

To submit a comment on a draft open for Public Comment please register with the Standards Hub and submit your comments online. Only registered Standards Hub users can submit comments. Drafts that are open for Public Comment can be accessed here: <https://www.hub.standards.org.au/hub/public/listOpenCommentingPublication.action>

All comments are required to be submitted online, any comment not submitted online prior to the close of comment date will not be considered for review by the committee.

Please do not modify or change this template, including its table headings, columns or structure, as doing so will result in the system rejecting your comment.

Fields marked with an asterisk (\*) are mandatory and if not populated will result in the system rejecting your comment. Any supporting documentation can be updated after the successful submission of comments.

The "Section Identifier" should be laid out as per the examples below. If you use other formats (such as 2-3, 2/3 etc.) the system will reject your comment.

The "Comment Detail" field should describe the issue you feel should be addressed, and a justification for the proposed change.

The "Proposed Change" field should set out the specific text, figured etc. you propose to be added, removed or altered.

*Example: How to complete the comment form:*

* Sect./ Subsect. <sup>1</sup>	* Sect. ID	Para./Table /Fig./Comm . /Note	*Page No.	*Comment Type <sup>2</sup>	*Comment Detail	*Proposed Change
Clause	2.3	Table 1	16	Editorial	"diagram" incorrectly spelt	Correct spelling error
Appendix	C15.6		62	Technical	AS 5100.7 incorrectly referenced	Reference should be AS 5100.2

<sup>1</sup> Options include: Clause, Title, Table of Contents, Preface, Foreword, Introduction, Appendix, Bibliography or Index.

<sup>2</sup> Options include: Editorial, General or Technical.

*Section <sup>1</sup>	*Section Identifier	Paragraph/ table/ figure/ commentary/ note	*Comment Type <sup>2</sup>	*Page No	*Comment Detail	*Proposed Change
Clause	3.4.1	Third paragraph	Technical	17	More precise technical wording is required in this paragraph, as shown in red.	The <b>current</b> rating of an IES comprised of a single inverter shall be the rated current of the inverter. Where the IES is comprised of multiple inverters, the IES <b>current</b> rating shall be the summation of the rated currents of all the inverters <b>of that contributing current to the phase carrying the highest current IES</b> . The main switch (inverter supply) shall be sized to suit the total IES rated current for those IES connected to it.
Clause	3.4.4.1	Table 1, row 1, column 3	Technical	19	Column 2 covers IES central protection requirements for up to 5 kVA per phase, which is therefore equivalent to up to $3 \times 5\text{ kVA} = 15\text{ kVA}$ in total, therefore column 3 needs to cover IES beginning above this 15 kVA threshold, as shown in red.	<b>15 &lt; IES kVA</b> <b><math>\leq 30\text{ kVA}</math></b>
Clause	3.4.4.1	Table 1, row 4, column 4	Technical	19	<p>Central anti-islanding protection should not be required where each individual inverter is compliant to AS/NZS 4777.2:2015 as each inverter must have this passive voltage and frequency anti-islanding protection (as per AS/NZS 4777.2:2015 Clause 7.4). Requiring an additional layer of anti-islanding protection adds unnecessary complexity and cost. Therefore, it is proposed that the text in red be removed.</p> <p>As Columns 3 and 4 would then have the same central protection requirements, they can be merged to cover the range <math>15 &lt; \text{IES kVA} \leq 200\text{ kVA}</math>)</p> <p>AS/NZS 4777.2:2015 Clause 8.3 then requires that if</p>	Phase balance protection (refer to Clause 3.4.4.2) where not inverter integrated according to AS/NZS 4777.2 <b>AND</b> <b>Under and over voltage protection and under and over frequency protection</b> <b>(Refer to Clause 3.4.4.3)</b>  (Columns 3 and 4 can then be merged to cover the range $15 < \text{IES kVA} \leq 200\text{ kVA}$ )

<sup>1</sup> Options include: Clause, Title, Table of Contents, Preface, Foreword, Introduction, Appendix, Bibliography or Index.

<sup>2</sup> Options include: Editorial, General or Technical.

*Section <sup>1</sup>	*Section Identifier	Paragraph/ table/ figure/ commentary/ note	*Comment Type <sup>2</sup>	*Page No	*Comment Detail	*Proposed Change
					<p>one or more inverters disconnect as required by AS/NZS 4777.2:2015 Clause 7 due to voltage or frequency being outside allowable ranges, or to a demand response mode DRM 0 assertion, then all inverters disconnect within 2 seconds.</p> <p>The central protection must therefore be capable of detecting if any inverter has disconnected due to voltage or frequency being outside allowable ranges, rather than necessarily monitoring voltage or frequency itself, and then must disconnect all inverters accordingly.</p> <p><b>It is recommended that, in future, AS/NZS 4777.2:2015 Clause 8.3 be removed altogether, for the purposes of simplifying multiple inverter installation complexity and reducing cost.</b> In this case, the central protection would only be required to monitor and implement phase balance protection.</p>	
Clause	3.4.4.3		Technical	19	<p>The 10 minute average voltage rise (<math>V_&gt;</math>) parameter of Table 2 is not required as AS/NZS 4777.2:2015 Clause 7.5.2 already specifies a sustained voltage rise equivalent <math>V_{nom\_max}</math>, whereby each <i>inverter shall operate the automatic disconnection device (see Clause 7.2) within 3 s when the average voltage for a 10 min period exceeds the <math>V_{nom\_max}</math>...</i></p> <p>Thus this Table 2, and indeed this entire Clause, should be removed altogether for the reasons described here and above.</p> <p>Note also in Table 2, that a number of the central voltage and frequency protection set point values, are</p>	Remove Clause 3.4.4.3

*Section <sup>1</sup>	*Section Identifier	Paragraph/table/ figure/commentary/note	*Comment Type <sup>2</sup>	*Page No	*Comment Detail	*Proposed Change
					inconsistent with the passive anti-islanding set-point values of Table 13 of AS/NZS4777.2:2015	
Clause	3.4.4.4	Paragraph (a)	Technical	20	<p>The problem with specifying supply voltage range limits according to IEC 60038 for New Zealand as a reconnection condition is that it states that <i>concerning supply voltage range, under normal operating conditions, the supply voltage should not differ from the nominal voltage of the system by more than ±10 %.</i> This range is too large. At the higher limit, 230 V +10% = 253 V, and this is well above the 10 minute average for New Zealand, Vnom-max = 248 V, above which the inverter shuts down, as described in AS/NZS4777.2:2015 Clause 7.5.2. Proposed wording changes in red.</p> <p>Note that AS/NZS4777.2:2015 Clause 7.7 - Connection and reconnection procedure, paragraph (a), also uses exactly the same wording, and this should also be revised as proposed above.</p>	(a) The voltage of the grid has been maintained within the limits of AS 60038 (for Australia), or within 6% of standard low voltage (nominally 230 V) defined by the Electricity (Safety) Regulations 2010 IEC-60038 (for New Zealand), for at least 60 s.
Clause	7.6	Paragraph (g)	Technical	44	Clearer detail required, as proposed in red.	Test export Export limit operation, or if not practical to do so check export limit settings, if an export limit has been specified by the electricity distributor.