



ROBERT CROUCH

COMMENT

Submission No: 164058

Organisation:		Key issues: <i>Biodiversity, Social and economic</i>
Location:	<i>ROCKY RIVER, 2358, NSW New South Wales 2358</i>	
Submitter Type:	<i>I am a member of the community with a view about the proposed development</i>	
Attachment:	<i>Crouch Thunderbolt Wind Farm March 2024.docx</i>	

Submission date: 3/15/2024 7:46:06 AM

See attached file

**Independent Planning Commission Public meeting, Kentucky 14 March 2024:
Thunderbolt Wind Farm SSD-10807896
Dr Crouch on Sediment and Erosion Management and Decommissioning**

I am providing this additional submission at the request of the Commissioners following my presentation at the Kentucky Public Meeting. As a councillor I had the opportunity to raise my wider concerns and discuss the application with the Commissioners at a meeting with Councillors on 11 March 2023.

I am presenting this submission as a concerned member of the community, not as a councillor. I have focussed this submission on my key area of expertise and experience, sediment and erosion management and the need for a decommissioning bond.

My Credentials: MScAg., PhD focussing on erosion rates and processes. 30 years a Soil Conservationist, Research, employed by the NSW Government; leaving in 1999 as Director Research and Technology to go consulting in Canberra. Since then, I have been farming, near Bundarra, Member and Chair of the Border Rivers Gwydir Catchment Management Authority and a Councillor on Uralla Shire Council.

SEDIMENT AND EROSION MANAGEMENT

I am concerned because this project will have more than 50km of two-lane gravel roads, plus large areas that will be exposed for turbine foundation construction in a footprint of less than 6000ha.

I am concerned because sediment and erosion control is dismissed with one sentence

“Unless an EPL authorises otherwise, the Applicant must comply with section 120 of the POEO Act”

Operating Conditions then go on to specify

B20. The Applicant must:

- (a) minimise erosion and control sediment generation*
- (b) ensure the wind turbine pads, ancillary infrastructure, access roads and any other land disturbances have appropriate drainage and erosion and sediment controls designed, installed and maintained in accordance with Best Practice Erosion and Sediment Control (IECA, 2008) and Managing Urban Stormwater – Soils and Construction Volume 2C Unsealed Roads (DECC, 2008), or their latest versions;*
- (c) ensure all waterway crossings are constructed in accordance with the Water Guidelines for Controlled Activities on Waterfront Land (DPE, 2022), unless DPE Water agrees otherwise;*
- (d) ensure the concrete batching plants and substation are suitably bunded; and*
- (e) minimise any spills of hazardous materials or hydrocarbons, and clean up any spills as soon as possible after they occur.*

I am concerned because I don't know what the Land and Environment Court would consider "minimise", and "appropriate" to mean.

I am concerned because the project area, properly described as steep and highly erodible by NSW DPIE, and in the EIS, is in the headwaters of two important streams, Roumalla Creek and the McDonald River. Both are known to contain Bell's turtle and platypus along with other endangered species.

"Soils and Surface Water Quality As discussed in Section 6.9.2, the soils within the Project Area are highly erodible and some of the subsoils have the potential to be dispersive. The steep gradients across the Project Area and the infrastructure (access tracks and cables) that will cross streams further add to the potential for erosion of soils and the subsequent pollution of surface water resources. It should be noted, however, that the extent of disturbance is small when compared to the overall Project Area which limits the overall potential for erosion related impacts."

Threatened species | NSW Environment and Heritage

I am concerned because the Biodiversity studies effectively dismiss aquatic biodiversity as not significant, because the drainage lines within the catchment had "no permanent water". This is wrong, straight out wrong. Erosion from this site will have an impact and may have a catastrophic impact. The impact of erosion will be downstream of the project. There will be some local impact if erosion leads to local sedimentation, but the main impact on threatened species will be downstream.

Page 7, 6th dot point in executive summary: *"Impacts to the aquatic habitat within the Project Area will be minor and generally restricted to impacts associated with the construction of crossing over the tributaries. Impacts associated with construction and water quality will be controlled through the implementation of proposed erosion and sediment control mitigation measures"*

Despite the applicant being required to conduct:

- *assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities and a description of the measures to minimise and rehabilitate impacts.*

The assessment was limited to within the footprint. With the potential off site impact this is a major oversight.

"6.4.2.4 Aquatic Habitats The Development Corridor intersects Pine Creek (3rd order) and Spring Creek (4th order). These two tributaries were observed to be intermittent flowing streams with patchy vegetation instream that has created areas of standing water. Both creeks have exposed habitat features such as rocky banks and a mixed exotic and native sedge/grass cover along each bank. Canopy cover was generally absent from the two creeks during survey where they intersect with the Development Corridor but was observed to persist along Pine Creek in areas where amphibian surveys were undertaken outside the Development Corridor. Several un-named, ephemeral, first and second order tributaries also occur within the Development Corridor. These are degraded drainage lines that have been subject to ongoing pastoral and agricultural disturbances, and do not provide high quality habitats for threatened flora and fauna species. Neither the Development Corridor nor the Project Area support aquatic habitat identified as threatened Freshwater Fish Communities, Key Fish Habitat or Species Habitat as listed and mapped by Department of Primary Industries (DPI)"

These intermittent streams drain into the major rivers in the Nandewar and New England Tablelands Bioregions. Streams that contain a number of endangered species including Bell's turtle and platypus. Iconic species that are sensitive to turbidity and sediment.

[Threatened species | NSW Environment and Heritage](#)

The impact of soil erosion from these steep erodible slopes will affect stream sediment load and turbidity 10s if not 100s of km from the site. When this impact happens it will be immediate, and it will also be long term. There is currently a slug of sand in the Gwydir approaching Bundarra. Sand resulting from goldmining around Uralla 150 years ago. The progress of this slug down the river changes the ecosystem in the river from stable medium gravel, that platypus like, to unstable sand. We do not want a similar event from this project.

The consultant recognises:

"Parts of the Project Area is prone to erosion particularly along water courses and erosion and sedimentation are considered the primary risk to soil and surface water resources for the Project during the construction phase." However, they believe "This risk can be readily managed through the implementation of appropriate erosion and sediment control."

The roads are a major erosion risk. Studies in urban and forest development areas in the 1970's and 80's showed clearly that gravel roads, particularly during development, were the major source of sediment. Even compared to slopes cleared and ripped for tree establishment. Table drains and the associated mitre drains, unless properly protected in this highly erodible country will erode. Just to reinforce this point Roads and Maritime Services have recently spent a heap of \$s completing works on the New England Highway immediately adjacent to this construction site to effectively manage soil erosion beside the highway.

I would not expect the applicant to go to similar extremes, but erosion control on this site will be expensive and it must happen. The best way to ensure it happens, as well as inspections, is to put in monitoring equipment with mandated reporting of exceedance. Similar to the conditions included in the licence conditions for council landfill and sewerage treatment works and conditions for mine sites. The potential impacts from the council facilities are miniscule compared to the potential impact from this site.

These days automatic monitoring is not difficult or expensive, so it should not be seen as an onerous condition.

The installation of monitoring stations in the streams, say 1km below, or even at the boundary of the project footprint, along with mandatory reporting to the State Government should be included as a condition in the development consent. This information could also be used to inform the Independent Environmental Audit to assure our community that the impact has been as low as described in the EIS.

DECOMMISSIONING.

As a soil conservationist, doing design of erosion control works for difficult situations I did a lot of work on derelict/abandoned mine sites. Most of these sites predated environmental assessment and management as we now know it. This work was paid for by the State because the companies that had mined had walked off.

That is why bonds were introduced.

Anyone working in the field can see that is what is going to happen with the renewable energy infrastructure. The companies that, just happen to own the infrastructure at end of life will not have the resources to restore the sited. No amounts of words in contracts or conditions of consent will ensure site restoration and rehabilitation if the resources are not available. Who will we hold to account, the multi billionaire directors in France who effectively own the derelict infrastructure, or, in this instance, the directors from China who own the land?

Whilst I don't want to be alarmist, I urge any host landholders to ensure your contracts contain bonding provisions, because the State government does not appear to want to look after your interests. Otherwise, you compromise your intergenerational equity.

To dismiss this as a landholder responsibility without giving the landholders the appropriate support, will, in hindsight, be considered gross negligence by our Government of the day. Does the Government and their advisors not understand why these companies are leasing the land and not buying?? They are thinking long term. We need to think and act along the same lines.

There must either be an up-front bond, or annual payments must made to trust funds within the State Government, to ensure decommissioning funds are available at end of life and are treated as an operating expense.

CONCLUSION

I ask you for two additions to the conditions of consent:

1. The requirement to install turbidity monitoring devices in the steams below this site. The devices to be associated with mandatory reporting.
2. The requirement of a decommissioning bond.