

AusNet GridView

Understanding distribution substation data



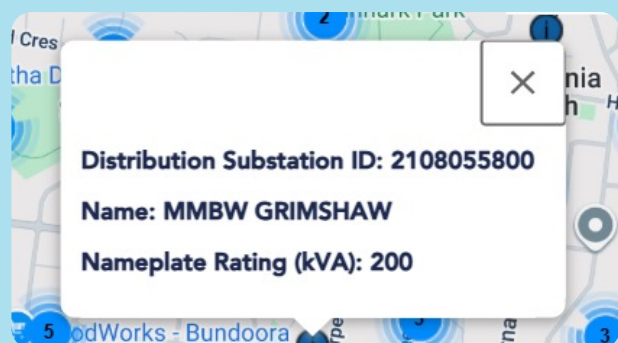
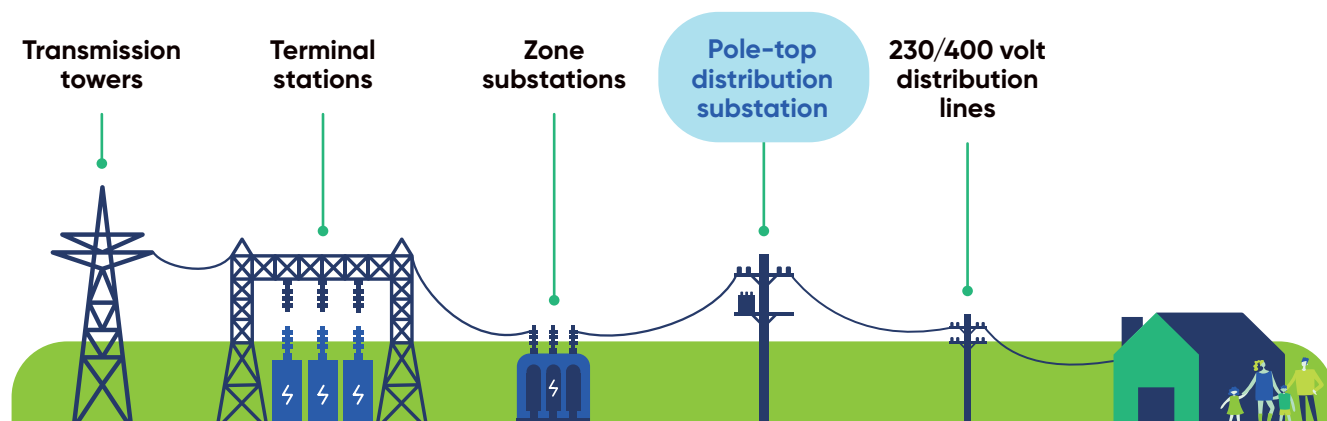
What is a distribution substation?

Distribution substations reduce electricity from medium voltages (22kV, 11kV or 6.6kV) to low voltages (415V 3-phase or 230V single-phase) so it can be safely used by homes and businesses.

There are over 60,000 distribution substations on our network. They are typically either pole-mounted (on electricity poles) or pad-mounted (at ground level in kiosks).

Why are distribution substations important?

Distribution substations play a critical role managing two-way power flows on our network. They receive high-voltage electricity from the transmission network and reduce it down to lower voltage electricity, so it can be safely used in homes and businesses. They also allow some electricity to go back into the grid, usually from excess solar generated by homes and businesses.



Network data

Nameplate rating:

This rating defines the maximum rated electrical load or demand the transformer can handle. It's shown in kilovolt-amperes (kVA). Distribution substations typically have a nameplate rating between 10kVA and 500kVA or more.

Report data:

This data shows that the distribution substation – for example, MMBW Grimshaw – has a total of 53 customers, with 49 domestic and 4 business connections. Of these, 13 customers have solar installations. The combined installed inverter capacity is 55.69kVA, with a total approved export capacity of 52.19kW. This shows that, on average, each solar customer has approved exports of approximately 4kW.

Report Data for 2108055800

Distribution Substation Data

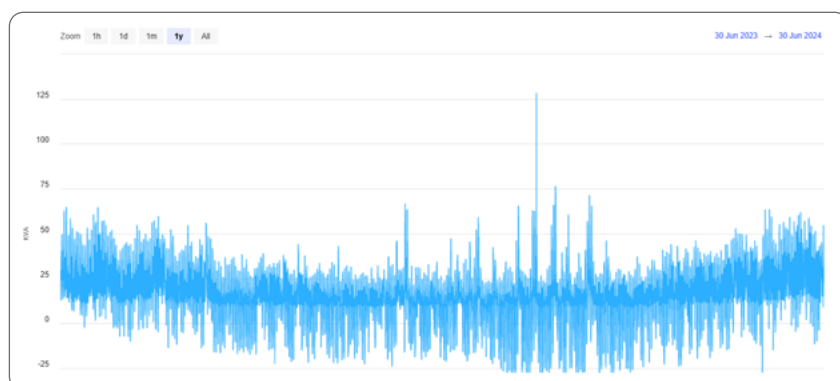
Name	Nameplate Rating (kVA)	Total Customers	Domestic Customers	Business Customers	Customers with Solar	Total Inverter Capacity (kVA)	Total Approved Exports (kW)
MMBW GRIMSHAW	200	53	49	4	13	55.69	52.19

Load profile for selected period:

The positive area of the chart shows how much electricity is being used by customers connected to the distribution substation in a 12-month period. The negative area shows how much electricity is being exported from homes and businesses back into the grid.

What this means

This chart shows that the distribution substation is operating within its capacity limits of 200kVA as the maximum load in a 12-month period was just over 125kVA – indicating spare capacity of around 75kVA. In addition, reverse power flows from solar exports are relatively low, with a maximum reading in the 12-month period of 25kVA.



Impacts for community groups and councils

For community energy groups and councils this means:

- there may be capacity for additional load to be connected on this part of the network
- solar exports are unlikely to be curtailed for customers connected to this substation.

Why do some distribution substations have no data?

For data privacy reasons, distribution substations with less than 10 customers do not display any data.

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