VNI West

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

FACT SHEET | FEBRUARY 2025

VNI West is a proposed 500kV double-circuit transmission line connecting the energy grids of NSW and Victoria. As part of the Environmental Impact Statement (EIS) being prepared, a detailed assessment will be undertaken to consider hydrology, flooding and water quality impacts associated with the project during construction and operation.

Hydrology, flooding and water quality impact assessment

The hydrology, flooding and water quality assessment considers a range of elements including construction and operation impacts on:

- existing flooding regimes and the behaviours of the existing watercourses
- management and maintenance of access tracks and any waterway crossings
- the quantity and quality of the region's surface water resources
- water requirements, including water sources and the amount of water to be used for the project
- groundwater aquifers and groundwater dependent ecosystems.

What have we heard from the community?

Comments and questions related to hydrology, flooding and water quality shared by the community during the development of the project to date include:

- ensuring that Transgrid's data adequately reflects areas of flood-prone land (particularly relating to floods in late 2022)
- questions about the technical capacity of known flood-prone areas to support transmission towers
- questions on how Transgrid would maintain infrastructure during flood events
- concerns about how water will be sourced for the project.

How is the assessment carried out?

The assessment will include:

- review of relevant legislation, policies and guidelines to understand the governing processes
- collection of topography and weather data
- desktop review of existing flood studies and data regarding recent flood events (where available)
- hydrology and flood modelling to assess potential local and regional impacts during construction and operation
- assessment of potential hydrology, flooding and water quality impacts during both construction and operation of the project
- identification of mitigation measures to manage or minimise the identified impacts.

Pictured: *Water storage pond located near a construction worker accommodation as part of the EnergyConnect (NSW – Western Section) project.*

Potential impacts identified to date

Construction

Project water requirements – water would be required during construction for activities such as concrete batching, dust suppression and minor uses including toilets for workers. Transgrid (and its nominated construction contractors) would source water from various sources to meet the needs for construction of the project. The water source to be used would depend on the location and nature of the construction activity, and whether potable or non-potable water is required.
Water sources could include:

- rainwater tanks along the transmission line easement to manage demand requirements
- council standpipes or connection to council water supply systems
- existing/licenced groundwater bores
- purchase of water allocations from existing water users.

Where possible, non-potable water may also be sourced from construction sedimentation basins or farm dams (in agreement with the relevant landowners).

Transgrid is working to identify the required volume of water (potable and non-potable) for the project, and is in discussion with several water suppliers in the region – including Councils and private water licence holders - to understand what could be sourced from existing facilities. Wastewater treatment facilities may also be used to treat wastewater onsite from temporary worker accommodation facilities.

Potential impacts

The potential impacts to be mitigated and managed during construction would include:

- managing water quality by minimising erosion and sedimentation in nearby waterways
- managing watercourse crossings by minimising the need for placing rocks on the bed of the watercourse (which may be required to enable heavy vehicle access), or by identifying alternative access methods
- managing surface water run-off through environmental management measures
- ensuring structures are not located within waterways or drainage lines (however, some structures may be located in flood plain areas).

Potential operation impacts

The project also needs to factor potential impacts during operation:

- transmission tower structures are expected to have minimal influence on flood levels and flow paths close to the structure. However, drainage channels will be constructed near sites where required and regular maintenance will be undertaken to ensure drainage infrastructure is in good condition.
- flooding is unlikely to impact the operation of the transmission line given the height of the towers.
- access tracks and roads are likely to be impacted by flooding, and would not be used during heavy rain or flood events.

Pictured: *Swale drain being built to manage water flow on the EnergyConnect project.*

How are these impacts minimised?

During detailed design, the transmission line structure design would consider identified flood prone areas, with the final structures designed so as not impede or exacerbate flood flows.

Drainage mitigation measures will also be refined during detailed design, which will alleviate flooding impacts during operation.

During construction, a Soil and Water Management Plan will be prepared as part of the Construction Environmental Management Plan to outline how the project team will minimise and manage potential impacts on waterways. This plan will cover measures such as:

- spreading excess dirt and rocks evenly around the site
- removing excess dirt and rocks from the site
- locating stockpile and chemical storage areas outside flood prone areas.

Next steps

There will be ongoing opportunities for the community to provide input throughout the development of the EIS. Once all technical assessments have been completed the EIS is placed on public exhibition. During this time, the community members will be able to view the EIS and all supporting studies and provide written submissions on the project to the Department of Planning, Housing and Infrastructure.

Connect with us

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

Transgrid

1800 955 588 (free call)
vniw@transgrid.com.au
transgrid.com.au/vniw

VNI West Project Team,
PO BOX A1000, Sydney South, NSW 1235