Dynamic Connections on Dedicated Transformer Connections

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Part of Energy Queensland

Dynamic connection benefits on your dedicated transformer connection

Energex and Ergon Energy Network are committed to ensure more renewable energy capacity in Queensland as we head towards a decarbonised electric life.

Dynamic connections can unlock more connected capacity by letting you manage your behind-the-meter energy usage and generation. Previously, Distributed Network Service Providers (DNSP) would not have the visibility of how this is reflected at the connection point but Queenslanders will be leading the way in having more control and choice for their energy.

Refer to the DNSP websites (Energex and Ergon Energy) for further details on dynamic connections.

What you need and can have

This factsheet explains the ability to incorporate more Inverter Energy System (IES) capacity at a premises when supplied by a dedicated DNSP transformer.

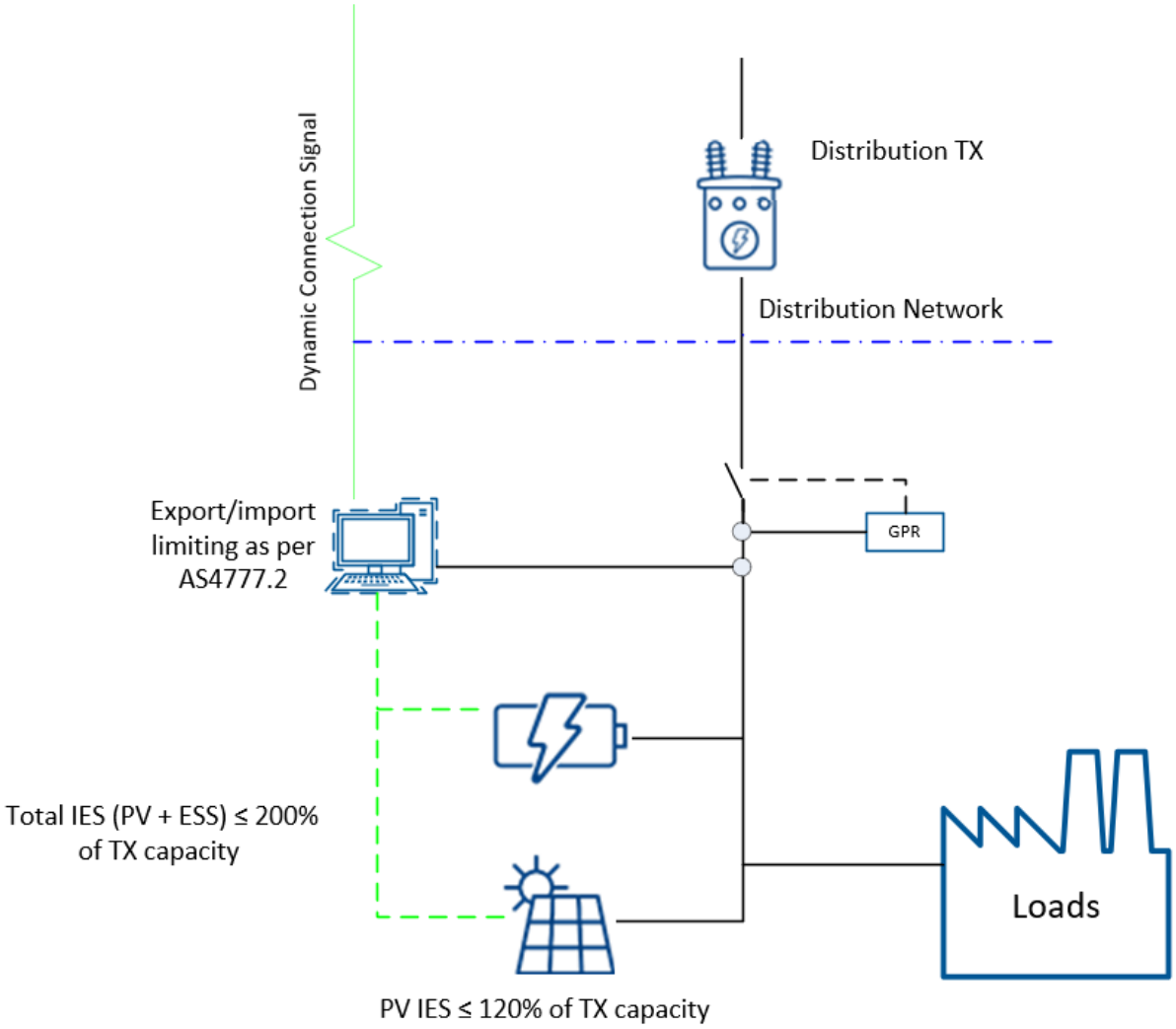
In order to facilitate this, the connection has to be a dynamic connection. Refer to STNW3511 Dynamic Standard for Low Voltage EG Connections for technical requirements for a dynamic connection.

Subject to any requirements contained in the site-specific technical study, a dynamic connection on a dedicated transformer(TX) can have up to:

- Dynamic export up to 100% rating of the transformer
- Dynamic import up to 120% rating of the transformer
- Aggregate Inverter Energy Systems (IES) capacity up to 200% rating of the distribution transformer; where both PV and storage inverters are used. Note that PV inverters shall be limited to 120% of the distribution transformer capacity.

in accordance with the requirements in STNW3511.

The Dynamic Operating Envelope (DOE) is calculated live and published to the proponent based on the Distribution Network capability at any point of time with a forecast of 24 hours given as a guide.



How It works

1. The Proponent must have a fail-safe control system managing the import/export when the Dynamic Operating Envelope (DOE) schedule/update is not received for an extended period (>24hrs) that will limit the import/export for the premises to a predetermined fixed value from the technical study and Dynamic Connection Contract.

2. The Proponent shall also have its control system limiting the export to 100% of the transformer rating or other applicable network limit (when DOE is functional) – this shall constitute the primary control owned by the Proponent. It shall also prevent charging if import exceeds 120% of the transformer rating.

3. The DOE also manages the export limit up to 100% of the network limit (i.e. TX limit) or as identified at a lower rating provided in the site-specific technical study. For the 24 hours ahead, the DOE will have schedules that are enforced if communications are lost. DOE will also manage the import level up to the maximum 120% of the TX rating or the limit from the technical study.

4. A Proponent owned protection relay (e.g. Grid Protection Relay) that shall have non-directional power overload setting enabled up to 120% of the transformer rating (for import as well as export if the IES is capable of charging). This shall be set to 30 second trip setting.

FAQs for this arrangement

1. Is this available at High Voltage connections ?

At this stage as the Dynamic Connections are only enabled for low voltage connections.

2. What is the expectation of the controls system design for the proponent?

The export / import level shall, at a minimum be compliant to AS/NZS 4777.2. Additional requirements may be identified in the site-specific technical study.

3. Is there a limit to the capacity at a site (premises)?

Yes, the aggregate capacity is limited to 1500 kVA for a premises regardless of Connection Points consistent with section 4.2 of STNW3511.

Also, the maximum solar PV you can have is limited to 120% of the transformer rating to ensure self-consumption and minimum charging requirements for your Energy Storage System (ESS).

4. Does this arrangement apply for residential connections?

No. Whilst dynamic connection can apply for residential connections (see further details here), the level of complexity, engineering and cost involved here only applies to negotiated connections that are larger than 30 kVA on dedicated transformer connections.

5. Why is the maximum Import limit higher than export limit in this arrangement?

The possibility of the export limit being constant is higher than the import limit being sustained due to the generation source capacity limits and load variability within a premises. Due to the diversity and variability, the ability to have a higher import limit is a lesser risk that the assets can tolerate.

6. If there is inconsistency between this position and STNW3511 / other EG Standards, what do we do?

If you have found an inconsistency, let us know at standardsfeedback@energyq.com.au.

You may see some variance due to the time different standards / documents being published. Whilst we endeavour to update the documents regularly, they may not be done at the same time.

7. What about extra IES capacity on a shared LV transformer connections as a negotiated dynamic connection?

Shared transformers connections may not have enough customers connected as dynamic connections to provide extra capacity than is already provided under STNW3510 Dynamic Standard for Small IES Connections and/or STNW3511 Dynamic Standard for Low Voltage EG Connections.

Any further questions?

Where you have a dedicated contact for your project, please speak to them in the first instance for any question you have. If you have any other questions, please contact Energex or Ergon Energy at the following contacts.

Contacts	
LV load Connections	custserve@energex.com.au for Energex, networkenquiries@ergon.com.au for Ergon Energy
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Standards feedback	standardsfeedback@energyq.com.au