VNI West

Environmental Impact Statement (EIS)
Hydrology, flooding and water quality

FACT SHEET | AUGUST 2025
Application number SSI-72887208

VNI West proposes the construction, operation and ongoing maintenance of a 500kV double circuit overhead transmission line that would connect the high voltage electricity grids in NSW and Victoria. As part of the EIS for VNI West (NSW), a detailed assessment was undertaken to understand the potential impacts of the project on hydrology, flooding and water quality throughout the project footprint. For more information, refer to **Chapter 15: Hydrology, Flooding and Water Quality** and **Technical Paper 9: Hydrology, Flooding and Water Quality Impact Assessment**.

Key findings from the EIS assessment

Construction impacts

Water demand

Around 1.25 gigalitres of water would be needed for dust suppression, concrete batching, and accommodation facilities. Ongoing discussions with multiple regional water suppliers aim to confirm the availability of both potable and non-potable water from existing sources.

Water quality risks

Water quality could be impacted by activities like vegetation clearing, soil disturbance and machinery use. Accidental chemical spills could also pose a risk. Impacted areas not required for operation will be rehabilitated.

Flooding behaviour

Construction work has potential to cause localised changes to flood behaviour due to activities such as excavation, material stockpiling, and alteration to existing surface levels. These impacts are particularly relevant when setting up construction compounds, temporary worker accommodation, or establishing new access tracks that intersect minor watercourses.

Flooding also has the potential to impact construction, especially in flood-prone areas, with risks such as washed-away stockpiles and equipment near waterways.

Operational impacts

Water demand

Operational water demands would be confined to the Dinawan substation expansion and would be sourced locally or from rainwater tanks.

Water quality risks

The potential for operational water quality impacts from runoff at the future Dinawan substation expansion is minimal. The drainage system at the future substation would be extended to connect the additional areas to existing discharge points, minimising potential erosion and water quality impacts.

Watercourse crossings

New access tracks would cross water bodies at around 29 locations. The access track design would consider the local drainage conditions to minimise changes to minor watercourses.

Flood behaviours

The wide spacing between transmission line structures and strategic design of permanent access tracks is expected to result in minimal effects on flood behaviour. The Dinawan substation expansion is not anticipated to increase flood risk beyond the site boundary. However, there may be slight flood level rises of two centimetres (0.02m) on land already subject to flooding.

Flooding is unlikely to impact the transmission line structures during operation.

Mitigation Measures

- Transmission line structures and infrastructure will avoid named watercourses and banks where practicable.
- New access tracks will utilise existing watercourse crossings near Dinawan substation and network augmentation works, wherever possible.
- Temporary compounds and accommodation facilities will include drainage and avoid watercourses where possible.
- Permanent infrastructure will be designed to minimise erosion and scour risks from surface water runoff.
- Drainage and flood risk planning will guide accommodation facility and construction compound layout, stockpile locations, and flow path protection.
- A Flood Emergency Management sub-plan will be developed in consultation with emergency authorities.
- Water sourcing will comply with water licences and agreements with local landowners and providers.
- An Erosion and Sediment Control Plan will be implemented based on best practice standards and Transgrid's guidelines

How the assessment was carried out

The Hydrology, Flooding and Water Quality impact assessment was carried out in accordance with the Secretary's Environmental Assessment Requirements (SEARs), which guide what must be addressed in the Environmental Impact Statement. The assessment used both desktop analysis and computer modelling to understand potential changes to water flows, flooding behaviour, and water quality during construction and operation.

The approach to the hydrology, flooding and water quality impact assessment included:

- reviewing existing information and maps to understand local water catchments, drainage patterns and water quality objectives
- identifying where construction might change natural water flows or cause erosion
- considering how pollution or sediment could affect water quality during works
- using flood models to estimate how structures and access tracks might change flood behaviour in different storm events
- reviewing previous flood data to understand flood risks in areas linked to the project
- assessing how much water may be needed or affected during construction and operation
- identifying areas with high flood risk or sensitive ecosystems to avoid or minimise impacts
- recommending management actions to reduce risks and protect waterways.

Image: Watercourse crossings will be designed to reduce impacts on flow patterns and bank stability.

The EIS outlines:

- key water catchments, floodplains and watercourses intersecting the project footprint
- potential impacts on water flows, drainage and flood behaviour during construction and operation
- water quality risks from erosion, sediment runoff, and construction-related pollution
- modelling of flood events and climate scenarios to inform design and infrastructure placement
- water availability needs and surface water protection near sensitive environments
- drainage considerations for access tracks and infrastructure near watercourses
- emergency planning for high-risk flood areas during construction
- mitigation measures to manage flooding, erosion and water quality impacts.

For more information on the VNI West EIS, please scan the QR code, or visit www.transgrid.com.au/vniw.

Next steps

You have the opportunity to review and comment on the EIS via submission to the Department of Planning, Housing and Infrastructure (DPHI) during August 2025. Electronic copies of the EIS are available via:

- DPHI Major Projects website: https://www.planningportal.nsw.gov.au/major-projects
- VNI West (NSW) project website: www.transgrid.com.au/vniw

Following the EIS Exhibition period, Transgrid will produce a Submissions Report to formally respond to community and stakeholder feedback received during exhibition.

Connect with us

Transgrid is committed to working with landowners and communities throughout the delivery of VNI West. **Please connect with us for more information**.

Transgrid

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