

Donald and Tarnagulla Microgrid Feasibility Study

Network Assessment

8.1 Objectives

Assess the current and forecast status of supply to Donald and Tarnagulla. This will include grid and customer characteristics, demand peak, volume, events impact, known constraints, and power quality analysis.

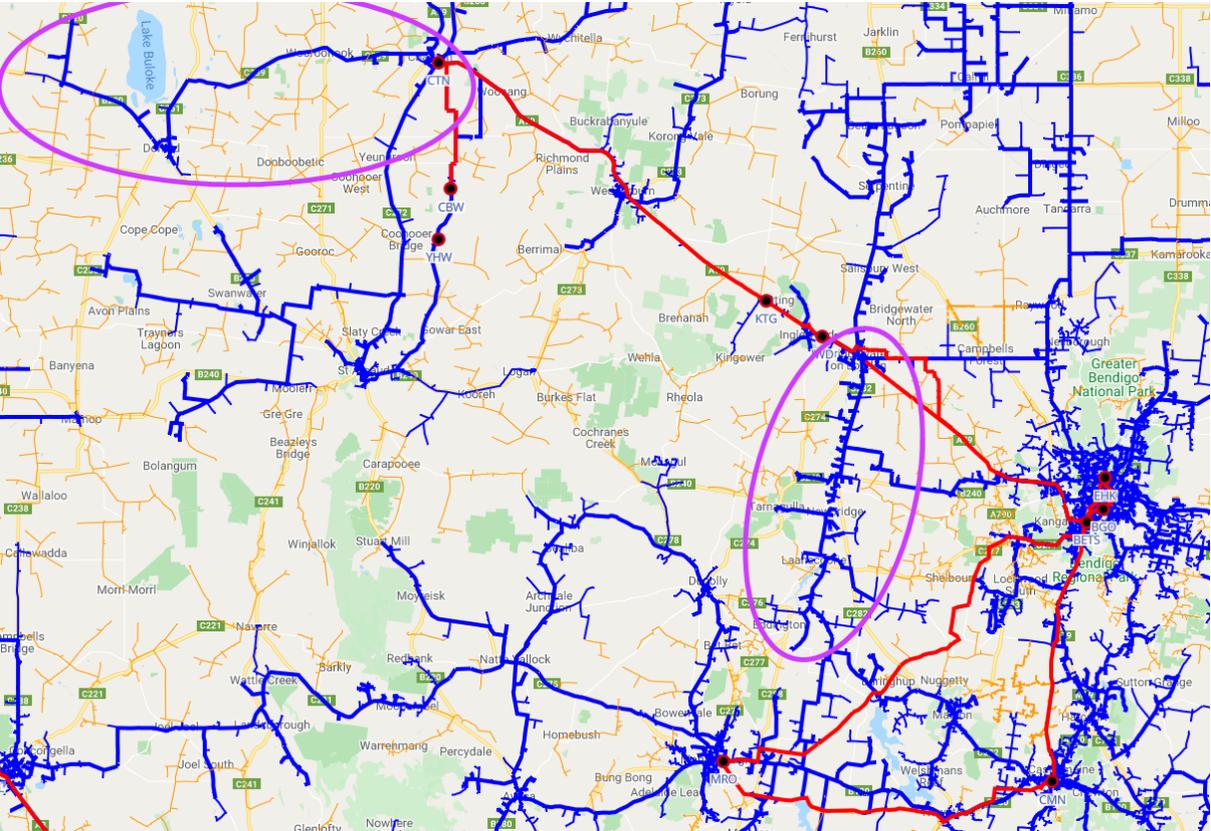
8.2 Network Topology

Donald is a town in Victoria, approximately 282km north west of Melbourne. The closest zone substation (ZSS) to Donald is Charlton (CTN). The electricity supply to Donald is fed via CTN006 – a 22kV distribution line originating from CTN ZSS.

Similarly, Tarnagulla is 183km north west of Melbourne. The closest ZSS to Tarnagulla is Maryborough (MRO). The electricity supply to Tarnagulla is fed via MRO007 – a 22kV distribution line originating from MRO ZSS.

Both CTN006 and MRO007 are long rural feeders and there is little capacity to transfer load to other feeders or stations.

Both MRO and CTN are supplied via Bendigo Terminal Station (BETS).



8.3 Customer Summary

The number of customers on each feeder is broken down in the table below.

	Residential	Commercial	Industrial	Agricultural
CTN006	1,176	246	67	240
MRO007	1,299	134	68	199

Further details around customer data at the distribution substation level has been provided to the universities in order to complete their parts of the project. This will help inform the universities on constraints and detailed network characteristics (such as load profiles, maximum demand, etc).

Powercor is unable to provide this information in a public report.

8.4 Outages

Powercor has provided this information to universities in order to complete their parts of the projects.

This will help provide detail on the reliability of the network.

8.5 Forecast

Historically, the maximum demand of both CTN006 and MR007 have not exceeded their respective N ratings.

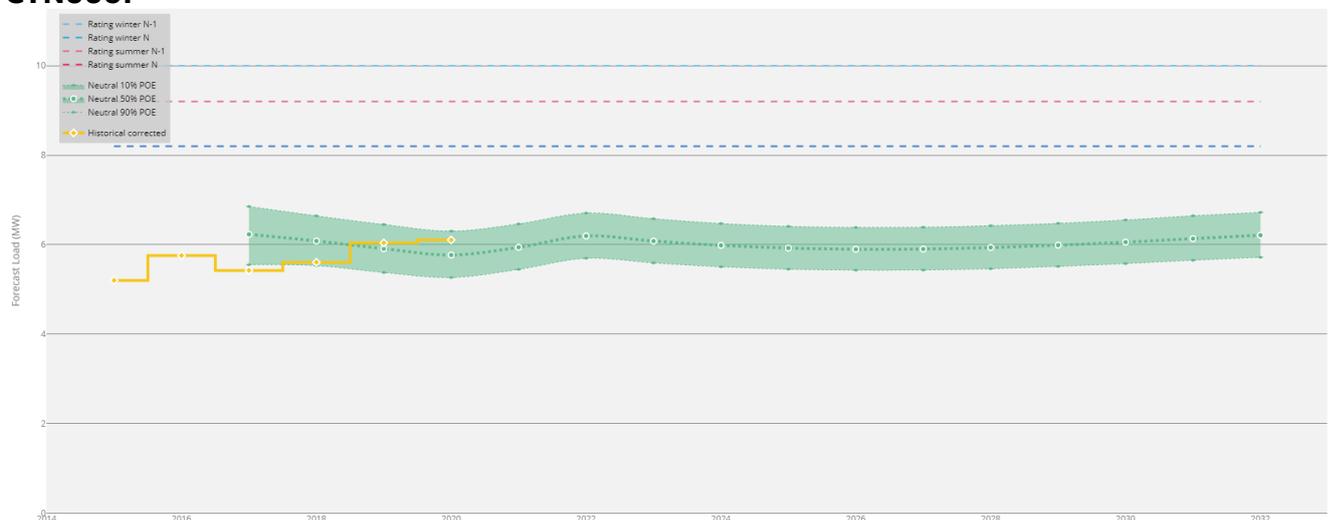
CTN006 N Rating: 9.2 MVA
MRO007 N Rating: 10.4 MVA

The load on CTN006 and MRO007 is expected to remain flat over the next 10 years and below the N and N-1 ratings.

Note that forecasts are reviewed annually and only include committed projects. Forecasts take into account macro-economic factors which are provided by external parties.

There is no augmentation planned in the near future.

CTN006:



MRO007:

