



Part of the Energy Queensland Group

Operational Update

Energex Contestable Works

LV Tie requirements

Target Audience:

Energex Accredited Service Providers – Consultants.

Issue # C-0027 – 31/08/2021

Introduction:

This Operational Update addresses the requirement for LV Ties on circuits emanating from transformers. LV Ties improve network reliability, operational flexibility and can reduce the length of outages (e.g. sectionalising). This update does not apply to LV Ties facilitating CMEN requirements.

LV Tie requirements residential and commercial:

LV circuits emanating from a transformer should be inter-connected with circuits from other transformer LV areas, however LV ties between the same transformer circuits are also required for network reliability and operational flexibility.

This is not always practical due to factors such as lot layouts, road geometry, topography and proximity of other LV tie points. The requirement for a LV tie should be subject to an assessment of the economic feasibility, technical feasibility, and network reliability.

The below table is extracted from the Supply and Planning Manual – Criteria for Economic Feasibility:

Table 3.5.1 Maximum LV Tie Length for given Situation

Situation		Maximum Economic Tie Length
Underground-Reticulated Subdivisions (Residential or Commercial/Industrial)	Civil Works required	2 moderate lot frontages, i.e. 1 bay between service pillars—typically 40m total in residential subdivisions, a little more in C/I subdivisions
	No Civil Works required	4 moderate lot frontages, typically 80m total —typically 80m total in residential subdivisions, a little more in C/I subdivisions
Overhead-Reticulated Subdivisions (Residential or Commercial/Industrial)	New Poles required	1 span per 100kV.A of transformer capacity
	Using Existing Poles	2 spans per 100kV.A of transformer capacity
Underground-Reticulated Commercial/Industrial Point Loads	Civil Works required	40m per 100kV.A of load
	No Civil Works required	80m per 100kV.A of load
Overhead-Reticulated Commercial/Industrial Point Loads	New Poles required	2 spans per 100kV.A of load
	Using Existing Poles	4 spans per 100kV.A of load

Table 3.5.1 is a guide and Energex may request a LV Tie at our discretion outside these guidelines. This will be based on network reliability and the nature of customer loads. (e.g. critical LV loads requiring a LV back-up, or number of customers on the LV radial).

LV “Ring” circuits:

A LV “ring” circuit is a circuit that emanates from a transformer and splits in two (2) directions. The cable routes “ring” back to each and are electrically continuous for its entire length with no form of isolation other than at the point of origin (i.e. no isolation links in the middle of the circuit). “Ring” circuits for new installations are no longer permitted.

It is still a requirement for LV Ties on same circuits emanating from the same transformer as per Table 3.5.1, however the circuit must be broken with a set of links.

Non-Standard approvals:

For non-standard LV radial proposals, the consultant will be required to submit a detailed proposal for consideration by the Contestable Works team.

**.For more information contact:
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