



Electromagnetic Fields

Environment Effects Statement

An [Environment Effects Statement \(EES\)](#) is Victoria's most rigorous and transparent environmental impact assessment. It describes the project, its rationale, and potential environmental and social effects.

Scoping requirements

In February 2025, the Victorian Minister for Planning issued the final scoping requirements for the VNI West EES, setting out the proposed specific matters to be investigated and documented in the EES. While the scoping requirements are intended to cover all relevant matters, the EES can also address other significant matters that emerge during the EES investigations or through consultation.

EMF (electromagnetic fields) scoping requirements

The EES scoping requirements state electromagnetic fields (EMF) has been identified for investigation due to community concerns regarding the potential impacts of transmission infrastructure on human health and livestock. The requirements state EMF has been assigned a low priority for investigation because although these concerns are valid and warrant attention, they can be effectively managed through strategic location and design of the infrastructure.

Matters for investigation

- *Risks to human health, including due to electromagnetic or other radiation emissions from project construction or operations.*
- *Potential electromagnetic interference with communication or infrastructure systems.*

What are electromagnetic fields?

Electromagnetic fields (EMF): Waves of electric and magnetic energy moving together.

Extremely low frequency (ELF) electric and magnetic fields: Exist wherever electricity is generated, transmitted or distributed.

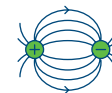
Powerlines, substations, transformers, and other electrical sources – such as common electrical appliances and wiring – all emit extremely low frequency (ELF) electric and magnetic fields (EMF). As we are surrounded by electrical sources in our daily lives we are all exposed to some level of ELF EMF constantly.

Based on current research there is no established scientific evidence to support that exposure to electric and magnetic fields found around the home, the office, or near powerlines causes health effects.*

* www.arpana.gov.au

Scan this QR code to view the complete list of [scoping requirements](#) for the VNI West project





Study methodology

The EMF assessment covers the project easement and the Tragowel Terminal Station. It includes:

- Review of guidelines and standards relevant to EMF exposure.
- Characterisation of existing conditions and identification of sensitive assets, values, and uses that may be affected by EMF during construction, operation, and decommissioning of the project.
- Review of the project description to determine the location, type, timing, extent, intensity, and duration of potential EMF emissions with sensitive receptors (e.g. houses).
- Assessment of potential EMF effects and evaluation against the relevant guidelines and standards.
- Identification of mitigation measures where necessary to avoid or minimise EMF-related effects.
- Evaluation of residual EMF-related effects (once mitigation measures have been considered).

The assessment does not involve on-ground surveys.

Local input

During the project's route refinement process in late 2024/early 2025, community members, Traditional Owner groups, landholders and other stakeholders provided feedback on EMF for consideration. This included the potential effects of EMF emissions on human health, animals and interfering with farm equipment.

Existing conditions

Sensitive receptors most relevant to the EMF impact assessment are those associated with the presence of people, including both members of the public and occupational personnel. These receptors include private dwellings, townships, schools, and hospitals.

The project easement generally maintains at least a 5 kilometre buffer from major towns, including Boort, Charlton, St Arnaud, and Kerang, and largely avoids private dwellings, with a minimum buffer distance of 300 metres achieved along most of the project easement. Dwelling density is generally low throughout the southern, south-central, and north-central regions of the transmission line easement. However, in the northern region, dwelling density increases, making it more difficult to maintain the 300-metre buffer from private dwellings, as the project easement must navigate a greater concentration of other constraints in this area.

Next steps

The EMF assessment is still underway and will move into an assessment of potential impacts. An extensive review of EMF studies in Australia and overseas has been conducted and will be used to inform the impact assessment. Based on the EMF studies, it is likely that the minimum separation distance of 300 metres between towers and dwellings applied for the VNI West project will result in EMF impacts not being an issue of concern.