AS/NZS 4777.2 2020

20 December 2021

Part of Energy Queensland

FAQs for new AS/NZS 4777.2:2020 Effective 18 December 2021

1. Why do we need to change to a new version of AS/NZS 4777.2?

In December 2020, Australian Standards released a new version of AS/NZS 4777.2 Grid connection of energy systems via inverters Part 2: Inverter requirements. The update saw a range of changes to improve the performance of inverters on the electricity supply network. These changes will support the continued increase of solar PV, batteries and electric vehicles. Manufacturers have been working to update their products so they can undergo certification testing and listing with the Clean Energy Council (CEC) as 2020 compliant.

2. When do I need to start installing AS/NZS 4777.2:2020 compliant inverters?

The 2020 version of AS/NZS 4777.2 is mandatory from the **18 December 2021**.

There is a new *DER Technical Standard* enforced under the National Electricity Rules (NER), which requires compliance of grid connect inverters to AS/NZS 4777.2:2020 and comes into effect on 18 December 2021.

3. What DNSP connection standards do I need to meet?

Energex and Ergon Energy have updated their joint standards for AS/NZS 4777.2:2020. The new standards will come into effect on 18 December 2021.

The new standards include:

- STNW1170 Standard for Small IES Connections (Version 8)
- STNW1174 Standard for LV EG Connections (Version 5)
- STNW1175 Standard for HV EG Connections (Version 4)

4. What changes have been made to the standards?

Key changes to the Embedded Generating system (EG) connection standards include:

- The requirement to comply with AS/NZS 4777.2:2020 with associated performance requirements and settings
- A requirement to apply the default settings for Australia A region on an inverter.

- The 2% voltage rise calculation is now to the Point of Connection not the Point of Common Coupling

We have also changed to the structure of the standards to align with the Energy Networks Australia (ENA) technical guidelines. The standard STNW1170 now only covers basic, or Model Standing Offer (MSO), connections.

Negotiated connections for aggregated capacities of up to and including 30 kVA have been added to the scope of our other connection standards as follows:

Network type	Connection standard
LV connected Main Grid and SWER	STNW1174
HV connected Main grid and SWER	STNW1175
LV connected to Isolated Network	STNW3512[1] (new)

Note 1 – STNW3512 is a new connection standard for Isolated Networks. This standard is due for release in January 2022. Please see Question 5 for further details on how connection applications will be managed for Isolated Networks prior to the release of STNW3512.

Applications for negotiated connections up to and including 30 kVA covered under STNW1174 will be required to meet additional compliance requirements aligned with existing process for connecting an application under STNW1174. Proponents will be required to declare they have a DCR with an RPEQ certified single line diagram as well as an RPEQ certified Compliance Report.

At this stage, the Proponent will not be required to attach this documentation to the Application, they will however, need to provide the following declaration as an attachment or note within the Application on the DNSP Portal:

"The Proponent declares the design and the commissioning for the EG installation has or will be carried out under engineering supervision by a Registered Professional Engineering of Queensland (RPEQ). A copy of these RPEQ certified design and commissioning records shall be made available to the DNSP on request. The installation complies with the requirements of STNW1174."

5. What if I am connecting to an Isolated Network?

Ergon Energy supplies electricity to 39 isolated communities via 33 diesel power stations powering micro-grids. There are unique technical challenges faced when connecting customer EG systems in these communities. In some communities unmanaged hosting capacities have been exceeded.

We are introducing a new standard designed specifically for Isolated Networks. This standard is still under consultation and anticipated for release in January 2022. If you are wishing to connect to an Isolated Network, the connection will be accommodated under STNW1170 or STNW1174, as relevant, prior to the release of the new standard. Where unmanaged hosting capacity limits have been reached, there may be additional technical requirements consistent with current practice.

6. How does this impact eligibility for Small-scale Technology Certificates (STCs)?

Only AS/NZS 4777.2:2020 compliant inverters installed from the 18 December 2021 will be eligible to receive STCs. If you are wanting to claim STCs under the Small-scale Renewable Energy Scheme (SRES) for a AS/NZS 4777.2:2015 compliant inverter, it will need to be installed prior to 18 December 2021. For more information see the Clean Energy Regulator Website.

7. How does this impact eligibility for Large-scale Generation Certificates (LGCs)?

Only AS/NZS 4777.2:2020 compliant inverters installed from the 18 December 2021 will be eligible to receive LGCs. For more information see the Clean Energy Regulator Website.

The finer details

8. If I have a valid connection agreement in place for a 2015 compliant inverter before the 18 December, can I install after the 18 December?

Yes. You can install a 2015 compliant inverter from 18 December where the following criteria are met:

- You have a valid connection agreement to the Energex or Ergon Energy distribution network in place for a 2015 compliant inverter; and
- The inverter being installed was made in, or imported into Australia before 18 December 2021; and
- The installation occurs within the terms of the connection agreement, including the timeframes.

It is important to note however, that if you install a 2015 compliant inverter from 18 December 2021 that you will not be eligible for STCs or LGCs for this system. For more information see the Clean Energy Regulator Website.

9. Can I still apply for a 2015 compliant inverter with Energex or Ergon Energy?

No. Inverters compliant with AS/NZS 4777.2 2015 are no longer accepted for new applications at Energex and Ergon Energy.

Applications can continue to be submitted where the inverters are compliant with AS/NZS 4777.2 2020.

10. What if I didn't accept an offer for connection agreement for a 2015 compliant inverter before the 18 December 2021?

If a connection offer was made by Energex or Ergon Energy to an applicant but not accepted prior to 18 December 2021, then it will no longer be considered valid. If the applicant still wishes to connect an inverter energy system to the grid, the applicant will need to submit a new application with a 2020 compliant inverter. A new application will be subject to associated fees and timeframes for processing and technical assessment.

11. What are the key dates for AS/NZS 4777.2:2015 inverters?

See the below table for the key dates associated with applying for a connection agreement, installing or submitting and EWR for a AS/NZS 4777.2:2015 inverter.

AS/NZS 4777.2:2015 Compliant Inverter

	Application for connection agreement		Installation	Submit EWR
	MSO	Negotiated		
Previously	Yes	No	Yes	Yes
11 December 2021	No	No	Yes	Yes
18 December 2021	No	No	No[1]	No[1]

Note 1 – The installation of AS/NZS 4777.2:2015 inverters are permissible on and after the 18 December for customers with valid connection agreements only. A customer needs to have accepted an offer made prior to 18 December and installation and submission of EWR shall meet the timeframes in the relevant connection agreement. Additionally, the inverter being installed must have been made in, or imported into Australia before 18 December 2021. These installations are not eligible for STCs or LGCs, for more information see Clean Energy Regulator Website.

12. Can I still install a warranty replacement?

An inverter compliant with an earlier version of AS/NSZ 4777.2 can be replaced under warranty where:

- The replacement inverter is the same make and model (like-for-like).
- The replacement is for warranty purposes.
- The inverter is set up to comply with the existing connection agreement.

Applications are required for warranty replacements. Where the above requirements are not met, an AS/NZS 4777.2:2020 inverter compliant with the latest standards will be required.

Installers are required to submit a connect application and receive approval for all replacement inverters, including warranty replacements, prior to connection.

13. What if I have an existing system and want to expand/increase it?

If you have existing inverter/s compliant with an earlier version of AS/NSZ 4777.2, it is possible to add new inverters so long as:

- The existing DER with the earlier version of AS/NSZ 4777.2 compliant inverters is left unchanged (for example, existing DER is a nil export system and continues to be so); and
- The new inverter/s are AS/NZS 4777.2:2020 compliant; and
- The proposed system meets the standards requirements it is applying to be connected under (for example, phase balancing, aggregate export etc).

14. Can I apply to connect a AS/NZS 4777.2:2020 compliant inverter now?

Yes, AS/NZS 4777.2:2020 inverters are already being listed on our Electrical Contractors Portal.

15. How do I know if an inverter is compliant with AS/NZS 4777.2:2020?

Energex and Ergon Energy use listing from the Clean Energy Council to populate the inverters listed in our Customer Portals. The Clean Energy Council (CEC) has added the suffix "(AS4777-2 2020)" to the model numbers for inverters to distinguish between 2015 and 2020 compliant inverters. Please select an AS/NZS 4777.2:2020 compliant inverter from the list in the Customer Portal when you are submitting your application. The inverters are also listed on the Clean Energy Council website however, for newly listed inverters, you may need to wait a few days for the list to be updated on our Customer Portals.

16. Can a 2015 inverter being installed on site be made complaint to AS/NZS 4777.2:2020 by running a firmware upgrade on the day of installation?

No. It is a requirement under section 191 of the Electrical Safety Regulation that an electrical product being sold in Queensland must be compliant with the relevant safety standards for the product when manufactured or imported. In Queensland it is requirement that the manufacturer only sell AS/NZS 4777.2.2020 compliant inverters from 18 December 2021. Therefore, from 18 December 2021, any firmware updates to AS/NZS 4777.2:2020 must be completed prior to sale.

17. I have a 2015 inverter already installed with a connection agreement; can I upgrade the firmware to AS/NZS 4777.2.2020?

You would need to apply for a new connection agreement and ensure that the entire system complies with the latest applicable connection standard. Once you have received a new connection agreement and the site is compliant with all other requirements, the solar installer is able to upgrade your firmware.

18. What are the key dates for AS/NZS 4777.2:2020 inverters?

You can apply for a connection with a AS/NZS 4777.2:2020 inverter now. AS/NZS 4777.2:2020 is now the mandatory grid-connect inverter standard in Queensland.

Any further questions?

Contact us at the below email addresses should you have any questions.

Energex: energexgeneration@energyq.com.au

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