



INTERNATIONAL POWER (AUSTRALIA) PTY LTD
Proposed expanded Willogoleche Hill wind farm

Planning & Land Use Assessment

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1. INTRODUCTION

This report has been prepared for International Power (Australia) Pty Ltd and relates to the proposed expansion of, and variation to, the previously approved Willogoleche Hill Wind Farm which was initially granted Development Approval in November 2004, and was deemed to have been substantially commenced in November 2009. The wind farm, which is located to the west of the township of Hallett, is to be expanded by increasing the number of wind turbines from twenty six (26) to thirty seven (37). Further, eleven (11) of the previously approved turbines are to be relocated outside of their final-positioning allowance of a radius of one hundred (100 metres). The remaining fifteen (15) turbines will be located within one hundred (100) metres of their original consented location, and the height of all of the wind turbines is to be 152 metres.

International Power (Australia) Pty Ltd (International Power) is a wholly owned subsidiary of International Power plc of the United Kingdom. International Power is a leading independent power generator and the largest independent electricity generator in Australia. Worldwide it has 20,949MW (net) of capacity in operation (34,408MW gross capacity) and 1,393MW (net) under construction. International Power owns and operates power plants in the United Kingdom and Europe, North America, the Middle East, Asia and Australia. Within its portfolio International Power has 1,341MW of operating wind generation, which includes 46MW in South Australia at Canunda near Millicent. Other Australian assets include Pelican Point, Mintaro, Snuggery, Port Lincoln and Dry Creek in South Australia; Hazelwood and Loy Yang B in Victoria; and the Kwinana cogeneration plant in Western Australia.

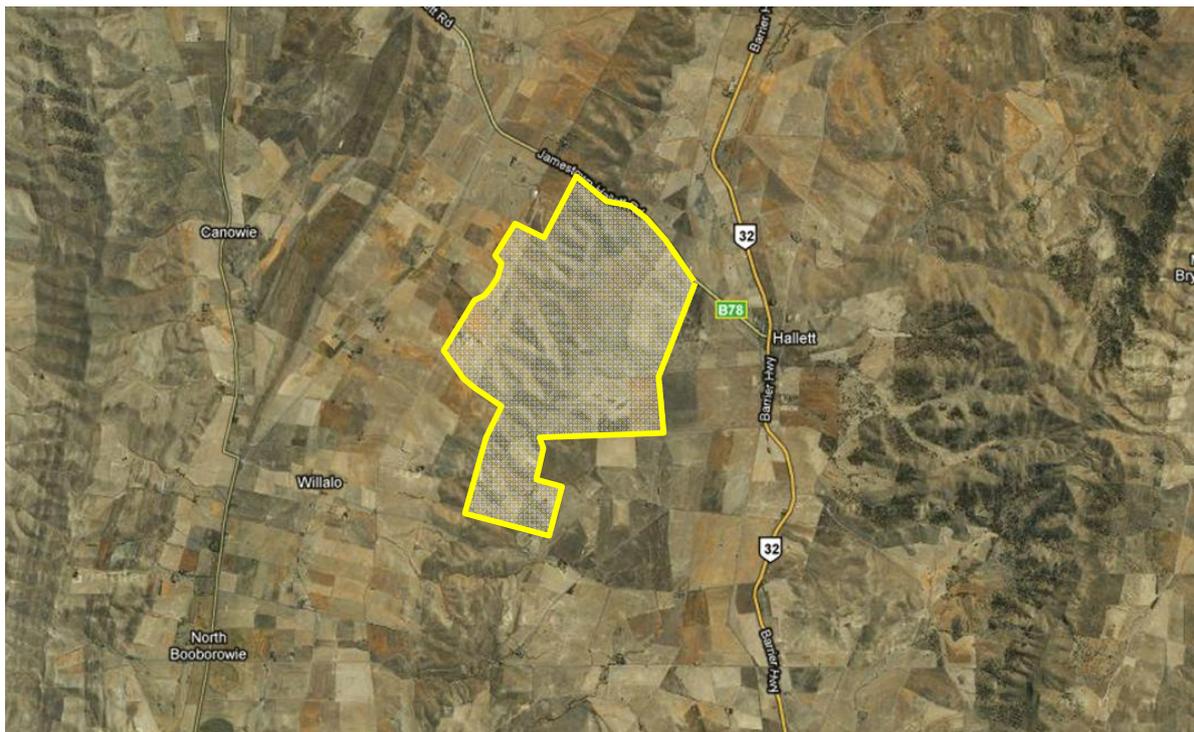
C L Rowe and Associates Pty Ltd, Urban and Regional Planners, has undertaken a preliminary assessment of the subject development proposal in order to determine the appropriateness of the proposed use of the subject land, and to identify any likely social, economic and/or environmental impacts. This document outlines the nature of the proposal, the subject land and the locality; and offers an assessment of the proposed development against the relevant provisions of the Goyder Council Development Plan (consolidated 3rd June 2010) and the Planning Strategy for Regional South Australia (amended December 2007).

2. SUBJECT LAND AND LOCALITY

The subject site comprises approximately 2278.6 hectares of land which is located at and adjacent to Willogoleche Hill, with the nearest of the proposed turbines being located approximately 3.5 kilometres west of the township of Hallett (refer Aerial 1). The site incorporates all of the land to which the following seven (7) Certificates of Title refer.

Volume 5192 Folio 718	Sections 1, 2, 3, 4, 5 & 6 (344.8 kms ²)	Hundred of Hallett
Volume 5192 Folio 720	Sections 338, 342 & 343 (237.2 kms ²)	Hundred of Anne
Volume 5192 Folio 721	Sections 323, 325 & 327 (195.2 kms ²)	Hundred of Anne
Volume 5212 Folio 587	Sections 332, 333 & 334 (236.4 kms ²)	Hundred of Anne
Volume 5212 Folio 588	Sections 328, 329 & 330 (292.9 kms ²)	Hundred of Anne
Volume 5664 Folio 454	Sections 493, 494, 495, 496, 497, 498, 503, 504, 508, 509 & 510 (708 kms ²)	Hundred of Hallett
Volume 5696 Folio 283	Allotment 473 (264.1 kms ²)	Hundred of Anne

Aerial 1: Subject land, locality and land use



The site comprises undulating, low, moderate and high areas of relief, with moderate to high ranges. The ridges and spurs of the Willogoleche Hill Range (maximum elevation 680 metres AHD) are the main physical features. The ranges are aligned predominantly in a north-south orientation, while the spurs generally run from the ridgeline down to the west. The broad valleys to the west and east of the range sit at approximately 500 m AHD and are characterised by broad shallow flat-bottomed valleys between prominent north-south ranges/ridgelines.

The land within the immediate and more general localities comprises large rural properties that are primarily utilised for farming purposes, more specifically grazing (sheep and some cattle) and cereal cropping (primarily on the lower slopes and flats between the ranges). These agricultural land uses are long established, and past land management practices have generally resulted in the majority of these properties being cleared of any significant native vegetation.

Some scattered pockets of trees and shrubs are evident (mainly around farm residences and fence lines) and small clusters of eucalypts (10-15 m high) are located in sections of the lower slopes and along road reserves. In the main, the remaining vegetation comprises a mix of introduced pasture grasses.

Existing fencing throughout the site and locality is generally of post and wire construction.

The Heysen Trail (bushwalking) and the Mawson Trail (mountain bike riding) run through the southern half of the project site for a distance of approximately 1.5 kilometres.

In view of the aforementioned, the immediate and general localities are considered to exhibit an open rural character.

3. DEVELOPMENT PROPOSAL

International Power proposes to establish and operate a wind farm, comprising thirty seven (37) wind turbines, an onsite underground electrical cable network, an above ground high voltage marshalling yard, a grid connection 2.4kms to the south-west of the southernmost turbine, access tracks, crane hardstand areas, up to two (2) wind monitoring masts, site operations facilities and appropriate site signs. The proposed wind farm is to have an installed capacity of up to 96MW, depending on the model and operation times of the turbines. The turbines are to be erected along the northern high altitude ridges (550-680AHD) of the Willogoleche Hill Range, with the nearest turbine to be erected approximately 3.5 kilometres west of the township of Hallett. The proposal is a variation to, and expansion of, the Willogoleche Hill wind farm (26 turbines) previously approved for the same site in November 2004.

The proposed wind turbines will:

- likely be up to one hundred and fifty-two (152) metres high subject to final design (i.e. tower of approximately 80 - 100 metres in height with rotor blades of approximately 30 - 52 metres in length);
- likely be the Suzlon S88, 2.1 MW machine, as installed at Hallett Wind Farm (but final selection could be 2.1 – 3.3 MW machines);
- have three (3) blades that will rotate at between approximately fifteen (15) and eighteen (18) rpm;
- have semi-variable speeds;
- be pitch regulated;
- comprise the rotor and nacelle mounted on a reducing cylindrical steel tower; and
- commence generating electricity at a wind speed of 14.4 kph, and will shut down at a wind speed of 90 kph or greater.

A small transformer will be located inside (or adjacent to) the tower of each turbine, and the electricity from these turbines will be conducted by a network of underground cables (approximately 0.8 – 1.0 metre below the ground surface that will likely follow internal site access tracks) to the on-site cable marshalling yard. Underground cables will connect the cable marshalling yard to the switchgear and transformer at the new ElectraNet substation which will be located approximately 2.4km south-west of the southernmost turbine on the site, adjacent the existing 275 kV transmission line on McAskill Rd, Willalo.

Two (2) 80 metre high wind masts will be installed on-site so as to monitor wind velocity and direction.

Access to the wind farm site will be gained via the existing local road network, including the Barrier Highway, the Clare to Peterborough Road and the Hallett to Jamestown Road. These roads are sealed and are considered to be of suitable condition to accommodate the construction traffic and loads.

A number of suitable, secondary roads in the area are likely to be used for access to the wind farm site. Some sections of these secondary roads may require resurfacing or upgrading, while some corners may also require modifications in order to accommodate construction traffic loads.

The internal access tracks (generally 6.0 metres wide but up to 12.0 metres wide where required) will have an all-weather rubble surface and will be constructed across the various sites to provide access to, and between, each of the turbine towers. The on-site access track system will be rationalised and, where possible, the tracks will follow existing farm tracks and fire tracks that traverse the ridgelines along the ranges.

Hardstand areas (approximately 20 metres x 35 metres) are to be provided adjacent each proposed tower to facilitate the use of cranes during the construction and maintenance stages of the project.

Traffic direction signage is to be erected on the Barrier Highway and at other critical locations during the construction of the proposed wind farm, and additional signage may be erected within, or adjacent, the project site to provide relevant information to sightseers.

The proposed wind farm is to operate for approximately twenty (20) to twenty-five (25) years; however, nacelle replacement would potentially extend the life of the wind farm for another twenty (20) or more years. During the operational life of the proposed wind farm all but approximately 38 hectares or 1.7% of the site will be made available to the current landowners to enable them to continue farming the land.

The proposed wind farm will be monitored by both permanent on-site staff and by remote computer. Routine maintenance visits will be carried out with maintenance staff likely to be on-site throughout the year. Major maintenance of each turbine is scheduled to be carried out approximately twice a year, involving a number of maintenance vans (two technicians per van).

4. PLANNING ASSESSMENT

4.1 Legislative Requirements

We have examined the land use definitions presented in Schedule 1 of the Development Regulations 2008, and consider the subject development proposal to constitute a non-defined land use. The basis for this decision is that, in our opinion, none of the listed land use definitions apply to the subject development proposal.

In addition, we have determined that the proposed land use does not constitute an activity of environmental or major environmental significance, as prescribed under Schedules 21 and 22 of the Development Regulations 2008.

We are also mindful of the advice of Planning SA (refer Draft Advisory Notice Planning – Wind Farms), as it relates to the provisions of the Development Act 1993, which indicates that a wind turbine constitutes a “building” because it is a structure that is fixed to land and “buildings” require Development Approval. In addition, the erection of wind turbines generating electricity for export from the site of the development constitutes a “wind farm” which changes the use of the land, and a change of land use requires authorisation.

Further, we are aware that, according to the provisions of the Development Act 1993, the leasing of part of an allotment for a period of six (6) or more years constitutes a division of land. This being the case, the proponent company may need to obtain (at an appropriate time) development approval from the relevant planning authority for the “division” of the subject land.

4.2 Development Plan

We have assessed the subject development proposal against the relevant Council-wide and Zone provisions of the Goyder Council Development Plan (consolidated 3rd June 2010), and offer the following comments and opinions. For ease of presentation and discussion, our comments and opinions have been provided under key headings.

4.2.1 Primary Production Zone

According to Map Go/1, the subject land lies within the Primary Production Zone. The Objectives and Principles of Development Control that are considered to be relevant to the subject development proposal are as follows.

Objective 1:

Economically productive, efficient and environmentally sustainable primary production.

Objective 3:

Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.

Objective 4:

Development that contributes to the desired character of the zone.

Principle of Development Control 1:

The following forms of development are envisaged in the zone:

- *tourist accommodation, including through diversification of existing farming activities and conversion of farm buildings;*
- *farming*
- *intensive animal keeping (especially within Enterprise Policy Area 2)*

Principle of Development Control 7:

Buildings should primarily be limited to farm buildings, a detached dwelling associated with primary production on the allotment and residential outbuildings that are:

- (a) *grouped together on the allotment and set back from allotment boundaries to minimise the visual impact of buildings on the landscape as viewed from public roads*
- (b) *screened from public roads and adjacent land by existing vegetation or landscaped buffers.*

Principle of Development Control 9:

Development should not be undertaken unless it is consistent with the desired character for the zone.

Principle of Development Control 10:

Structures and buildings should generally be set back a minimum of 30 metres from all road boundaries.

Principle of Development Control 11:

Development should not occur within 500 metres of a national park, conservation park, wilderness protection area or significant stands of native vegetation if it will increase the potential for, or result in, the spread of pest plants.

A wind farm is a passive form of development that requires a considerable area of land to accommodate the necessary number of wind turbines, and a relatively constant, unrestricted flow of wind. As such, we believe a wind farm is a kind of development that is best located within an open area or a rural setting. This assertion is seemingly substantiated by the fact that existing wind farms throughout the world are, in the main, located within open rural regions.

Further, to describe the proposed form of development as a wind farm, as is the accepted case throughout the world, seemingly implies that the proposed land use constitutes an innovative alternative farm use, as opposed to the traditional uses of rural land (grazing and cropping). It is also suggested that wind farms represent an innovative advance of the traditional water pumping windmills that have long been in service on Australian farms.

The Desired Character statement for the zone seeks a region that will support a more sustainable approach to primary production with rural production forming the core focus of the region. It also indicates that, when determining whether or not a development proposal is in accordance with the Desired Character, greater weight should be given to the following design elements:

- *impact on the sustainability and viability of primary production uses;*
- *visual impact on the landscape character; and*
- *impact on the freight network.*

The proponent company has estimated that approximately 2,240.6 hectares (or approximately 98.3%) of the 2,278.6 hectare project site will be made available to the existing land owners to continue the long established agricultural/farming land uses.

We are also confident that there is no activity associated with the day-to-day operation of the proposed wind farm that will prohibit, or hinder, the continuation of farming as the primary use of the subject land. Further, the proponent company intends to establish an Environmental Management Plan which will, in part, serve to preserve the vegetation throughout the site and maintain the open rural character of the subject land.

In view of the above, and given the previously approved wind farm land use, it is considered that the subject development proposal should have little detrimental impact upon the agricultural use, appearance and/or productivity of the subject land, and represents an appropriate alternative use of land within the Primary Production Zone.

4.2.2 Renewable Energy

Council-wide Objective 1:

The development of renewable energy facilities, such as wind and biomass energy facilities, in appropriate locations.

Council-wide Objective 2:

Location, siting, design and operation of renewable energy facilities to avoid or minimise adverse impacts and maximise positive impacts on the environment, the local community and the State.

Council-wide Principle of Development Control 1:

Renewable energy facilities, including wind farms and ancillary developments should be located in areas that maximise efficient generation and supply of electricity.

Council-wide Principle of Development Control 2:

Wind farms and ancillary development such as substations, maintenance sheds, access roads and connecting power-lines should be sited, designed and operated in a manner which:

- a) avoids or minimises negative impacts on the character, landscape quality, visual significance or amenity of the area;*
- b) uses elements of the landscape and appropriate materials and finishes to minimise visual impact;*
- c) avoids or minimises the potential for adverse impact on areas of native vegetation, conservation, environmental, geological, tourism or built or natural heritage significance;*
- d) does not impact on the safety of water or air transport and the operation of ports, airfields and designated landing strips;*
- e) avoids or minimises nuisance or hazard to nearby property owners and/or occupiers, road users and wildlife by not:
 - (i) causing shadowing, flickering, reflection or blade glint impacts;*
 - (ii) creating excessive noise;*
 - (iii) interfering with television and radio signals;*
 - (iv) modifying vegetation, soils and habitats; and*
 - (v) striking birds and bats.**

The subject development proposal seeks to establish a wind farm in accordance with the cited provisions of the Development Plan. Further, for the reasons espoused throughout this document, it is considered that the proposed wind farm will have minimal impacts upon the physical landscape, environment and/or character of the locality.

4.2.3 Heritage - Conservation and Places

4.2.3.1 Heritage Conservation

Council-wide Objective 1:

Development should conserve and not adversely impact on the cultural or natural significance of places, areas, artefacts and shipwrecks that display any of the following values:

- (a) aesthetic*
- (b) anthropological*
- (c) archaeological*
- (d) architectural*
- (e) ecological*
- (f) economic*
- (g) educational*
- (h) geological*
- (i) historic*
- (j) palaeontologic*
- (k) scientific*
- (l) social*
- (m) speleological*
- (n) spiritual*
- (o) technological.*

It is understood that the proponent company has undertaken an extensive database, register and literature search regarding the issue of Aboriginal and European heritage and culture; and consulted with Aboriginal and historic groups on the issue of cultural heritage.

In addition, we are aware that:

- in 2007 an application was made to the Department of the Premier and Cabinet, pursuant to Section 12 of the Aboriginal Heritage Act 1988, in response to which the Aboriginal Affairs and Reconciliation Division advised that no aboriginal sites or objects had been identified within the project site;
- a desktop archaeological and anthropological study of the general Hallett region was undertaken by TimeMap Pty Ltd (December 2003); and
- another desktop study was conducted in September 2010 by Vivienne Wood Heritage Consultant Pty Ltd to specifically address the site of the subject development proposal.

The aforementioned revealed:

- no recorded sites, objects or places of Aboriginal or European heritage and/or cultural significance lie within the project site;

- the subject site is located within previously recognised Ngadjuri country, which stretches from Angaston and Gawler in the south to Port Pirie and Orroroo in the north, and Chrystal Brook in the west to the eastern escarpment of the Mount Lofty Ranges;
- the Ngadjuri people have not registered a Native Title Claim over the project site, and there are no Indigenous Land Use Agreements in effect;
- two (2) Ngadjuri 'legends' were identified, one tells the story of an old woman and her two dogs who travel across Ngadjuri country, and is associated with formations in the Parachilna Gorge, to the north in the Flinders Ranges, whilst the second relates the story of Eagle and Crow and is focussed on an Aboriginal campsite near Orroroo, to the north of the study area (a story shared by the Adnyamathanha people of the Flinders Ranges (Turnbridge 1988) and the Nukunu people) ; and
- the peaks, ridges and scarps within the project site offer potential for stone cairns, quarries and painting sites, whilst the woodlands and valleys have some potential for culturally modified trees and campsites.

It is also understood that, according to the Register of National Estates, the Australian Heritage Places Inventory and the National Trust of South Australia, the subject land contains no recorded sites of non-indigenous and/or European heritage significance.

We are aware that the proponent company has indicated a preparedness to have a qualified archaeologist/anthropologist, and appointed representatives of the local Aboriginal people, undertake a ground survey of the areas to be disturbed by the subject development proposal, prior to any site works commencing. The purpose of this survey will be to identify any sites of archaeological and/or cultural significance, so that they may be avoided and protected.

The proponent company has indicated that:

- all potential sites of European heritage, such as old homesteads and ruins, will be avoided, and management actions will be put in place to respond to any incidental/accidental disturbance of potential sites; and
- it will negotiate a cultural heritage management agreement with relevant Aboriginal groups, prior to construction.

In view of the aforementioned, we are confident that the subject development proposal complies with the provisions of the cited Objective.

4.2.3.2 Heritage Places

Council-wide Objective 1:

The conservation of State and local heritage places.

Council-wide Objective 2:

The continued use, or adaptive re-use of State and local heritage places that supports the conservation of their cultural significance.

Council-wide Objective 3:

Conservation of the setting of State and local heritage places.

Table Go/2 State Heritage Places, as contained within the Goyder Council Development Plan, indicates that the subject site contains no places of State heritage significance.

4.2.4 Interface Between Land Uses.

Council-wide Objective 1:

Development located and designed to prevent adverse impact and conflict between land uses.

Council-wide Objective 2:

Protect community health and amenity and support the operation of all desired land uses.

Council-wide Principle of Development Control 1:

Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:

- (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants;*
- (b) noise;*
- (c) vibration;*
- (d) electrical interference;*
- (e) light spill;*
- (f) glare;*
- (g) hours of operation; and*
- (h) traffic impacts.*

Council-wide Principle of Development Control 2:

Development should be designed and sited to minimise negative impact on existing and potential future land uses considered appropriate in the locality.

Council-wide Principle of Development Control 5:

Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses considered appropriate for the zone should not be developed or should be designed to minimise negative impacts.

Council-wide Principle of Development Control 6:

Development should be designed, constructed and sited to minimise negative impacts of noise and to avoid unreasonable interference.

Wind farming is a form of development that is best suited to open rural landscapes (for reasons of safety, convenience, land availability/affordability and appropriate environmental conditions). Further, given the relatively passive nature of the on-going operation of wind farms, we can foresee little difficulty with such a land use co-existing with most forms of primary production and/or the environment.

The proponent company has estimated that, despite the establishment of the proposed wind farm, approximately 98.3% of the subject land (i.e. approximately 2,240.6 hectares of the existing 2,278.6 hectares) will continue to be made available for agricultural/farming land uses. It is therefore intended that the existing and proposed land uses be conducted on the basis of co-existence, with the proposed wind farm effectively becoming the secondary land use component. As there is no activity associated with the day-to-day operation of the proposed wind farm that should hinder the continued use of the subject land for agricultural purposes (in particular the grazing of livestock and/or the growing of crops), this land use arrangement is considered to be appropriate.

Further, we do not believe that the proposed wind farm, or the operation thereof, will represent a physical threat to the environment and/or the quality of life that is currently experienced by any resident within the immediate or more general localities. There may be potential for impacts (noise and traffic) during the construction and operation stages of the subject development proposal, however, it is considered that impacts during construction will be limited and over a short term (approximately 15 -20 months).

Construction activities and techniques (e.g. vehicle movements, rock crushing and cement batching) will create some minor and temporary noise impacts which will be site specific and controlled through an Environmental Management Plan.

Further, it is noted that the minimum separation distance between any of the proposed individual turbine sites and a neighbouring dwelling that it is not a part of the development proposal will be 1100 metres. The Environment Protection Authority (EPA) "*Environmental Noise Guidelines for Wind Farms (2009)*" stipulates noise criteria to be met at relevant receiver locations.

Of the eighteen (18) residences within 4,000 metres of the nearest turbine, four (4) are wind farm landowners and fourteen (14) are neighbouring residents. Results of noise level predictions (based on the Suzlon S88 being the typical wind turbine model) show that none of the fourteen neighbouring households will experience noise levels above the first EPA criterion [40dB(A)]. In addition, modelling undertaken by a noise consultant (Sonus) indicated that only one (1) landowner residence will experience, during worst case, conditions that will exceed the EPA criteria. At this household the predicted noise level exceeds the criteria by a minimal amount and is predicted to be within the acceptable limits for financially involved residents. The applicant company expects that the façade of the house will prevent any disturbance occurring inside the household.

Dust and vehicle exhaust emissions will likely be generated during the construction of the internal access tracks, installation of the underground cable network, and the clearing/excavation of the turbine and building foundations. We are aware that the earthwork activities for the proposed turbines will be located in working paddocks and on ridge tops, a considerable distance away from neighbouring residences. As such, any dust emissions from earthworks are likely to have minimal, if any impact on neighbouring residents.

The operation of the rock crusher and/or concrete batching plant (if required) may also create some localised dust. The proponent will be preparing an Environmental Management Plan with the view to implementing management strategies aimed at minimising the occurrence of dust generation (e.g. construction sites could be dampened, stockpiles of soil can be covered, compacted rubble access roads). In addition, vegetation clearance will be kept to a minimum, and the operation of the proposed wind farm will not produce any atmospheric emissions. As such, the subject development proposal should represent no threat to the airshed quality in the locality.

Overall, we do not believe that the subject development proposal will have any lasting or extraordinary effects upon the environment within the immediate locality, or the amenity currently experienced by persons residing within proximity to the subject land. Further, the proponent company appears to be well aware of the likely effects during the construction stage of the development, and is committed to implement specific controls and measures in an attempt to minimise any short-term inconvenience.

4.2.5 Natural Resources

4.2.5.1 General

Council-wide Objective 12:

Protection of the scenic qualities of natural and rural landscapes.

Council-wide Principle of Development Control 1:

Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.

Council-wide Principle of Development Control 2:

Development should ensure that South Australia's natural assets, such as biodiversity, water and soil, are protected and enhanced.

Approximately 2,240.6 hectares or 98.3% of the project site will be available to the existing land owners to continue their long established farming activities. Further, there are no activities associated with the day-to-day operation of the proposed wind farm that should hinder the continued use of the subject land for agricultural purposes, or detrimentally impact upon the environment or natural landscape within the locality. It is also noted that the proponent company is proposing a comprehensive environmental management program aimed at ensuring that the flora and fauna values of the project site and the locality are not significantly impacted upon by the subject development proposal.

4.2.5.2 Water Resources

Council-wide Objective 1:

Retention, protection and restoration of the natural resources and environment.

Council-wide Objective 2:

Protection of the quality and quantity of South Australia's surface waters, including inland, marine and estuarine, and underground waters.

Council-wide Objective 3:

The ecologically sustainable use of natural resources including water resources, including marine waters, ground water, surface water and watercourses.

Council-wide Objective 4:

Natural hydrological systems and environmental flows reinstated, and maintained and enhanced.

Council-wide Objective 5:

Development sited and designed to:

- (a) maximise the use of stormwater;*
- (b) protect stormwater from pollution sources;*
- (c) protect or enhance the environmental values of receiving waters;*
- (d) prevent the risk of downstream flooding;*
- (e) minimise the loss and disturbance of native vegetation.*

*Council-wide Principle of Development Control 5:
Development should be appropriate to land capability and the protection and conservation of water resources and biodiversity.*

*Council-wide Principle of Development Control 6:
Development should not take place if it may result in over exploitation of surface or underground water resources.*

*Council-wide Principle of Development Control 7:
Development should be designed to minimise consumption, maximise conservation and encourage reuse of water resources.*

*Council-wide Principle of Development Control 8:
Development should ensure watercourses and their beds, banks, wetlands and floodplains are not damaged or modified and are retained in their natural state, except where modification is required for essential access or maintenance purposes.*

*Council-wide Principle of Development Control 11:
Development should be sited and designed to:*

- (a) minimise surface water runoff*
- (b) not obstruct a watercourse*
- (c) prevent soil erosion and water pollution*
- (d) protect stormwater from pollution sources*
- (e) protect and enhance natural water flows required to meet the needs of the natural environment*
- (f) protect water quality by providing adequate separation distances from watercourses and other water bodies*
- (g) not contribute to an increase in salinity levels*
- (h) avoid the water logging of soil or the release of toxic elements*
- (i) maintain natural hydrological systems and not adversely affect:*
 - (i) the quantity and quality of groundwater*
 - (ii) the depth and directional flow of groundwater*
 - (iii) the quality and function of natural springs.*

*Council-wide Principle of Development Control 12:
The quality of water leaving the site of a development should be of a physical, chemical and biological condition equivalent to or better than pre-development conditions, and the rate of water discharged from the site should not exceed the rate of discharge from the site in pre-development conditions.*

The water resources of the Willogoleche Range are a part of the Broughton River catchment. Since (and as a consequence of) European settlement, the majority of the watercourses within the general locality have been significantly modified, and the biodiversity values of the systems are currently considered to be low, given the lack of native vegetation following widespread vegetation clearance. Further, there are few natural surface water bodies near the project site that retain water permanently.

The proponent company acknowledges that general construction activities, such as excavation, trenching, concrete batching and earthworks, have the potential to impact upon surface and ground waters (e.g. modification to surface drainage; siltation, contamination and disturbance to groundwater aquifers).

Notwithstanding this, it is noted that the construction of the proposed wind farm will not require the modification or redirection of any surface water features. Further, the proponent company is proposing to implement strategies to manage surface runoff and exposed soil surfaces so as to ensure that erosion events do not occur. These actions include siting access tracks and cable trenches along ridge tops and contours (as far as practicable), covering and stabilising exposed soil surfaces and earthworks, and filtering silted runoff before it leaves the project site.

Potential impacts to on-site and off-site water resources will be avoided through the soil and water management practices to be outlined in the proposed project Environmental Management Plan. As such, the project is not expected to result in any permanent impact to soil stability or water quality in the area.

Council-wide Principle of Development Control 3:

Development should not significantly obstruct or adversely affect sensitive ecological areas such as creeks, estuaries and wetlands.

There are no significant wetlands, permanent rivers or significant creek lines in the subject site or locality that can be directly and/or detrimentally affected by the subject development proposal.

4.2.5.3 Flora and Fauna

Council-wide Objective 7:

Native flora, fauna and ecosystems protected, retained, conserved and restored.

Council-wide Objective 8:

Restoration, expansion and linking of existing native vegetation to facilitate habitat corridors for ease of movement of fauna.

Council-wide Principle of Development Control 27:

Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species.

Council-wide Principle of Development Control 28:

Development should be designed and sited to minimise the loss and disturbance of native flora and fauna, including marine animals and plants, and their breeding grounds and habitats.

Council-wide Principle of Development Control 29:

The provision of services, including power, water, effluent and waste disposal, access roads and tracks should be sited on areas already cleared of native vegetation.

Council-wide Principle of Development Control 30:

Native vegetation should be conserved and its conservation value and function not compromised by development if the native vegetation does any of the following:

- (a) provides an important habitat for wildlife or shade and shelter for livestock*
- (b) has a high plant species diversity or includes rare, vulnerable or endangered plant species or plant associations and communities*
- (c) provides an important seed bank for indigenous vegetation*
- (d) has high amenity value and/or significantly contributes to the landscape quality of an area, including the screening of buildings and unsightly views*

- (e) *has high value as a remnant of vegetation associations characteristic of a district or region prior to extensive clearance for agriculture*
- (f) *is growing in, or is characteristically associated with a wetland environment.*

Council-wide Principle of Development Control 31:

Native vegetation should not be cleared if such clearing is likely to lead to, cause or exacerbate any of the following:

- (a) *erosion or sediment within water catchments*
- (b) *decreased soil stability*
- (c) *soil or land slip*
- (d) *deterioration in the quality of water in a watercourse or surface water runoff*
- (e) *a local or regional salinity problem*
- (f) *the occurrence or intensity of local or regional flooding.*

Council-wide Principle of Development Control 32:

Development that proposes the clearance of native vegetation should address or consider the implications that removing the native vegetation will have on the following:

- (a) *provision for linkages and wildlife corridors between significant areas of native vegetation;*
- (b) *erosion along watercourses and the filtering of suspended solids and nutrients from run-off;*
- (c) *the amenity of the locality;*
- (d) *bushfire potential; and*
- (e) *the net loss of native vegetation and other biodiversity.*

Council-wide Principle of Development Control 33:

Where native vegetation is to be removed, it should be replaced in a suitable location on the site with vegetation indigenous to the local area to ensure that there is not a net loss of native vegetation and biodiversity.

Council-wide Principle of Development Control 34:

Development should be located and occur in a manner which:

- (a) *does not increase the potential for, or result in, the spread of pest plants, or the spread of any nonindigenous plants into areas of native vegetation or a conservation zone;*
- (b) *avoids the degradation of remnant native vegetation by any other means including as a result of spray drift, compaction of soil, modification of surface water flows, pollution to groundwater or surface water or change to groundwater levels; and*
- (c) *incorporates a separation distance and/or buffer area to protect wildlife habitats and other features of nature conservation significance.*

Council-wide Principle of Development Control 35:

Development should promote the long-term conservation of vegetation by:

- (a) *avoiding substantial structures, excavations, and filling of land in close proximity to the trunk of trees and beneath their canopies;*
- (b) *minimising impervious surfaces beneath the canopies of trees; and*
- (c) *taking other effective and reasonable precautions to protect both vegetation and the integrity of structures and essential services.*

The primary use of the subject land has long been farming and grazing. This use is to be retained, albeit over a slightly smaller area, and will be conducted on a concurrent basis with the subject development proposal.

Whilst some of the existing pasture and weed vegetation will be removed during the construction stage of the project, it is envisaged that these areas will be quickly revegetated in accordance with the project Environmental Management Plan. As such, there should be no long-term effects in terms of the visual appearance of the subject land; nor in respect to its agricultural productivity, vegetation cover or wildlife habitats.

Further, it is unlikely that the subject development proposal will have any noticeable or significant impact upon roadside vegetation within the locality.

This assertion is based on the fact that the subject development proposal has been purposely designed to preserve much of the existing vegetation; purports to utilise, where possible, existing access/egress points and roads (which may have to be widened slightly to accommodate heavy vehicles during construction); and locates all structures well within the boundaries of the subject land.

In addition, the subject development proposal will be required to comply with the provisions of the Native Vegetation Act 1991.

We are aware that, at the time of the previous (initial) development application for the Willogoleche Hill wind farm, Environmental & Biodiversity Services Pty Ltd, Ecological Consultants, was commissioned to conduct a series of ecological assessments at the project site, so as to identify any significant flora and fauna populations, habitat types and vegetation associations; assess the potential impacts of the development proposal upon these values; and provide management advice regarding any ecologically sensitive areas. The initial investigations were undertaken in 2003 – 2004.

Environmental & Biodiversity Services Pty Ltd undertook another survey of the site in February 2010. With respect to flora, the surveys undertaken revealed:

- fifty three (53) flora species within the project site area (32 native species and 21 weed species, including 3 weed species listed as declared species under the Natural Resource Management Act 2004 and 5 environmental weed species;
- one (1) flora species, *Cryptandra* sp. Long hypanthium (Long-flower *Cryptandra*), which has a rare rating under the National Parks and Wildlife Act, was recorded as a scattered species;
- no flora species listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999 were detected within the survey area; and
- six (6) sites of the *Lomandra multiflora* ssp. *dura* (Hard Mat-rush) Tussock Grassland (qualified as Condition Class B Iron-grass Natural Temperate Grassland of South Australia threatened ecological community under the Environment Protection and Biodiversity Conservation Act 1999).

Three different vegetation associations were observed during the flora surveys of the proposed site. The condition of the vegetation communities varies, with each of the communities having been disturbed to various levels, mainly through grazing.

In the 2004 surveys the dominant vegetation association was the Exotic/Native Grassland. In the 2010 survey areas of *Austrostipa* sp. Grassland made up approximately 55% of the project area. This was previously classified as an Exotic/Native in the 2004 survey. The locations of the *Lomandra multiflora* ssp. Dura Tussock Grassland also shifted significantly from the original 2004 survey. The difference between the survey results may be due to a change in grazing regimes within the survey area, climatic conditions and flora species present at the time of the surveys.

Given that some vegetation clearance will be required, it will be necessary to submit a referral under the Environment Protection and Biodiversity Conservation Act 1999 regarding the nationally listed threatened ecological community Iron-grass Natural Temperate Grassland of South Australia.

It is considered that the proposed wind farm development will have little impact on the native flora within the project site, as the micro-siting of the individual structures will serve to minimise the impacts upon flora of national significance. Further, the majority of the development is proposed to occur on the lower quality *Austrostipa* sp. (Spear Grass) Grassland and the *Lomandra* Tussock Grassland will be avoided (wherever possible).

The proponent company has specifically designed the proposed wind farm with the view to maintaining the limited areas of remnant vegetation so as to protect any existing fauna habitats, and avoid the fragmentation thereof; and locating all of the proposed turbines, structures and internal access tracks in cleared pasture areas so as to avoid conflict with any significant vegetation or natural feature. The proponent company's commitment to the protection of the environment, and its philosophies pertaining thereto, are to be detailed in appropriate Environmental Management Plans.

Environmental & Biodiversity Services Pty Ltd also identified species of fauna (i.e. avian, mammal and reptile) that may be found, or do actually exist, within the project site. As per the 2004 survey work, no species of national or state conservation significance were observed on the site.

The surveys also revealed several vegetation associations considered likely to provide suitable habitat for the nationally significant threatened reptiles, including the Pygmy Blue-tongue lizard (endangered) and the Flinders Worm lizard (vulnerable). Extensive targeted survey work of spider holes failed to identify any Pygmy Blue-tongue lizards within the project site.

The ecological survey suggests that the study site potentially supports several bird species that may be susceptible to interactions with wind turbines. However, relatively low numbers of individuals of these species would be expected on site, and or most occur irregularly or seasonally, and or are rarely or uncommonly abundant. The nationally vulnerable Plains Wanderer is expected to use the site, however, it would be an irregular visitor, and is not likely to occur in significant numbers. Most migratory species would be relatively uncommon or rare within the proposed project site, and occur irregularly or seasonally, which would reduce the impact of the wind farm on such species.

A number of raptor species were observed in or near the survey area. Due to the vegetation associations present on the site, there would be no nesting in the project area and, as such, raptor numbers were low. It is therefore expected that the wind farm proposal would have a low to moderate impact on the raptors in the area.

The bat species that are likely to occur on site are relatively common with none of them having a national or state conservation rating. There will be no clearance of woodland habitats within the survey area which could result in direct removal of potential roosting habitat for bats, and possibly direct mortality of roosting bats. As clearance of woodland habitats will be unnecessary, any effects of this nature are expected to be low.

In view of the aforementioned, the total impact of the wind farm development on fauna species, and/or their habitat, is likely to be low. Significant species are most likely to be low in abundance at the site, and no nationally threatened species were observed. There will be some impact to a small proportion of some vegetation associations, which may provide suitable habitat for some species.

Management actions, such as micro-site surveys prior to construction, the relocation of significant reptile species found, bird monitoring, and the regeneration of disturbed areas, should result in any impacts to the fauna species, associations and habitats, being negligible.

In order to minimise negative interaction between the proposed wind turbines and the birds and bats, the proponent company has indicated that it is prepared to:

- maximise the distance between the proposed wind turbines (i.e. 300 metres) so as to provide an uninterrupted passage for birds;
- micro-site the turbines in areas where raptor and migratory species concentrations are low;
- use small lattice monitoring towers to reduce perching opportunities;
- use turbines of slow rotational speed; and
- utilise no lighting on the proposed wind turbines (unless if required as warning devices for aircraft) so as to not attract insects (and hence bats).

We consider the subject development proposal to comply with the cited provisions as it does not propose to significantly affect the existing environmental values of the project site or the wider locality. Further, we are aware that the proponent company is to develop an Environmental Management Plan that will outline its commitments to the environment. These commitments, and the proposed mitigation measures, should ensure that the proposed wind farm development has only minimal affect on site ecology.

4.2.5.4 Soil

Council-wide Objective 9:

Minimal disturbance and modification of the natural landform.

Council-wide Objective 10:

Protection of the physical, chemical and biological quality of soil resources.

Council-wide Objective 11:

Protection of areas prone to erosion or other land degradation processes from inappropriate development.

*Council-wide Principle of Development Control 4:
Development should not have an adverse impact on the natural, physical, chemical or biological quantity and characteristics of soil resources.*

We understand that:

- the soil types found within the project site are considered to have a low risk of wind erosion but predominantly moderate to high risk of water erosion;
- the potential for soil erosion exists during the construction of the proposed wind farm infrastructure where earthworks and soil disturbance takes place (e.g. construction of access roads, turbine bases and cable trenches);
- inadequate protection of exposed surfaces during construction can lead to erosion from rainfall events; and
- erosion events can lead to siltation and consequential habitat disturbance both on and off-site, decreased productivity from loss of top soil, disturbance to soil structure and general instability of soil.

The proponent company proposes to implement strategies detailed in a Soil and Water Management Plan, prior to construction, so as to manage surface runoff and exposed soil surfaces to ensure that erosion does not occur. These actions will include:

- siting access tracks and cable trenches along ridge tops and contours (as far as practicable or in accordance with expert advice);
- covering and stabilising exposed soil surfaces and earthworks;
- filtering silted runoff before it leaves the site; and
- initiating refuelling procedures and the management of hazardous materials and wastes so as to avoid soil contamination.

4.2.6 Orderly and Sustainable Development

*Council-wide Objective 1:
Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.*

*Council-wide Objective 2:
Development occurring in an orderly sequence and in a compact form to enable the efficient provision of public services and facilities.*

*Council-wide Objective 3:
Development that does not jeopardise the continuance of adjoining authorised land uses.*

*Council-wide Objective 4:
Development that does not prejudice the achievement of the provisions of the Development Plan.*

*Council-wide Principle of Development Control 1:
Development should not prejudice the development of a zone for its intended purpose.*

We do not believe that the subject development proposal will:

- have any physical impacts within and/or beyond the bounds of the subject land;
- place any significant demands upon any public utility services, nor any community facilities or services;
- generate any significant volumes of traffic which will detrimentally impact upon the condition of the local road network and/or the safe and convenient use thereof; nor
- introduce a significant change to the primary use of the subject land (farming) or the existing access thereto.

In view of the aforementioned, it is considered that the subject development proposal constitutes orderly and economic development, and will be compatible with the existing, long established agricultural use of the subject land and the neighbouring properties. Accordingly, the subject development proposal is considered to comply with the requirements and intent of the cited Development Plan provisions.

*Council-wide Principle of Development Control 2:
Land outside of townships and settlements should primarily be used for primary production and conservation purposes.*

We expect that the primary use of the subject land will continue to be agriculture, given that approximately 98.3% (approximately 2,240.6 hectares) of the subject land will be made available (for the duration of the subject project) to the current landowners to continue their farming practices. Further, we believe that no activities associated with the day-to-day operation of the proposed wind farm should hinder the continued use of the subject land for agricultural purposes.

In view of the aforementioned, it is considered that the subject development proposal complies with the intent of Principle of Development Control 2.

*Council-wide Principle of Development Control 3:
The economic base of the region should be expanded in a sustainable manner.*

The subject development proposal may improve the economy of the region, through the creation of additional employment opportunities (construction and maintenance) and the attraction of tourists. The provision of a safe, reliable and clean electricity supply may also assist in the attraction of additional investment and development.

We are also aware that the proponent company has indicated that:

- the construction contractor will be encouraged to source as much of the construction personnel and civil and electrical contractors from the region;
- construction contracts could be placed with local companies (engaged on a cost competitive basis); and

- turbine components may be manufactured in Australia (e.g. Keppel Prince Engineering who has operations in Mount Gambier and Portland).

Further, the proposed wind farm will result in the generation of significant amounts of clean electricity for supply to the national electricity market.

4.2.7 Siting and Visibility

Council-wide Objective 1:

Protection of scenically attractive areas, particularly natural, rural and coastal landscapes.

Council-wide Principle of Development Control 1:

Development should be sited and designed to minimise its visual impact on:

- the natural, rural or heritage character of the area*
- areas of high visual or scenic value, particularly rural areas*
- views from public reserves, tourist routes and walking trails.*

Council-wide Principle of Development Control 2:

Buildings should be sited in unobtrusive locations and, in particular, should:

- be grouped together*
- where possible be sited in such a way as to be screened by existing vegetation when viewed from public roads.*

Council-wide Principle of Development Control 3:

Buildings outside of urban areas and in undulating landscapes should be sited in unobtrusive locations and in particular should be:

- sited below the ridgeline*
- sited within valleys or behind spurs*
- sited in such a way as to not be visible against the skyline when viewed from public roads*
- set well back from public roads, particularly when the allotment is on the high side of the road.*

Council-wide Principle of Development Control 4:

Buildings and structures should be designed to minimise their visual impact in the landscape, in particular:

- the profile of buildings should be low and the rooflines should complement the natural form of the land*
- the mass of buildings should be minimised by variations in wall and roof lines and by floor plans which complement the contours of the land*
- large eaves, verandas and pergolas should be incorporated into designs so as to create shadowed areas that reduce the bulky appearance of buildings.*

Council-wide Principle of Development Control 5:

The nature of external surface materials of buildings should not detract from the visual character and amenity of the landscape.

Council-wide Principle of Development Control 6:

The number of buildings and structures on land outside of urban areas should be limited to that necessary for the efficient management of the land.

Council-wide Principle of Development Control 7:

Driveways and access tracks should be designed and constructed to blend sympathetically with the landscape and to minimise interference with natural vegetation and landforms, and be surfaced with dark materials.

The development of a wind farm comprising a total of thirty seven (38) wind turbines which are to be up to approximately 152 metres in height and generally sited in exposed locations, will undoubtedly be visible from various locations and will have some impact upon the visual appearance of the subject land, especially given the open rural character of the immediate locality. Notwithstanding this, we are aware that the proponent company maintains the view that wind farms are often considered to represent a positive visual feature within the landscape.

In addition, human influences including roads, dwellings, sheds, buildings and vertical elements such as telecommunications masts, grain silos, lattice mounted transmission line towers and stobie poles all have an impact upon the existing visual amenity and character of the locality.

In terms of design and layout, the proposed wind turbines are relatively sleek and slim line in design; and are dispersed so as to minimize impact upon, or conflict with, the neighbouring land uses and/or any existing physical features (i.e. no wind turbine will be erected within close proximity to neighbouring dwellings). In addition, the proposed wind turbines are to be erected on land which is located in a relatively lightly populated rural locality; and the proponent company has incorporated further specific design aspects (e.g. turbine towers and blades to be off-white or grey in colour to blend with the landscape and clouds; slow blade rotation; and the undergrounding of the electrical connections between each proposed turbine) so as to minimise the visual impact of the wind farm.

With respect to views of the proposed development from within the locality, we believe that the proponent company has fairly assessed views from neighbouring residences, roads and vantage points. The views of the proposed wind turbines from these dwellings and other points within, and adjacent to, the project site are likely to be reduced, in part, by a combination of factors, including the orientation of the dwellings, existing land forms, the presence of vegetation (including gardens), and existing vertical elements (e.g. water tanks, buildings and stobie poles). Further, the continued use of much of the subject land for agricultural purposes (i.e. grazing and cropping) will provide a physical back-drop that may serve to lessen the visual impact of the proposed wind turbines.

In addition, we are aware that, during the consultation process undertaken by the proponent company, the majority of local residents were unconcerned regarding the landscape significance of the proposed expanded Willogoleche wind farm, and many welcomed the development of wind farms in the region.

Whilst there is a possibility, although low, of potential for glinting (reflected light off of turbine blades) and shadow flicker (shadows from moving rotor blades when the sun is behind the blades) in certain conditions, it is understood that it is the experience of the proponent company that glinting rarely occurs (and can be mitigated to a degree by the use of non-reflective paint) and shadow flicker is not likely to be a significant issue, due to separation distances between the turbines and residences, and the careful siting of the turbines.

An independent assessment of aviation risk undertaken by Hart Aviation Pty Ltd indicated that navigation warning lights are not required to be installed on the turbines as the risk to aviation was assessed as being low. In the event that CASA do require lights to be installed to minimise visual impact on the ground plane environment, some shielding of the lights is permitted, provided it does not compromise their operational effectiveness.

The proponent company does not believe that night lighting will be necessary for the Willogoleche Hill wind farm. However, should CASA require such lighting, the exact impact thereof will likely prove to be difficult to define, as it is dependent on individual perceptions and sensitivities, as well as the presence of existing light at the viewing location.

In view of the above, we do not believe that the proposed wind farm will have a discernible impact upon the character of the locality, nor should it significantly affect the quality of life that is currently experienced by persons residing within the locality.

4.2.8 Transportation and Access

Council-wide Objective 2:

Development that:

- (a) provides safe and efficient movement for all motorised and non-motorised transport modes*
- (b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles*
- (c) provides off street parking*
- (d) is appropriately located so that it supports and makes best use of existing transport facilities and networks.*

Council-wide Principle of Development Control 8:

Development should provide safe and convenient access for all anticipated modes of transport including cycling, walking, public and community transport, and motor vehicles.

Council-wide Principle of Development Control 13:

Development should make sufficient provision on site for the loading, unloading and turning of all traffic likely to be generated.

The subject development proposal purports to maintain and widen existing site access roads, the use of which should not interfere with the free and/or safe movement of traffic throughout the local road network. Further, any upgrades to secondary access roads will benefit travelling motorists and should not impact upon current road use.

We believe that, apart from vehicles associated with the construction and decommissioning and/or refurbishment stages of the subject development proposal, future traffic movements to and from the subject land will likely be restricted to the maintenance crew and tourists.

The visits by the proponent company's maintenance crews are to occur on a regular basis for routine maintenance, and twice per year for major scheduled maintenance (or as required by circumstance).

Traffic movements to and from the subject land, during the construction stage, will likely involve various vehicles (e.g. articulated vehicle with trailer, tipper trucks, concrete mixers, bulldozers and cranes). There will also be a number of on-site or local movements, particularly by concrete mixers, as they move to and from the mobile concrete batching plant.

Whilst there will obviously be an increase in traffic movements during the construction stage, they are unlikely to be constant, or excessive or extraordinary in number. For example, it has been suggested that the delivery of components for each of the thirty seven turbines will require a total of seven (7) vehicle movements to the project site over the 15 – 20 month construction period (i.e. 3 extended trailer deliveries for the tower, 3 deliveries for the blades and 1 delivery for each nacelle). This equates to approximately 15 – 20 project related traffic movements per month.

Additional traffic movements will be generated by the delivery of concrete, steel reinforcement, base tower sections, road stone and other construction materials.

We believe that the local road network is suitable, in terms of the road design, width and condition, to accommodate the aforementioned likely temporary traffic increase. Further, the proponent company has indicated a preparedness to consult with Transport Services (Department for Transport Energy and Infrastructure) and the Regional Council of Goyder over traffic related issues and initiate specific mitigation measures (e.g. reducing material haulage distances by identifying local rock and material sources; erecting appropriate signage; ensuring all heavy vehicles utilise an approved access/egress route at scheduled times; the provision of safety/police escort vehicles where appropriate; and the regular issuing of public notices regarding traffic restrictions and/or conditions) so as to diminish the potential for future traffic conflict.

As for the matter of tourists, it is the experience of the proponent company that existing wind farms in Australia and other countries attract a reasonable level of interest from sightseers. This is likely to be the case with the subject development proposal, however, neither we, nor the proponent company, are able to quantify the rate of future tourist visitations.

Given the above, we consider the local road network to be of an appropriate standard and condition to adequately accommodate increased traffic movements associated with the subject development proposal. Further, the subject land provides more than sufficient space to accommodate the safe and convenient movement and manoeuvring of vehicles on-site.

4.3 Planning Strategy - Regional South Australia

The Planning Strategy for Regional South Australia (January 2003, amended December 2007) sets out the State Government's vision for development in regional South Australia. This strategy document contains specific references to the development of "wind farms", and identifies the provision of power, and the alternative sources thereof, as having some relevance and importance in relation to the future development of the traditional land uses and industries within regional South Australia.

Under the key issue heading of Infrastructure, the strategy document states:

'South Australia's small population and large area makes the cost of providing infrastructure in regional areas high compared with most other States. The importance of investment in power, gas and other energy infrastructure to the economic development of the State cannot be overstated.'

In addition, under the sub-heading of Energy, the strategy document further states:

“Gas and coal powered stations will provide a large portion of energy needs for some time. Nevertheless, the potential for solar and wind power exists in abundance in regional South Australia, as does the availability of biomass for power generation. Improvements in energy technology are likely to result in these and other alternate renewable energy sources being used more.”

The document also espouses the regional strategy to *“Enhance access to competitive energy supplies for all customers across the State”*, under which it purports to *“Promote the use of renewable energy sources by planning for wind farms, landfill gas extraction and other forms of renewable energy supply”*.

With respect to the issue of energy within the Mid North Planning and Development Area (in which the project site lies), under the heading of Infrastructure (Energy) the strategy document states:

“Planning should consider the costs and the lead times necessary to construct, extend or upgrade infrastructure to meet growing demands.”

The development of the proposed wind farm is consistent with, and serves to progress, the cited provisions of the Regional Strategy. Further, estimates provided by the proponent company suggest that the installed capacity (maximum output) of the proposed 96MW (based on the use of Siemens SWT-3.0-101 turbines) should meet the average annual power needs of approximately 59,690 South Australian households; and displace approximately 284,934 tonnes of carbon dioxide per annum (i.e. approximately 5,698,680 tonnes over the 20-year operational life of the wind farm).

Further, the following strategy is presented under the key issue heading of Economic Activity.

“Develop an active tourist industry based on regional diversity, landscape character and pioneering heritage through enhancing tourist facilities and products for visitors to stay longer in the Mid North.”

We believe that it is likely that the proposed wind farm, being a relatively unique form of development, will attract the interest of the local community and tourists alike. Information provided by the proponent company regarding the appeal of, and visitation rates to, existing wind farms at other sites within Australia, including Starfish Hill (South Australia), Esperance and Albany (Western Australia), Windy Hill (Ravenshoe, Queensland), Crookwell and Blayney (New South Wales) and Codrington (Victoria) suggest that the proposed wind farm should become a popular tourist destination, and an eco-tourism resource for the region.

In view of the above, we consider the subject development proposal will add to the tourist attractions within the locality and region and, as such, should serve to promote tourism in accordance with the Regional Strategy.

5. PUBLIC NOTIFICATION CATEGORY

Following consideration of the subject development proposal in the context of the provisions of the Development Act 1993, the Development Regulations 2008 and the Goyder Council Development Plan (consolidated 3rd June 2010) we have determined that the proposal constitutes:

- neither a complying nor non-complying form of development (refer Schedule 4 of the Development Regulation 1993) and, as such, must be assessed on its merits; and
- possibly a Category 1, but most likely a Category 3 form of development (for the purpose of public notification) by virtue of the provisions of Schedule 9 of the Development Regulations 2008.

Clause 2(1)(f) of Schedule 9 of the Development Regulations 1993 assigns Category 1 status to a development which comprises:

“a kind of development which, in the opinion of the relevant authority, is of a minor nature only and will not unreasonably impact on the owners or occupiers of land in the locality of the site of the development”.

We consider the proposed land use is unlikely to unreasonably impact upon the owners or occupiers of land within the locality, given the nature of the proposed development, the existence of similar land uses within the locality and region, and the fact that a wind farm has previously been approved for the subject site. However, whether it constitutes development of a minor nature is questionable and a matter for determination by the relevant planning authority.

Notwithstanding the above, our expectation is that the Regional Council of Goyder will likely opt to process the development application as a Category 3 form of development (for the purpose of public notification) so as to afford the local community the opportunity to express their opinions.

6. CONCLUSION

International Power (Australia) Pty Ltd proposes to develop a wind farm comprising thirty seven (37) wind turbines and ancillary structures on land located to the west of the township of Hallett in the mid-north of South Australia. Planning consent was previously granted (November 2004) for the development of a wind farm upon the subject land, but the current proposal seeks to expand the wind farm (additional eleven turbines); relocate a number of previously approved turbines; and increase the height of the turbines.

The subject land is located in the Primary Production Zone of the Regional Council of Goyder wherein the retention of farming is the primary objective.

The subject development proposal has been assessed against the provisions of the relevant sections of the Development Plan, so as to determine the appropriateness of the proposed use of the subject land; and to identify any likely social, economic and/or environmental impacts.

We have formed the opinion that the subject land development proposal represents an appropriate, rational and practical form of development for the subject site and locality. In forming this opinion we were mindful that:

- a wind farm of the magnitude proposed is more appropriately located in the open rural landscape rather than in a built or urban environment;
- the subject site has previously been deemed by the relevant planning authority to be appropriate for the development of a wind farm;
- wind farms already exist within the wider locality and region;
- despite the establishment of the proposed wind farm, approximately 98.3% of the subject land will continue to be made available for agricultural/farming land uses, in keeping with the primary objectives of the Primary Production Zone;
- the subject development proposal complies with the intent of the Council-wide provisions of the Development Plan that specifically relate to renewable energy;
- Ecological & Biodiversity Services Pty Ltd has undertaken another ecological survey of the subject land, the findings of which have enabled the proponent company to make specific planning decisions so as to protect the local flora, fauna and habitat values of the project site and locality;
- the various sites of the proposed turbines and ancillary buildings are, in the main, located within open grazed paddocks which generally comprise pasture species of low conservation value;
- there are no registered or known sites of Aboriginal or European heritage significance within the project site;
- the proposed wind turbines are slim line in design, are dispersed over an expansive area, and will not be erected within close proximity to any neighbouring dwellings, thereby reducing the potential for any detrimental impacts;

- there are no activities associated with the day-to-day operation of the proposed wind farm which should hinder the continued use of the subject land for agricultural purposes, or detrimentally impact upon the environment or natural landscape within the locality;
- physical and visual impacts during the construction of the proposed wind farm can be minimised utilising appropriate site management practices;
- the proposed wind farm is a passive form of development which does not place any significant demands upon public utility services, nor does it produce any greenhouse gas emissions, waste water or waste products;
- the subject development proposal neither purports, nor requires, the removal of any significant native vegetation;
- very few traffic movements will be generated as a consequence of the day-to-day operation and management of the subject development proposal;
- the subject development proposal is in accord with the Planning Strategy for Regional South Australia, in particular the provisions which specifically relate to infrastructure and energy;
- the subject development proposal may improve the economy of the region, through the creation of additional employment opportunities (construction and maintenance stages) and the attraction of tourists (as an eco-tourism facility), whilst the provision of a safe, reliable and clean electricity supply may assist in the attraction of additional investment and development;
- the proposed wind farm will result in the generation of significant amounts of electricity for supply to the national electricity market; and
- the subject development proposal complies with the provisions of the Australian Renewable Energy Policy; the Renewable Energy (Electricity) Act 2000, and the South Australian Sustainable Energy Policy.

The subject development proposal complies with the relevant Objectives and Principles of Development Control, as contained within the Goyder Council Development Plan; and is consistent with the relevant planning strategies pertaining to regional South Australia. Further, the subject development proposal should have minimal affect upon the amenity and/or character of the locality.

Accordingly, we have formed the opinion that the subject development proposal exhibits considerable merit; is, on balance, an orderly and proper development; is unlikely to be subject to reasonable objection; and will not create any significant environmental impacts.



Craig Rowe MPA

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