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Department of Planning Industry and Environment NSW
Hills of Gold Windfarm
Application Number SSD-9679
EPBC ID 2019/8535
4 Parramatta Square
12 Darcy Street
PARRAMATTA NSW 2150

Dear Madam/Sir

Hills of Gold Wind Farm

Submission Tamworth Ratepayers and Regional Residents Association (TRRRA)

Introduction

The TRRRA is a non-profit association whose charter is to represent to Tamworth Regional Council (TRC) and other government bodies on behalf of TRC residents on matters that affect their interests by any person, organisation or government body.

The below comments are made as a matter of public interest to assist Department of Planning Industry and Environment NSW in its decision making.

The TRRRA has been approached by Hills of Gold Preservation Inc in order to assess whether there are any issues in the application made by Hills of Gold Wind Farm in its EIS that we should make representation about.

In our view there are at least two substantial issues arising from the EIS and at least another major issue that we have formed a view that are not adequately addressed by the submission.

Preamble

TRRRA does not oppose the construction of Wind Turbine Generators (WTG) and is supportive of the positive environmental impact in mitigating climate change as the economy moves to a reduced carbon based energy usage. In this particular circumstance, we raise concerns about whether there are currently unrecognised negative impacts in the site chosen for the WTG.

1. **Hydrological Assessment**

   The first is the lack of a detailed hydrological assessment of what function the ridge upon the proposed windfarm is to be sited forms in acting as a water sink, storage or aquifer that has been historically regarded as the source of the Peel River, the Barnard River and Pages Creek that feeds into Hunter River. The local knowledge of residents and particularly that

assessment formed by former long-time local resident Brian Tomalin who lived in or adjacent to the affected area for 36 years raises the issue that an undetermined but at least significantly negative impact will potentially affect the water sink properties of the ridge line as result of the building, placement, access requirements and other ongoing activities related to the placement of the wind turbines. If such impact was significant it will affect the inflows in Tamworth's main water storage, Chaffey Dam. This is the issue foremost in the minds of many residents due to the impact on the City water supply that required emergency measures to ensure the city did not run out of water in 2019 and 2020.

2. Work Methods and Access

The second issue, is that the EIS does not contain details of the proposed wind turbine generator bases for the 70 turbines and the work methods or detailed proposals about the massive earthworks necessary to provide site access, construction pads, crane pads and laydown areas at each turbine site incorporating access for the Turbine components (particularly once leaving defined public access routes). The topography of the locations is difficult with steep longitudinal grades and severe cross falls. The geotechnical properties of in situ soils is not reported. The EIS Appendix G Traffic and Transport Assessment advises the Turbine blades as being optionally 65m or 82m, the latter being untried on any of the haulage route which in parts has passed 67m lengths for other wind farm projects. The terrain where the wind turbines are to be sited, as advised by Brian Tomalin are historically unstable and when absorbing water after rains, there can be and often are slippages. Construction of the base states it will be 25 metres in diameter and a typical gravity foundation of 3-5 metres deep (page 42 EIS). It would appear that this is likely to be incorrect and will require substantial piers to be sunk under each WTG pad and it might be 15 metres or more due to the loose and unstable terrain on the ridgeline. The impact on water absorption into the ridge, that may be a major recharge for the Peel River, the Barnard River and Pages Creek that feeds into the Hunter River and the ongoing stability of the WTG structures themselves, is questioned. Related to this second issue is the whether the dimensions of the roads will enable access to the sites for reach of the 70 WTG, given that each blade will be approximately 65 or 82 metres long each. While it is noted that Appendix G Traffic and Transport Assessments states that some of the roads are used by forestry trucks on route to the intermodal terminal at Werris Creek (P.9) the question is raised whether the existing roads are capable of providing access during that part of the construction phase. It is also suggested damage to roads or the surrounding environment should not be contemplated, particularly if the Federal State or local government will be bearing any such costs. It is noted that some upgrade to Morrisons Gap Road and Head of the Peel Road are contemplated, but are not detailed in any way (EIS P.79).

The details involved in construction form an integral part of determining disturbance necessary to construct the works and hence the Environmental Aspects arising. In particular, thought needs to be given to cut/fill profiles longitudinally for access grades in terms of haul steepness and profile to suit the haulage equipment and loads. (For an appreciation in terms of haul grade the New England Highway Murrurundi Range and Moonbi Ranges are considered difficult. The side cuts and geotechnical stability are well known).

The geotechnical aspects of transverse cut/fill (sideslope) to achieve the required longitudinal access grades require detail thought and design. If as local knowledge suggests, the materials encountered are of poor quality then cross batters need to be flatter (less steep) than for more competent materials. Appropriate thought needs to be given to providing a safe shoulder width to cater for Oversize Size Over Mass (OSOM) wheel tracks (including swept path) and loads to avoid shoulder collapse. The point being made is that if for example

a trafficable wheel path width of say 6.0m is required plus a 2.0m shoulder width say on a 1.5m deep side cut, the affected width allowing a 1 in 3 batter (1H:3V) could be at minimum 6.0m wheel path + 2.0m shoulder+1.5m drain on cut batter plus 2 sides batter at 3 x 1.5m = 18.5m wide disturbed swathe a multiple of 3 times the wheel path width. Thus the disturbed area can easily be a multiple of the actual trafficable width. This is dependent on the interaction of the natural cross slope existing with the design batter slopes – this can quite easily "run away" in certain situations.

Contemporaneously RMS Specification R44 Earthworks is probably the reference standard for road construction. This requires terracing on side slopes steeper than 1V:4H. Additionally access will be required to perform such work again multiplying the disturbed area. Such considerations will thus knock on into Environment and Biodiversity Impacts (3) below.

Whilst such access may be deemed temporary in terms of constructing the turbines, in the longer term decommissioning is part of the work scope and hence the design will need to consider a degree of permanency.

Performing this work in severe terrain is difficult and management of erosion and siltation will also be considerably more difficult than many constructors would normally encounter.

In terms of the sensitivity of the proposed works area and the impacts on Environment and Biodiversity it is considered that a "work it out as we go approach" mooted under the guise of future Detailed Design is inadequate in this particular situation. Detailed survey and geotechnical evaluation need to be conducted in order that a competent design may be devolved and work carried out in an orderly and planned fashion versus "working it out in the field as you go".

Another aspect of constructing Wind Turbine Farm access is that earthworks volumes are dictated by longitudinal access grades rather than a more usual balance of cut to fill. Typically this ends up being a typically large imbalance of surplus cut (spoil) which requires disposal somewhere. Accordingly suitable locations need to be selected and adequate engineering provision applied in order that this spoil does not contribute to drainage, erosion and sedimentation issues long term.

In summary detail survey, geotechnical and investigation leading to a competent design is missing from the EIS proposal as provided for comment. The provision of such information is a fundamental element of the ability to develop work methods necessary to construct the works and is a fundamental element in the determination of the construction program and construction costs.

3. <u>Environmental and Biodiversity Impacts</u>

The third issue is the environmental impacts. The land use as designated in the EIS (P.80) states that the land is for agriculture purpose, noting clearing for agricultural utility. The ridgeline sits in the middle of a large area of biodiversity with Ben Halls Gap Nature Reserve adjacent to one section of the proposed WTG development and while the EIS suggest biodiversity constraints and impacts it does not describe what they may be in detail (for example EIS PP.85-90). Related to the biodiversity issues is the potential impact on aquifers and unforeseen impact on the catchment for the Peel River, hence the Chaffey Dam and as previously mentioned the Barnard River and Pages Creek.

Conclusion

We request that the following be undertaken:

1. A full hydrological report of the site ridge line and an assessment of the ridgeline and surrounding catchment areas role as a water source for the Peel River (and Chaffey Dam) and the Barnard River and Pages Creek.
2. It is noted that despite a range of consultation having been attempted (Water NSW recorded as not responding) and Tamworth Regional Council having made no comment on matters water. It is our request that this important matter be re-visited with all who may be affected by work in their water catchments.
3. Detailed construction plans and access and including a better assessment of what the pier support of the WTG is going to be and the hydrological and soil stability impacts of such construction methods.
4. The impact on biodiversity and the effect of those impacts on the Peel River (and Chaffey Dam) and the Barnard River and Pages Creek and catchments.
5. A determination by the Planning Panel as to the robustness (based on the above 3 points) of the proposal development given the companies involved may by omission be inadequate for their investors by way of a poorly developed proposal EIS which is certainly deficient in terms of investigation, design and constructability aspects having a large influence on construction costs program and risk in the current format.

Yours sincerely

Robyn Lang
Secretary

Cc: Tamworth Regional Council
Tamworth Regional Council Councillors