

DG Forum: Innovating DG connections

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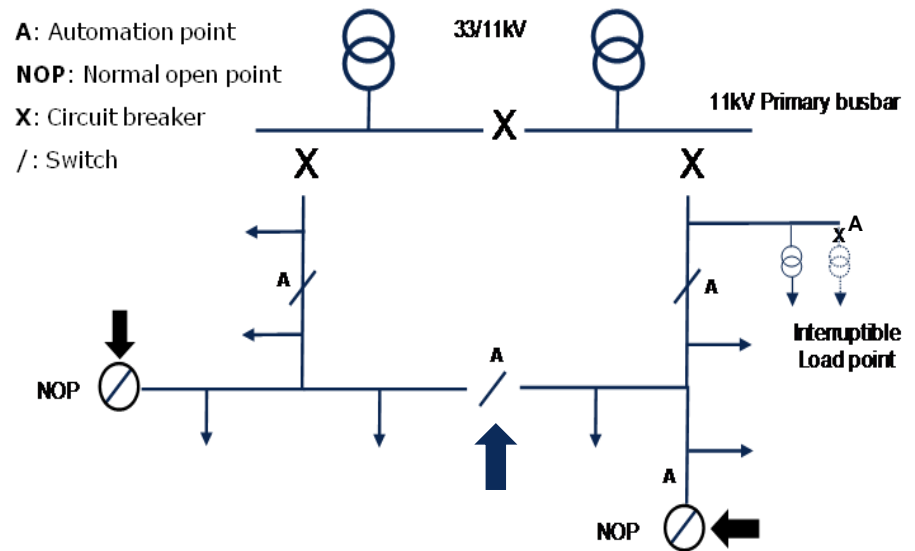
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➤ Innovating for Distributed Generation connecting at HV:

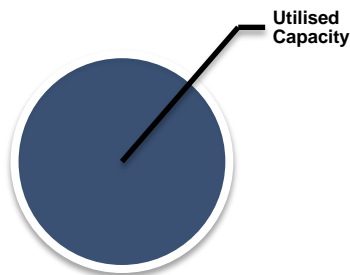
Innovation Trial	Techniques	Type of Managed Contract	Potential Customer Benefits
Capacity to Customers	Adaptive Network Management	Post fault Demand Response	No reinforcement costs
Connect & Manage	Active Network Management	Voltage Managed Output	No reinforcement costs

- Current EHV and HV network design philosophy promotes redundancy to achieve continuity of supply standards
- For example, standard primary substation has N-1 capability of 23MVA
- HV circuits run as radial feeders but interconnected by a normal open point (NOP)
- HV circuits typically operate at 50% of rated capacity in order that for the worst-case fault affected customers can be re-supplied from alternative circuit
- Network design has inherent latent network capacity
- Access latent network capacity by enabling post-fault DSR



Capacity to Customers

Total available network capacity

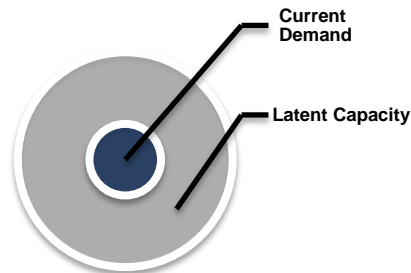


- Combining proven technology and new commercial contracts
- Allows ENWL to release significant network capacity back to customers
- Facilitating connection of new demand and generation without reinforcement



Technical innovation

Total available network capacity



- Apply remote control equipment to the HV circuit and close normal open point
- Enhance network automation software
- This effectively doubles the available capacity of the circuit negating the need for traditional reinforcement



New commercial contracts



- To retain customers' security of supply we will utilise innovative demand side response contracts
- These contracts will allow ENWL to control the consumption of customers on a circuit at the time of fault

Innovative, low risk and facilitates delivery of low carbon targets

Existing Arrangements

All new connections designed so statutory voltage never breached

Many new DG connections faced large costs to connect



Connect & Manage

Option of a voltage managed connection

Less sole user and no reinforcement costs

No. of hrs output reduced or disconnected

Additional control/ comms equipment but marginal in comparison