



1st September 2015

Mr Mike Young,
Department of Planning & Environment,
23-33 Bridge Street,
Sydney, NSW 2000

Application Bodangora Wind Farm - Modification (Blade Length)

Dear Mr Young,

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Project Background

Bodangora Wind Farm is a proposed wind farm development located approximately 2 km north-east of Bodangora and 15 kilometres north-east of Wellington, in the Wellington local government area. Bodangora Wind Farm Pty Ltd (the Proponent) received approval from the NSW Planning and Assessment Commission for the construction and operation of Bodangora Wind Farm on 30 August 2013. Approval was granted for 33 wind turbine generators (WTGs) and associated electrical and civil infrastructure.

The maximum turbine tip height (tower height and blade radius) approved for Bodangora Wind Farm is 150 metres. The approval includes a blade diameter of up to 114 metres and a tower height of up to 100 metres.

Proposed Modification

The Proponent seeks approval to increase the WTG blade diameter from 'up to 114 metres' to 'up to 130 metres', whilst remaining within the approved maximum WTG tip height of 150 metres. This would result in each blade being up to 8 metres longer than currently approved, with the blade diameter increasing by up to 16 metres.

The tower height will remain at 'up to 100 metres'. To the extent that longer blades are used, the tower height will reduce accordingly to remain within the 150 metre approved tip height, e.g. for every 2 metre increase of blade diameter over 114 metres (up to 130 metres), the tower height (100 metres) will reduce by 1 metre. A 130 metre diameter blade will therefore require a tower height not exceeding 85 metres.

Justification

Significant improvements in WTG technology have occurred since the original Project Approval was received in 2013. WTG technology has evolved towards longer blade lengths to increase generation efficiency and therefore electricity production. The increase in electricity production results in a lower cost of energy and assists the NSW Government meet the objectives of the NSW Renewable Energy Action Plan, 2013 and the NSW 2021 plan of reaching a renewable energy target of 20% by 2020.

Potential Impacts

The Proponent and independent environmental consultants have reviewed the potential impacts associated with the proposed modification. The findings are summarized below with supporting documentation attached.

Visual Amenity

Bodangora's visual impact will not be increased as a result of the proposed modification. The planning approval permits a tower height of 100 metres, a blade radius of 57 metres and a tip height of 150m. The proposed modification will not increase the tip height.

Increasing the approved blade radius by 8 metres to a length of up to 65 metres will simply lower the tower height. Given the maximum tip height is not changing every 1 metre of blade radius in excess of 57 metres, will require the tower height to reduce by 1 metre. For instance, a 65 metre blade would require the tower height to reduce to 85 metres.

The nearest non associated dwelling to the project is located at a distance of 2.09km to the nearest turbine. There are 15 additional non associated dwellings located within 5km of the turbines. The list of associated and non-associated dwellings and their distance to the nearest turbine is provided as Attachment 1.

As part of a previous modification assessment for a blade increase the proponent provided a photomontage comparing a 114m blade with a 126m blade from a viewpoint located at a distance of 1.6km and 2.6km. The results of this photomontage are attached as Attachment 2. There is no perceivable difference in such a blade increase at 1.6km and 2.6km. This perception would decrease at the other non-associated dwellings whose distance is greater than 1.6km.

Flora and Fauna

The impact on avifauna is negligible as the total turbine tip height remains within the approved planning envelope of 150 metres. Kevin Mills, who prepared the initial flora and fauna study for Bodangora Wind Farm, has reviewed the proposed modification and provided further information regarding any potential impact on avifauna given the proposed 16 metre increase in blade diameter. The analysis is included in Attachment 3.

Taking into account the bird survey data collected in 2011 and presented in the attachment, 97% of all bird observations were recorded at 20 metres and below. 3% of observations were recorded at heights between 20-50m. Of those species observed at these heights no threatened species were recorded and the species that were recorded are common and widespread species.

Kevin Mills concluded that the potential impacts on bird strike with an increased blade length of 130m remain the same as the potential impacts on bird strike with the approved blade length of 114m.

Noise

The proponent is not seeking a change in its noise conditions (F7) as a result of the modification application.

Bodangora Wind Farm must comply with certain noise limits as outlined in the Project Approval Conditions of Consent issued in 2013. To comply with the requirements of Consent (F8), a final noise impact assessment demonstrating compliance will be provided to the Department for approval prior to project commissioning.

Approval of this modification will have no impact on the Proponents ability to comply with the noise related conditions of consent. Evidence of this is provided as Attachment 4.

Transport

Bodangora Wind Farm must prepare and implement a Construction Environmental Management Plan (CEMP) in accordance with the Project Approval Condition of Consent E20. To comply with this requirement the CEMP must be prepared in consultation with the NSW Office of Environment and Heritage and submitted for the approval of the Director General prior to construction.

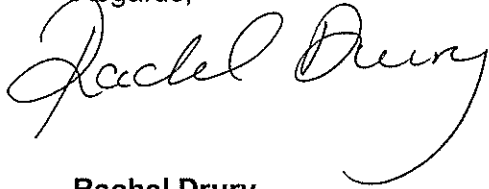
As a subset of the CEMP, Condition of Consent E21c requires a Construction Traffic and Access Management Plan to be developed in consultation with the relevant road authority. This plan will address the requirements of Roads and Maritime Services, Council, the Primary Industries Division of TIRIS and any other relevant road authority. It shall include details of any upgrade requirements to accommodate project traffic for the duration of construction (including intersection treatments, vehicle turning requirements and site access), considering traffic volumes and demonstration that all statutory responsibilities with regard to road traffic impacts have been complied with.

For the purposes of approving this modification the Proponent has completed a transport route assessment for a blade length of 130m which is provided for as Attachment 5.

Conclusion

The overall impacts of the proposed modification for Bodangora Wind Farm are negligible. The attachments provide evidence that there are no additional impacts associated with visual impact, noise, fauna and transport for a 130m rotor diameter. The positive impacts of the proposed modification however, include increased renewable electricity production. The increased production of renewable electricity will help the NSW Government meet the objectives of the NSW Renewable Energy Action Plan, 2013 and the NSW 2021 plan of reaching a renewable energy target of 20% by 2020.

Regards,

A handwritten signature in black ink, appearing to read "Rachel Drury". The signature is fluid and cursive, with a long, sweeping underline.

Rachel Drury
Development Manager

Attachments

1. List of associated and non-associated dwellings
2. Visual Impact Assessment blade increase from 114m to 126m
3. Fauna Impact Assessment Kevin Mills
4. Noise Assessment
5. Transport Route Assessment