

Paris Session 2022



Deployment of LV STATCOMs in Australia

SC C6 Active Distribution Systems and
Distributed Energy Resources
PS2 Innovative Planning and Operation of
Active Distribution Systems
Question 2.9

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Group Discussion Meeting

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LV STATCOMs have been installed in multiple states in Australia to help solve voltage problems resulting from high penetration of solar PV

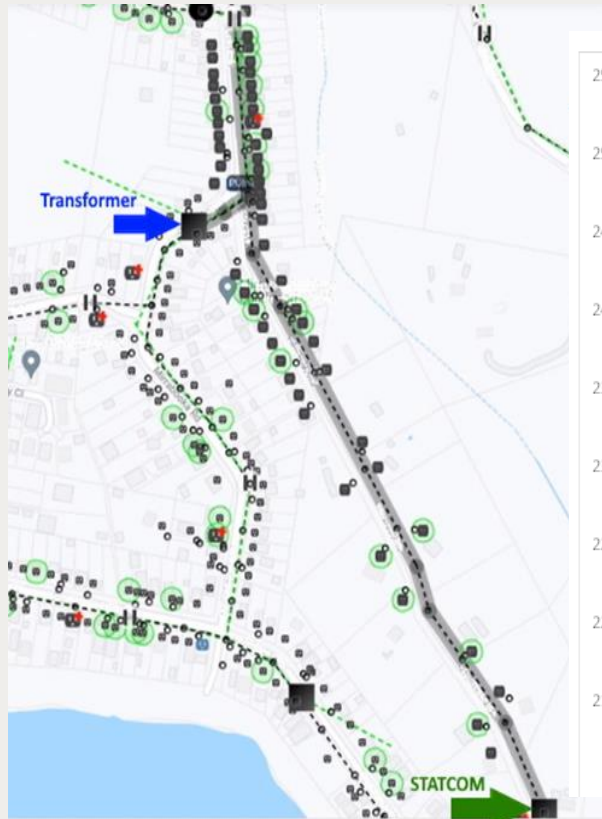


- Typically installed on overhead open wire networks
- Installation done live (no outage)
- Usually done using cherry picker truck
- Installation takes ~2 hours

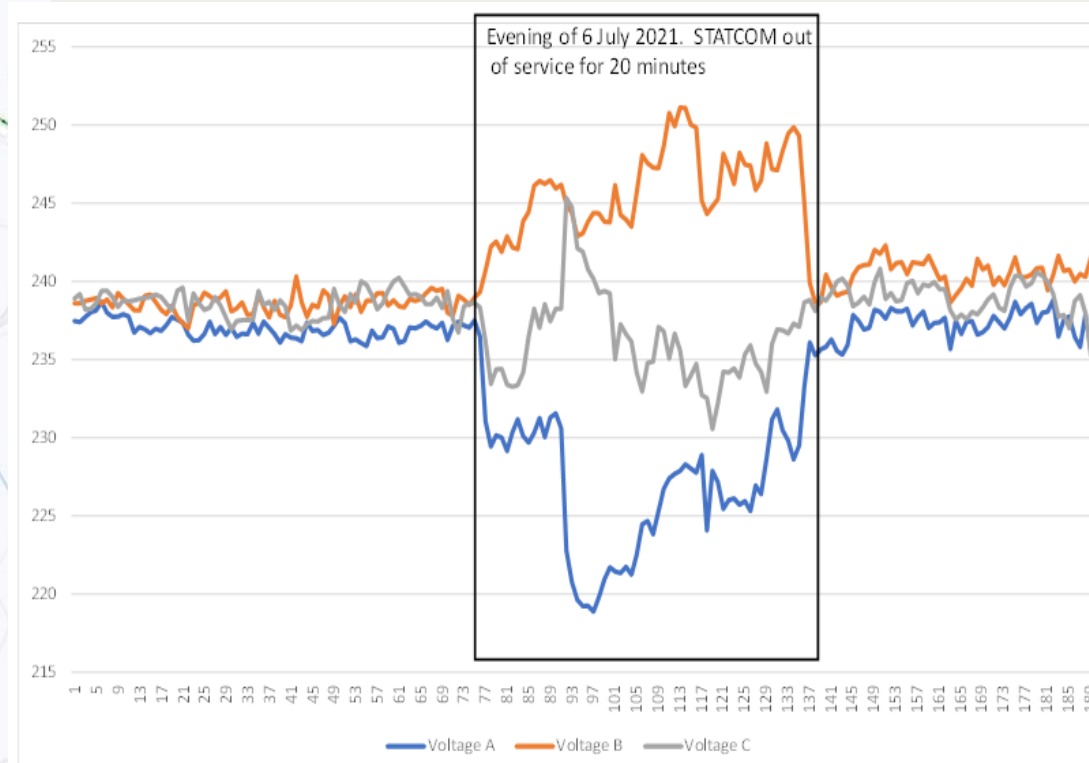
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Example case study shown below

LV Network diagram



Phase Voltages



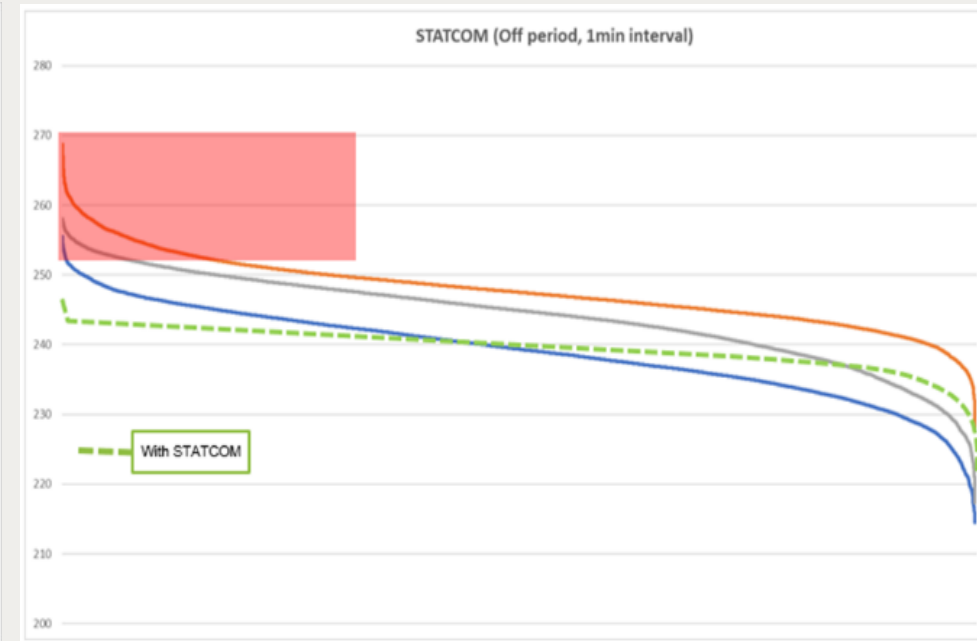
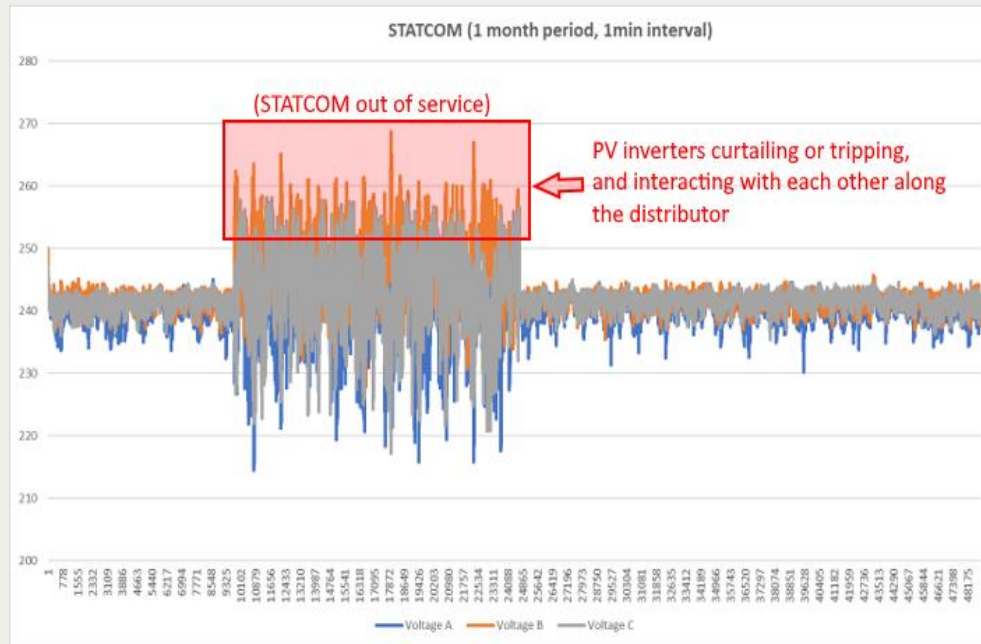
- Long LV network
- High PV penetration
- Poor voltages experienced prior to STATCOM installation
- STATCOM able to regulate voltage effectively

STATCOM turned off for 20 minutes

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Operation over 1 month with the STATCOM turned off for ~1 week

Phase Voltages



- When STATCOM is off, voltages exceed limits, causing poor solar yield
- STATCOM brings voltages well within limits.
- Generally 3-5 times more cost effective than traditional augmentation

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