowledge the significance of the Lake George landscape. What is the current position regarding the nomination of Lake George onto the World Heritage List or other listing that would acknowledge the cultural, historic, and natural values of the lake? (Sub 79, 77, 75, 74, 73, 48, 41, 29)*
- A. The landscape, including Lake George is described in Chapter 6 and Appendix C of the EA. The entire area is a heavily altered landscape and Lake George itself is dominated by exotic pasture. Lake George has not been nominated for World Heritage Listing. As recently as 26 April 2006, the National Trust confirmed they have no intention of seeking such a listing, nor do they have plans for any other type of listing. A previous attempt to list Lake George on the Register of the National Estate was rejected (except for an area near Collector, more than 10km from the wind farm).
133. *How can the disturbance caused by the dominant turbines to the relatively “untouched surroundings” of Lake George be justified? (Sub 72, 39, 33)*
- A. The project area and its surrounds represent a heavily altered environment. Lake George is now dominated by exotic pasture, is fenced and grazed. A CSIRO report commissioned by the NSW Greenhouse Office has identified a trend in reduced rainfall since 1950, which combined with higher average temperatures will result in less frequent flooding and faster drying of the lake bed. The lake has been largely or completely dry for a period approaching nine years.
- The Lake George surroundings are also heavily altered. The Federal Highway abuts the entire western shore of Lake George and very large areas have been extensively cleared of vegetation over the last 100 years or suffered from New England dieback in the last 15 years. Local soils are heavily degraded and severe erosion is common throughout the area.
- The installation of these turbines is in keeping with planning regulations and zoning and as part of the construction process some of the current localised damage to the environment will be reversed through planned rehabilitation works on the project site.
134. *What maintenance scheduling will be done to ensure upkeep of the painted turbine and blades? (Sub 66)*
- A. The turbines and blades are serviced on a regular basis throughout their life as recommended by the manufacturer. This is critical to ensuring the wind farm maintains maximum output. Painted surfaces are designed to not require maintenance for at least 10 years.
135. *If lighting of the turbines is necessary, what assessment has been or will be undertaken to ensure no disturbances to residences and stock from night lighting and how will this influence the visual assessment? (Sub 66, 10)*
- A. As the wind farm is located outside of the Outer Horizontal Surface of the Obstacle Limitation Surface, the turbines cannot be deemed to be an obstacle and CASA has no authority to impose lighting requirements. RPV and independent experts have assessed that there is no requirement for any lighting on the turbines. If lighting was required, it would not be located on every turbine and would be shielded to make it difficult to see from ground level.

136. *Can the scale of the proposal be reduced to off-set the visual impacts i.e. is the layout flexible, can some turbines be removed and/or can turbines be set-back from property boundaries? (Sub 64, 50)*

- A. As a result of public consultation and flora and fauna studies, significant reductions to the scale and redesign of the layout has already occurred. Further reduction of the scale of the project would greatly affect project viability. There is also considerable set-back from neighbouring property boundaries.

137. *Does the visual assessment give due regard to the cultural, historical, and scientific values of both Lake George and the surrounding landscapes? (Sub 63, 40, 34, 32, 31, 29, 28)*

- A. The landscape, including Lake George and surrounds is described in Chapter 6 and Appendix C of the EA. The project area and its surrounds represent a heavily altered environment. However, the proposed wind farm will not impact on use of the lake or surrounds for grazing, cultural, scientific or recreational activities. The lake is now dominated by exotic pasture, is fenced and grazed. A CSIRO report commissioned by the NSW Greenhouse Office has identified a trend in reduced rainfall since 1950, which combined with higher average temperatures will result in less frequent flooding and faster drying of the lake bed. The lake has been largely or completely dry for a period approaching nine years.

The Lake George surroundings are also heavily altered. The Federal Highway abuts the entire western shore of Lake George and very large areas have been extensively cleared of vegetation over the last 100 years or suffered from New England dieback in the last 15 years. Local soils are heavily degraded and severe erosion is common throughout the area.

The installation of these turbines is in keeping with planning regulations and zoning and as part of the construction process some of the current localised damage to the environment will be reversed through planned rehabilitation works on the project site.

138. *Are properties located along Tarago Road visually impacted by the proposal, and if so, to what extent i.e. would it be possible to construct specific photomontages for certain of these properties? (Sub 62)*

- A. Construction of specific photomontages has been offered and a number of residences have requested this. Further, photomontages representing views for 10 locations have been supplied in the EA, including one from Bungendore-Tarago Road. This view offers the most prominent view of the wind farm from Bungendore-Tarago Road.

139. *What measures can be taken to off-set visual impacts for residences on Taylors Creek Road whose houses are situated on the tops of hills? (Sub 52, 45)*

- A. RPV has offered to plant screening trees at neighbouring residences that would like this. Several hundred trees have already been planted and commitments have been made to plant more in Winter / Spring.

140. *Would the Proponent consider removing turbines Nos 1 to 3 and 18 to 20 because these are so intrusive on the visual amenity of Lake George? (Sub 53)*

- A. These turbines are some of the most remote turbines in the development. As stated previously, a significant reduction of scale and change in layout has occurred as a result of flora and fauna studies and consultation. RPV would not be able to further reduce the scale of the project. The listed turbines are located to the east of Lake George within a very large area that is a highly altered landscape.

141. *Has the layout of the wind farm been changed to fully take into account the impacts on neighbouring properties? (Sub 50, 45)*
- A. Yes, a significant redesign of the wind farm occurred during the consultation process. This included abandoning the Mt Fairy land, a large area of land to the east of Hammonds Hill, Governors Hill the northern end of Grosses Hill and land to the SE of Grosses Hill. This has significantly increased the average distance to neighbouring residences.
142. *Will the Proponent consider staging the proposal such that a very small number of wind turbines be constructed initially in order to “realistically” assess the visual, noise and other impacts? (Sub 50)*
- A. No. This development cannot be commercially constructed in a phased manner. Turbine suppliers are contracted to supply the turbine in bulk, thus allowing the developer to maximize buying power, electrical output will be sold to a retailer that will similarly require large volumes to be able to provide the best price. Finally, the substation is specifically designed for the proposed wind farm capacity. Reducing the wind farm will not reduce the cost of the substation, which comprises a very large component of the capital cost.
143. *Can the Proponent provide a commitment that once the project is completed, all construction waste materials are fully removed from the sites to minimise any further visual impacts? (Sub 49)*
- A. Yes, all construction waste will be removed from the site prior to, or at completion. Please refer to the EA, Para 3.9.11.
144. *Doesn't the visual analysis demonstrate that the property known as Kildare will be badly affected by the proposal? (Sub 26)*
- A. No, the nearest turbine is about 6.5 km distant. Grosses Hill and Ellenden turbines cannot be seen and only very limited views of some turbines may be possible on the Hammonds Hill ridge, though existing trees will likely prevent this.
145. *If visual screening is not adequate for Widgemoor (1163 Taylors Creek Road) will the Proponent consider relocating or removing turbine 6? (Sub 23)*
- A. In response to community consultation, RPV has already moved WTG 6 south (i.e. away from Widgemoor) by 400m. This has resulted in some lost turbine performance. WTG 6 is the nearest turbine to Widgemoor at 1376m. RPV considers this a sufficient distance and has offered to plant trees at Widgemoor.
146. *I was told that the proposal would not be able to be seen from my residence know as Miway (39 Taylors Creek Road). Is this still the case? (Sub 24)*
- A. It is possible that blade tips from one turbine may be visible at a distance of over 3 km.
147. *Does the dominating presence of turbines act to diminish the openness of the rural character of the site creating a loss of the rural character? (Sub 10)*
- A. The turbines are quite distant to neighbouring residents and are all located on land zoned rural 1(a), which the council has deemed is appropriate zoning for wind farms.

Waterbirds

148. *What is the anticipated effect from the wind farm on bird movements between Lakes George and Bathurst when the lakes have water i.e. is there a collision risk between the birds and the turbines? (Sub 80, 77, 76, 53, 52, 46, 42, 26)*
- A. This issue is discussed in para 7.3.4 and 7.5.2 of the EA, Appendix F1 and Appendix F3. A full reading of Appendix F3 in particular will provide a complete assessment of this issue. The finding is that there is not likely to be any impact on the movement of waterbirds between the two lakes due to the route followed by these birds. Valleys, such as those to the north of Groses Hill, are most likely to be used for movements, rather than the high ridges where the turbines are located, Such movements are actually likely to be quite rare, because of the rarity of there being water in both lakes
149. *The ‘supposed flight paths by water birds between Lake George and Lake Bathurst’ through the shallow valleys to the north of the project site is incorrect. Will you take our 50 years of observations into account when developing any bird mitigation and management plan? (Sub 23)*
- A. As per the last question, please refer to Appendix F3 for an assessment of this issue. On the rare occasion that water is held in both lakes, waterbirds use the low land to the north of Grosses Hill as the route between each lake, thus avoiding the high ridges. Some birds may also follow the low ground of Taylors Ck, which bisects a gap of approximately 4 km between the high ground of Groses Hill and the nearest turbine to the south of Governors Hill.
150. *What is the anticipated effect on bird movements between Lake George and the coast i.e. is there a collision risk between the birds and the turbines? (Sub 72)*
- A. There is no pronounced movement of birds between Lake George and the coast through the project area. Movements are related to environmental conditions and may be in any direction depending upon the abundance of water in the inland, locally and on the coast. Large scale local movements between the lakes appear to be a rare event. As with movement of water birds between Lake George and Lake Bathurst, birds will generally follow the low ground and avoid climbing over the high ridges.
151. *Would the conclusions from the assessment of impacts on waterbirds in the Environmental Assessment report been different if Lake George had not been subject to a prolonged drought? (Sub 79)*
- A. No. As stated previously, the studies were conducted on three occasions and over two springs. The second spring was at a time when Lake George held the most amount of water for at least the last 8 years (5% full). The studies were also conducted in accordance with accepted survey practice. As we have already stated, the study also considered long-term data bases on the birds of the Lake. Lake George is an evaporative plain, i.e. it does not flow into any other catchment. The level of water held in it has always been a function of the balance between rainfall and evaporation. Reduced rainfall is a trend that has been identified as occurring since 1950 (CSIRO report to NSW Greenhouse Office), as have increased average temperatures, which leads to increased evaporation levels. As such, the climatic conditions currently being experienced in the region are likely to be an increasingly common part of the climate.
152. *The deepest part of Lake George is where the water is retained for the longest period of time. This is in the south east corner of Lake George and is in direct line over the proposed wind farm and Lake Bathurst. The likely impacts on birds and bats should be re-assessed, taking into account that waterbirds will fly directly over the proposal. (Sub 10)*

- A. Water birds will not fly in a direct line and ignore topography. They will generally follow the low ground and this is predominantly via a route to the north of Grose Hill. When Lake George is nearly empty, i.e. only water is in the SE corner of the lake, Lake Bathurst is already well and truly dry, so this movement of birds does not occur. Further, experience in Spring 2005 showed that very few water birds were present when Lake George was at this low level (5% capacity). Please refer to Appendix F3 for a more detailed assessment on this issue.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'David Griffin', is written over a faint, light-colored background that looks like a watermark or a very light stamp. The signature is fluid and cursive.

David Griffin
CEO