



NETWORK EXPORT CONGESTION

Current as of 19 October 2021

Due to the significant interest in distributed generation in the Far North, there are now areas of congestion that need to be assessed as part of any new applications for distributed generation.

Top Energy Distribution Network

Kaikohe (KOE) – Kaitaia (KTA) 110kV Circuit

The summer day line capacity is 55MVA with a minimum demand of 10.4MVA providing a possible generation export capacity of 66MVA.

Currently there are approved applications of 67MVA, consuming the full export capacity of this line.

No further applications will be approved unless network upgrades are financially supported by future distributed generation.

Transpower National Grid

Kaikohe (KOE) to Maungatapere (MPE) 110kV line

Applications received by Top Energy for distributed generation connections mean that at certain periods the outgoing Transpower Kaikohe to Maungatapere 110kV line capacity will be exceeded in its present configuration of N-1 when the first applicant comes online (expected by mid-2022).

Capacity at N-1 is 63MVA with a minimum demand of 28.3MVA providing a possible generation export capacity of 91.3MVA.

Capacity may be increased by installing a “run back” scheme which in essence means that the lines would be able to be operated at the capacity of each line, allowing for export. Capacity at N would be increased by a further estimated 63MVA (total of 154.3MVA).

Should a fault on one line occur the scheme is designed to shut off loads contributing to the export and retain the customer base load.

We have applied for a feasibility and cost proposal from Transpower and it is expected this will be available by mid November 2021 for review.

The incremental costs associated with the installation of the run back scheme will need to be covered by new connecting parties as part of their connection costs, those parties have been advised of this requirement.

Currently there are approved applications of 132MVA with several other parties showing interest and at various stages of discussion. It is anticipated that the remaining capacity will be allocated in the short term.

Note: There is potentially additional Transpower constraints south of Maungatapere that could impact Far North distributed generation.

It is strongly recommended that all parties thinking about distributed generation in the Far North to have discussions with Top Energy and Transpower.