

03.06.2020

Attn: Director, Energy Assessments

Planning and Assessment

Department of Planning,

Industry and Environment

Locked Bag 5022

Parramatta NSW 2124

RE: Rye Park Wind Farm SSD 6693 Mod 1

Dear Sir/Madam,

I am writing in regard to application Number SSD 6693 Mod 1

I do not support the Amended Application to

- the tip height increase from 157m to 200m
- transport route for heavy and over-dimensional vehicles
- revised development footprint

I do support the proposal to reduce the number of turbines but only if the height remains at 157m or less. However the reduction of only 12 turbines whilst increasing the height nearly another 50m is not an improvement.

The Wind energy facilities at Rye Park will lead to unacceptable impacts on environmental (including flora and fauna), cultural (human wellbeing), landscape values, amenity of the local area. Wind farms will impacts on nearby property owners/occupiers, road users and wildlife.

The increase height of the turbines will also mean an increase width of the stanchions and pad that sits on the ground and increased depth of the footings into the ground.

VISUAL AMENITY

High degree of visual impact of wind energy facility on residences, due to visual impact of:

- Current ridgeline is extensively wooded and bushland - it is not generally cleared land. The change in impact from a wooded bushland view to that of a ridge with turbines, building, roads will have extreme visual impact. Views of aerial photos show that the ridgeline is a rare example of uncleared land.
- the locations and distances from which the development can be viewed from residences in Rye Park. The increased height will further impact the visual amenity
- the high visibility of extensive number of wind turbines proposed along adjacent ridge line visual impacting residences. The proposed reduction from 92 to 80 marginally improves the visually impact (ie. only 12 turbines are proposed to not proceed).
- Visual impact due to height impact (increased impact due to height of ridge with proposed height of turbines on top of the ridge),
- Visual impact due to scale (proposal for tall turbines and minimal spacing): change from sylvan bushland view to visual clutter of man-made objects
- colour and surface reflectivity of the wind turbines
- the removal of existing vegetation

- the location and scale of other buildings and works including transmission lines and associated access roads
- Impact of night lighting that is required for safe operation of a wind energy facility and for aviation safety

South Australia Statewide Wind Farms Development Plan Amendment (DPA) Principal of Development Control 15: "Development should not detract from the natural and rural landscape character of the region"¹.

MITIGATION BY PLANTING IS NOT APPROPRIATE

The residences face rural and sylvan views of the ridgeline / valley as well as the view to a rural setting to the south east. The ridgeline where the proposed turbines will now have 200m high turbines.

Visual mitigation by planting tall trees will be ineffective and inappropriate. Planting of trees to the east and north will block morning and midday sun and block existing distant views. They will not block the turbines on the ridgeline

FAUNA

Local Birdlife identified: eagles, falcons, king parrots, finches

- concern that loss of local habitat will affect bird species as the existing bushland on the ridge will be home to extensive range of species

Western Australian guidelines states: *"The impact of wind farms upon birds: The cumulative effects of wind farms may have an impact on the migratory routes of certain bird species. Solid towers and round nacelles prevent birds from nesting in the structure. The positioning of turbines away from migratory routes and the use of larger, slower turning turbines, may reduce the risk of avian strikes."*²

VEGETATION: Impact due to Modification of vegetation, soils and habitats by clearing of land to get the large structures up onto the ridge, excavation of sites for creating deep footings, concrete pads to be built to hold the turbines as well as building access roads wide enough for the tower itself (as it's diameter needs to be wide enough to support the weight of the blades)

The image below shows the size of a footing pad for a 200m high wind turbine. It illustrates the immense scale of land that will be cleared and excavated to construct this base / footing of up to 20m wide / diameter with the central pedestal approximately 6m wide. The Tower needs to be wider than the pedestal (so impacts road widths, street corners / turning circles and access through small bush roads. The impact of this construction on vegetation and wildlife will be very high.



Image from <https://www.i-q.net.au/main/massive-foundations-for-200m-wind-turbines>

Evidence of the quantity of material that needs to be brought to site and the need to work at night for concrete pours is provided by this quote from Nacap regarding the Kennedy Energy Park in Queensland:

"Nacap Australia is well advanced in pouring the concrete foundations for wind turbine generators at the \$160 million Kennedy Energy Park at Hughenden.

Nine of the 12 WTG foundations are now in place, using 20,000 tonnes of concrete, 808 tonnes of steel reinforcing and 7500 tonnes of sand. Each foundation will support a 200m high wind turbine.

"Actually laying the foundations for our WTGs is a ground-breaking milestone," Nacap president Matthew O'Connell said.

"The pouring starts at 3:30am – the coldest time of the day to assist the cement to cure properly. This process takes between 8-10 hours for each foundation."

*Building each foundation involves the excavation of more than 3610 tonnes of earth, the use of 1680 tonnes of concrete and more than 67 tonnes of steel reinforcement."*³

The Following link also discusses the foundations and footings for wind turbines based on the subsoil and geological makeup of the land

The soil and Rock geological components will impact the type of footings that can be used. That is, rock or competent soil: Shallow concrete "inverted tee" mat foundations which are cheaper to build, however on weak or soft soils (bearing capacity or stiffness too low, settlements too high) the footings need to be far deeper. The ridge locations will mean that deep excavation is required to get down below weaker soils. These are more expensive, have more impact on the land and require more materials to build (impact roadways to transport the materials).⁵

Landscape

The features of the landscape include:

- the topography of the land : ridgeline, valleys, distant views to rural area
- the amount and type of vegetation : native bushland at ridge, rural usage at valley
- natural features such as hills, gullies and valleys : erosion impact
- flora and fauna habitat

Impact of wind turbine construction, installation and ongoing usage will result in

- Direct removal of native vegetation and habitat due to construction for turbine tower footings, tracks and other infrastructure
- disturbance and vegetation clearance and
- will cause erosion,
- destabilise topsoil and existing vegetation on lower slopes
- drainage run-off,
- disturb water quality for existing creeks / rivers,
- habitat or food source destruction,
- potential for introductions of weeds to the local area,
- introduction of feral animals
- increase in bushfire risks : more people accessing wind turbine facilities, increase in quantity of power lines
- traffic impacts on local dirt roads of the proposal during construction and delivery of materials

Western Australian guidelines states : *“As a general principle, steep slopes and ridgelines should be avoided.”*²

Construction and Maintenance Phases

Residence located on Rye Park Road close to junction with road connecting to Yass.

- Noise and traffic impact of increased truck usage on dirt road during construction phase. impact:
- Native fauna casualties resulting from construction activities such as increased number of local fauna being killed on roads (kangaroos, wombats, wallabies)
- Need for road and intersection upgrades to accommodate any additional traffic or site access requirements. Need detailed engineering plans showing the required works, the timing of when the works are to be undertaken
- Hydrocarbon and hazardous substances: potential waste issues
- The transport of equipment and freight to the site should be carefully managed and may need to be co-ordinated with adjacent local governments. If ongoing disruption to traffic is likely to occur, police escorts may be required for the transport of large turbines.
- Site clearance works, earth moving, cutting, filling and stockpiling of topsoil should be kept to a minimum wherever possible.
- Once turbines are in operation, there may be vehicles based continuously at the site.
- When a site is decommissioned, the demolition work will need to be managed and the site should be reinstated to its original use and condition, or other agreed use
- Dilapidation reports of local infrastructure, adjacent properties to be compiled by independent consultants.

Drainage

The design of the footing needs to consider drainage requirements. Excessive drying (eg. in drought conditions) can cause shrinking settlements. There is the potential that the turbine can then fall over. Drainage away from the footing is required to reduce ponding - impact surrounding areas.

Noise

Concern that the proposed taller wind turbines will be create more noise due to larger wind turbine generators to propel the larger blades through the air as well as sound of the blades moving through the air.

Request to reduce the height of the blades

Request post installation noise compliance be monitored and demonstrated by a qualified and certified acoustic engineer.

Blade glint

Concern that proposed taller wind turbines will cause blade glint from the sun reflecting from turbine blades when low sun from west at winter solstice

Shadow flicker

As turbines are proposed to the East of dwellings at southern section, and that the proposed taller wind turbines on the adjacent ridge, there is concern that shadow flicker will result from the position of the sun in relation to the blades of the wind turbine as they rotate. This occurs under certain combinations of geographical position and time of day.

National Windfarm development Guidelines state :*“The shadow flicker experienced immediately surrounding the area of a dwelling (garden fenced area) must not exceed 30 hours per year as a result of the operation of the wind energy facility”*⁴.

Economic and Social Impact

Yass is in close proximity to Canberra, ACT and is growing as a satellite commuter town. There will be future population growth in this region and potentially changing land use with the increase in population. The great number of proposed wind farms in this area will create a division in the social fabric of this local community.

High negative Social impact on local community: hosts versus non-host land owners and financial impacts

Rental Payments from wind farm operators to “Host” land owners will result in the value of their land increasing as the payments are so high that that will mitigate the environmental impact. (Note that individuals should declare if they are a “Host” or not when working in community lobby groups) In contrast, there is a negative impact on property prices for adjacent land owners due there being no financial incentive to them and they have the adverse visual and environmental impact of being located adjacent to the wind farms

Major financial impact on Australian taxpayers as the majority of funding to build the wind turbines is coming from RECs (that money comes from the Federal Government through taxes that Australians pay) not from actual power charges to end users or costs incurred by the developer. Other forms of renewable electricity are being developed that are less impactful than wind farming in these small hilled locations.

This Wind farm’s proposed height increase will impact natural landscape and wildlife, the roads are not adequate for the proposed size of the turbines and the nearby property owners/occupiers will be both impacted visually and lead to community division.

I declare I have not made any reportable political donations in the previous two years.

References

¹ <http://www.renewablessa.sa.gov.au/proponents-guide/wind-farms>

² Western Australian Planning Guidelines, Western Australian Planning Commission, Bulletin 67 2004 http://www.planning.wa.gov.au/dop_pub_pdf/pb67may04.pdf

³ From Website (<https://www.i-q.net.au/main/massive-foundations-for-200m-wind-turbines>)

⁴ Policy and Planning Guidelines for development of Wind energy Facilities in Victoria; Victoria State Government, Environment, Land, Water and Planning JANUARY 2016

⁵ FOUNDATIONS FOR WIND TURBINES ENGR 340 – Fall 2011 Jeramy C. Ashlock Assistant Professor, CCEE Vern Schaefer Professor, CCEE