

October 27<sup>th</sup> 2023

**NSW Government  
Department of Planning and Infrastructure**

**RE: Central-West Orana REZ Transmission SSI-48323210**

To Whom It May Concern

We would like to submit an objection to the proposed Central-West Orana REZ SSI-48323210 development application. Our objection is based on the following:

Electromagnetic Radiation EMF  
Biosecurity  
Bushfire & Fire Risk  
Biodiversity  
Agriculture, Business, Local Economy

**Electromagnetic Radiation EMF**

High voltage electrical transmission lines, switching stations and substations emit electro magnetic radiation. The World Health Organization has stated in the document Electromagnetic fields and Public Health Exposure to extremely low frequency fields 2007, that directly under the powerlines magnetic fields can be 20uT and electric fields can be several volts per metre.

The document also states potential long term effects:

*This classification was based on pooled analyses of epidemiological studies demonstrating a consistent pattern of a two-fold increase in childhood leukaemia associated with average exposure to residential power-frequency magnetic field above 0.3 to 0.4  $\mu$ T.*

(reference: <https://www.who.int/teams/environment-climate-change-and-health/radiation-and-health/non-ionizing/exposure-to-extremely-low-frequency-field>)

Although many instances the EIS refers to material from the Australian Radiation Protection & Nuclear Safety Agency (ARPANSA). ARPANSA also acknowledges that there is research links between exposure of low frequency electromagnetic fields and leukemia in children.

*There is some epidemiological research indicating an association between prolonged exposure to higher than normal ELF magnetic fields (which can be associated with residential proximity to transmission lines or other electrical supply infrastructure, or by unusual domestic electrical wiring), and increased rates of childhood leukaemia.*

(Reference: <https://www.arpansa.gov.au/understanding-radiation/what-is-radiation/non-ionising-radiation/low-frequency-electric-magnetic-fields>)

In the EIS Technical Paper 12- Electro Magnetic Field Assessment Report it provides the measurement guides of Electro Magnetic Fields in the following structures:

**Figure 5** One Double Circuit 500kV Transmission Line Operating at 500kV Magnetic Field  
At 35m easement from centre  $4.5\text{A/m} = 6\mu\text{T}$

At 100m from centre zero measurement

**Figure 7** One Double Circuit 500kV Transmission Line Operating at 330kV Magnetic Field  
At 40m easement from centre  $6\text{A/m} = 8\mu\text{T}$

At 100m from centre zero measurement

**Figure 9** Two Double Circuits 500kV Transmission Lines Operating in Parallel

At 65m easement from centre  $4\text{A/m} = 5\mu\text{T}$

Up to 200m from centre zero measurement

**Figure 11** One 330kV Transmission Line Operating at 330kV

At 35m easement from centre  $2\text{A/m} = 3\mu\text{T}$

At 100m from centre zero measurement

**Figure 13** Two 500kV Transmission Lines with a 330kV Transmission Line Magnetic Field

At 100m easement from centre  $6\text{A/m} = 8\mu\text{T}$

Up to 300m from centre a zero measurement

**Figure 16** Merotherie 500kV Energy Hub

400m spread at  $5.54\text{A/m} = 7\mu\text{T}$

It is quite clear taking the guideline of 0.3-0.4 $\mu\text{T}$  and below as safe exposure levels; that:

1. The easements widths are far too narrow
2. People living and working along the easements will be exposed long term to excessive levels of EMF
3. Landowners with easements through their property will be at risk of extreme levels of EMF

Page 3 of document PS131898 Technical Paper 11- Preliminary Hazard Analysis is states:

*"... underground fibre optic communication cables along the 330kV and 500kV transmission lines between the energy hubs and switching stations"*

If the communication cables are going to be placed **underground** then clearly it would make sense to place the transmission lines underground as well. The cost involved would not necessarily be excessive as underground laying of communication cables are being undertaken.

**The benefits of laying the transmission lines underground at little increased expense would:**

1. **Negate any grey area for concern in terms of health from EMF exposure**
2. **Prevent damage to the area and to the grid from fires caused by the grid or bushfires**
3. **Allow landowners with easements to be able to use the affected part of their property for at least grazing.**
4. **Protect the native wildlife from injury or death from interaction with the transmission lines**
5. **Allow a narrower easement**

This must be a win-win.

## Biosecurity

As a landowner in the region and being a Primary Producer, biosecurity is a concern to the well being of our property, animals and therefore livelihood. In the EIS Technical Paper 2 – Agriculture Section 4.2 and 5.3, it identifies the areas of the proposed Central-West Orana REZ Transmission and biosecurity risks imposed. The project is expected to have a negative effect as outlined on biosecurity in the region.

Although outlined in Chapter 7 Mitigation Measures on how the impact on biosecurity will be minimised it does not state the following:

1. Who will be responsible for the cleaning and inspection of construction equipment?
2. If there is a biosecurity outbreak who is responsible for the cost to landowners and local businesses in managing the outbreak, the decline in revenue and other costs in rectifying the situation.

We all know that no matter what measures are in place to minimise biosecurity issues, it is not going to be 100% effective and will cause issues.

## Bushfire & Fire

EIS Technical Paper 10- Bushfire outlines the following possible causes of bushfires due to the proposed project:

### Construction Compounds

Ignition of vegetation by sparks from hot works/external cooling fires

Likelihood – MAJOR

High-extreme rating risk

### Worker Accommodation Camps

Likelihood – CATASTROPHIC

Extreme rating risk

### Construction activities within the project corridor

Ignition of grass by motors

Likelihood – MAJOR

High-extreme risk

### Transmission lines ignited bushfire

Likelihood- MAJOR

High-extreme rating risk

The project clearly increases the risk of bushfires. This is outlined on pages 50 and 51 in the EIS document Technical Paper 10-Bushfire Section 4.3. In Particular:

*Of note the research concludes that electrical fires have a propensity to become large fires compared to those from most other fire ignition causes, because they are more likely to occur when conditions are conducive for rapid fire spread. As such, the risk of bushfire ignition on days of elevated fire danger is high and the consequences are high.*

The extent of bush and the terrain combined with current dry and sometimes windy conditions a bushfire would be hard to contain and extinguish. Peoples lives, livelihoods, stock, property and the natural fauna and flora are exposed to a high risk of bushfire because of the undertakings of the project.

This is outlined in the Technical Paper 10-Bushfires Section 5.2 Potential Risk Considerations:

*The landscape potential of fires impacting the construction area during construction are significant. The broader landscape has significant potential to carry large scale and intense bushfires.*

## **Biodiversity**

The Central-West Orana REZ Transmission lines are a threat to critically endangered fauna and the flora they rely upon.

Technical Paper 4-Biodiversity Assessment Report Section 5.2.7 Regent Honeyeater

As stated the Regent Honeyeater is a critically endangered species. Its current range is located near the proposed site of the Central-West Orana REZ Transmission. However as also stated many of the plant species important to the Regent Honeyeater are also located in the proposed site. The removal of these important plant species will limit the possibility of the Regent Honeyeater inhabiting new areas and growing in population.

*Protecting this species alone must be due cause to reject the extent of the proposed project.*

Other SA II Entities (BAM-C & TBDC) also at great risk as stated are:

|                      |                              |                    |
|----------------------|------------------------------|--------------------|
| Large-eared Pied Bat | <i>Chalinolobus dwyeri</i>   | Very High Risk (3) |
| Eastern Cave Bat     | <i>Vespadelus troughtoni</i> | Very High Risk (3) |

The Glossy Black Cockatoo (*Calyptorhynchus lathami*) due to bush fires in its range over the last few years is now regarded as critically endangered. Logging in the North Coast of NSW has been ceased to allow the Glossy Black Cockatoo to find old growth trees for breeding. Therefore clearly the protection of the Glossy Black Cockatoo must be heavily weighted in the planning decision.

Even though the easements are being planned around some of these critically endangered species habitats, the bigger concern as stated in the Technical Paper-Bushfires, is the devastation (as seen in the past with the Glossy Black Cockatoo), the habits that supports these SA II Entities. There is clear evidence that the destruction of habit has a direct effect on the species well-being.

The Biodiversity study has not been thorough and poorly undertaken. The following species have been seen along Spring Ridge Rd Tallawang (although started as unseen in the EIS):

|              |                          |
|--------------|--------------------------|
| Powerful Owl | <i>Ninox strenua</i>     |
| Swift Parrot | <i>Lathamus discolor</i> |

The timing of survey for the Swift Parrot would ensure that no sightings would be made. In the spring and summer months the period the survey was conducted, the Swift Parrot migrates south to Tasmania for breeding.

## **Agriculture**

The proposed Central-West Orana REZ Transmission site is an area with a large dependence on agriculture for the financial well-being of the landowners, the local towns and the agriculture service industries.

It is well noted that the transmission lines will see a decline in agriculture within this region. Landowners with easements can not run stock, can not crop the fields and in some cases where an easement dissects a property, part of that property will be deemed unproductive. This will effect locals livelihoods.

The biosecurity effects on agriculture have been identified and the counter measures stated are inadequate to prevent, control and protect the local landowners and their farming businesses.

The compensation offered is well below market rates and is significantly less each year that the landowner would earn farming this are of land.

The Central-West Orana REZ Transmission will change the area from an agricultural/tourism region to an industrial region. The Central-West Orana REZ transmission once operational provides minimum employment at the detriment to the farming landowners, rural supply stores, trucking and freight services, agricultural contractors etc. The economic prosperity of the region will decline if the project is approved.

In summary:

- There is growing evidence of health concerns caused by EMF
- There will be a decline in farming livelihoods due to biosecurity impacts
- The extreme risk to the towns, farms and native flora and fauna due to fire caused by the transmission lines, battery storage and sub-stations. Potentially peoples lives.
- The severe detriment effect on critically endangered wildlife
- The change in community from an agricultural tourism region to an industrial region.

The Central-West Orana REZ Transmission project offers more negative social impacts that positive ones.

**The evidential reasoning to oppose this project is significant.**

Kind regards,  
Stephen Croft and Claire Lloyd

