

VOLTAGE REGULATION

Networks were set up expecting that power would only flow downstream from the transmission system. Accordingly, the distribution network was designed so that the voltages at the end of the LV lines would remain within statutory limits even at high load.

However as the community connects rooftop solar to the grid the challenge for the utility will be preventing voltage rises and non compliance.

Without monitoring, the first a utility usually hears about voltage problems is through a customer complaint when their rooftop PV does not export. Sometimes, a utility may be able to adjust the offload tap switch of a nearby distribution transformer to lower the voltage. However, the voltage will fall back to its normal level at night and so the utility must ensure that the tap switch is not set too low.

ETEL ARE EXPERIENCED IN FITTING VOLTAGE REGULATORS TO DISTRIBUTION TRANSFORMERS TO HELP REGULATE FLUCTUATIONS - contact us for all your transformer requirements.

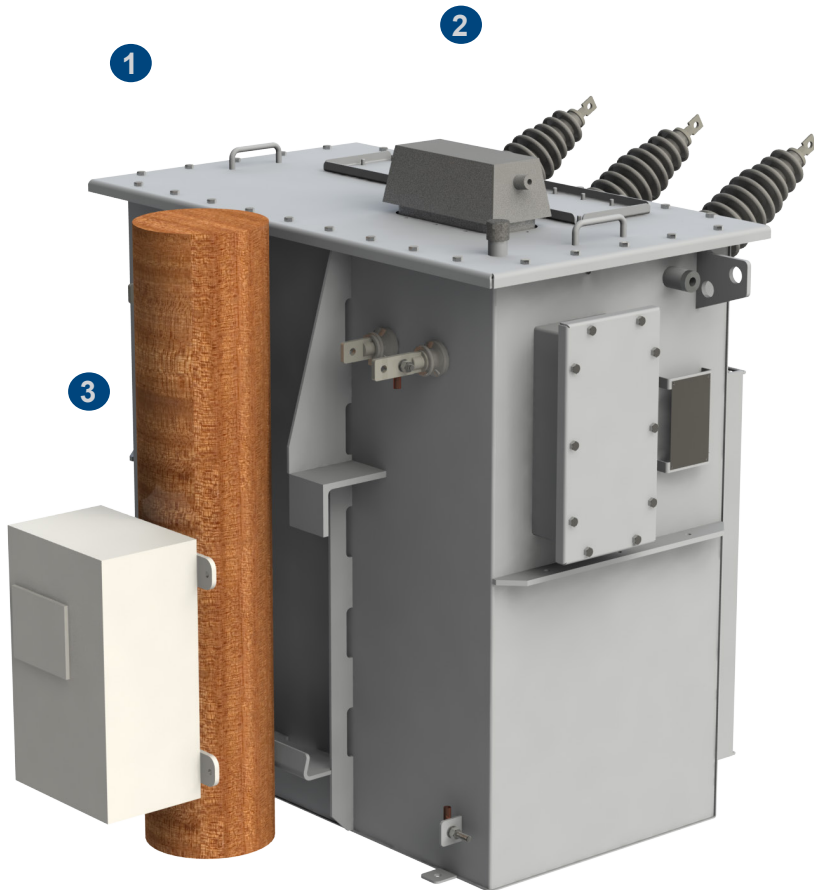
AVAILABLE OPTIONS TO FIX VOLTAGE RISE PROBLEMS

Networks have a number of options available to fix voltage rises, including the following:

- monitor to collect more information where and when the problems are occurring
- reconfigure the LV, move customers between phases
- place larger overhead lines and cables in the network
- parallel the transformer with a second unit
- replace the transformer with a larger unit
- install a transformer with an automatic onload tap changer.

ONLOAD TAP CHANGER

By installing an automatic onload tap changer to the transformer the network will be able to control the voltage, thereby allowing for more customer rooftop solar.



- 1 Transformer
- 2 Tap changer mechanism and motor sitting on top of tank
- 3 Control box for voltage control and optional remote communications

KEY BENEFITS

- automatic onload tap changer has a small footprint, mounted on the transformer.
- the transformer retains similar weight and dimension.
- the tap changer is maintenance free, and will last the life of the transformer
- remote communications options available, including cellular and SCADA.

ETEL LIMITED

ETEL Limited is New Zealand's largest transformer manufacturing company, specialising in the design and manufacture of distribution transformers.

With a six plant manufacturing facility in Auckland, operational facilities in Melbourne and Perth, and a manufacturing plant in Jakarta, ETEL is able to produce a full range of distribution transformers, from a capacity of 15kVA up to 4.5MVA in size, for electricity supply networks, industrial sites and mining projects.

ETEL has in place a complete quality system, which complies with and is certified to ISO9001:2015 and an occupational health and safety management system which is certified to ISO14005.

ETEL are committed to the innovation of distribution transformers designed to meet the individual requirements and vision of its customers.



Quality
ISO 9001



Health &
Safety
ISO 45001

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