

**Submission to the Economic Regulation
Authority for amendments to the
Technical Rules
2016, Part B**

Date: 31 March 2016

Revision/addendum

Version	Date	Description	Responsibility
1	31/03/16	Initial submission document	LO

Contents

1	Executive Summary	5
2	Introduction	6
2.1	Submission structure.....	6
3	Proposed amendments Part B	7
3.1	Normal cyclic rating (NCR) amendment	7
3.2	Update for <i>Electricity (Network Safety) Regulations 2015</i>	9
4	Various typographical corrections	11
4.1	Correction to cross reference	11
4.2	Typographical corrections	11
4.3	Dates of Standards and Regulations	11
	Appendix A. References	12

Glossary of terms

Acronym / term	Meaning
Authority	Economic Regulation Authority
Code	<i>Electricity Networks Access Code 2004</i>
kVA	Kilo Volt Amperes (Apparent power)
MVA	Mega Volt Amperes (Apparent power)
NCR	Normal cyclic rating
NER	<i>National Electricity Rules</i>
NSP	Network Service Providers
PPG	Private parallel generator
PUO	Public Utilities Office
Technical Rules, Rules	Technical Rules, 23 December 2011
<i>User</i>	Has meaning as defined in the Technical Rules clause 1.3(b)(3)
WPN	Western Power Network

1 Executive Summary

Pursuant to clause 12.50(c) of the *Electricity Networks Access Code 2004 (Access Code)*, Western Power requests that the Economic Regulation Authority (**Authority**) consider and approve the two Technical Rules (**Rules**) amendments relating to clauses 2.5.4 and 2.5.8. Full details of the changes are listed in section 3 of this document. Section 4 contains several typographical corrections and one procedural change.

The proposed amendments are supported by assessment carried out to ensure that their implementation will result in material benefits, and not create an adverse impact on the *Users* or the network.

Table 1 below provides a summary of the proposed amendments.

Table 1 Summary of proposed amendments

Ref.	Technical Rules Clause	Summary of proposed amendment
B1	Clause 2.5.4 – Zone substations and NCR planning criterion	Modify the clause to remove ambiguity in the interpretation of the normal cyclic rating (NCR) planning criterion.
B2	Clause 2.5.8 – Reference to 2015 W.A. <i>Electrical (Network Safety) Regulations</i>	<i>Electricity (Supply Standards and System Safety) Regulations 2001</i> have been replaced by <i>Electricity (Network Safety) Regulations 2015</i> – the Rules need to be updated accordingly.

Section 4 includes a sub-section (s. 4.3) dealing with the adoption of updated Standards and Regulations referenced within the *Rules*. The proposed change is that these be adopted upon the release of an approved replacement document.

2 Introduction

The proposed amendments are expected to bring better transparency, consistency and cost effectiveness that would not be realised from the continued use of the current version of the applicable clauses of the *Rules*.

2.1 Submission structure

Section 3 contains a series of tables with specific details for each of the proposed amendments, tabulated and structured to address the following:

- outline of the clause(s) of the *Rules* affected by the proposed amendment;
- description of the concern or issue with the existing version of the Rules that the proposed amendment is addressing;
- detailed wording of the proposed amendment with a ~~strikethrough~~ where words are deleted and an underline where words are added;
- description of the benefits of the proposed amendment (in alignment with the *Access Code* objectives);
- discussion relating to the handling equivalent issues in National Electricity Rules (**NER**) jurisdictions;
- assessment of any identifiable risks or costs associated with the proposed amendment; and
- summary of the results of the stakeholder engagement regarding the proposed amendment.

3 Proposed amendments Part B

3.1 Normal cyclic rating (NCR) amendment

B1	Criteria	Response
	1. Clause of the <i>Rules</i> affected by the amendment	<p>2.5.4 Zone Substations</p> <p>(b) Normal Cyclic Rating (NCR) Criterion</p> <p>(1) The NCR risk criterion permits the loss of a portion of <i>power transfer</i> capacity at a <i>substation</i> following the unplanned loss of a supply transformer within that substation.</p> <p>(2) The portion of the <i>power transfer</i> capacity that may be lost is the lesser of:</p> <p>(A) 75% of the power transfer capacity of the smallest supply transformer within the substation; and</p> <p>(B) 90% of the <i>power transfer</i> capacity of the rapid response spare supply transformer.</p>
	2. Concern or issue being addressed by the amendment	<p>The preparation of the recent submission for a Technical Rules exemption for Meadow Springs works led to closer scrutiny of the NCR criterion clause in the Rules. On the basis of the Meadow Springs work, and feedback from the Authority's technical consultant, a more practicable wording for this <i>Rule</i> is being proposed.</p>
	<p>3. Details of the proposed <i>Rule</i> amendment</p> <p>For clarity, the current wording of the <i>Rule</i> is used with a strike through for words that have been deleted and an <u>underline</u> for words that have been added</p>	<p>2.5.4 Zone Substations</p> <p>(b) Normal Cyclic Rating (NCR) Criterion</p> <p>(1) The NCR risk criterion permits the loss of a portion of <i>power transfer</i> capacity at a <i>substation</i> following the unplanned loss of a <i>supply transformer</i> within that <i>substation</i>.</p> <p>(2) <u>The maximum <i>power transfer</i> at an NCR <i>substation</i> is 75% of the <i>power transfer</i> capacity of the <i>substation</i>, except that the total <i>power transfer</i> capacity lost shall</u></p>

	<u>not exceed 90% of the <i>power transfer</i> capacity of the rapid response spare supply transformer.</u>
4. Benefits of the proposed <i>Rule</i> amendment	Defer investment by increasing loading against otherwise deterministic compliance limits, but limiting risk in cases where those limits are breached for short periods of time by deploying more efficient mitigation methods.
5. Requirements for <i>NER</i> utilities	There is no equivalent clause in the <i>NER</i> because rapid response spare supply transformers are not used in the same way outside of Western Australia.
6. Identifiable risks associated with the proposed <i>Rule</i> amendment	The risk of adopting this approach is mitigated by the use of rapid response spare supply transformer (RRSST). This amendment aims to bring better alignment between the <i>Rules</i> and the transmission planning best practice.
7. Summary of the results of the stakeholder engagement	Western Power has not sought external feedback on the NCR planning criteria change. However, the previously gained exemption from the Authority for Western Power's planning approach for the Meadow Springs substation was subject to a thorough public consultation processes. See: https://www.erawa.com.au/electricity/electricity-access/western-power-network/technical-rules/era-determinations-on-exemptions-from-the-technical-rules/meadow-springs-zone-substation

3.2 Update for *Electricity (Network Safety) Regulations 2015*

B2	Criteria	Response
	1. Clause of the <i>Rules</i> affected by the amendment	2.5.8 (b) <i>Maximum fault currents</i> 2.7 TRANSMISSION AND DISTRIBUTION SYSTEM DESIGN AND CONSTRUCTION STANDARDS 3.4.6 (a) Design Standards
	2. Concern or issue being addressed by the amendment	There are three Technical Rules clauses that refer to <i>Electricity (Supply Standards and System Safety) Regulations 2001</i> . These regulations have been repealed and replaced by <i>Electricity (Network Safety) Regulations 2015</i> . This change updates the <i>Rules'</i> references to those regulations.
	3. Details of the proposed <i>Rule</i> amendment For clarity, the current wording of the <i>Rule</i> is used with a strikethrough for words that have been deleted and an <u>underline</u> for words that have been added	<p>2.5.8 Maximum Fault Currents</p> <p>Equipment may be installed with a lower fault <i>current rating</i> in accordance with applicable requirements of the Electricity (Supply Standards and System Safety) Regulations 2001 <u>Electricity (Network Safety) Regulations 2015</u> where the fault level is unlikely to exceed the lower rating for <i>credible contingency events</i>.</p> <p>(see Technical Rules 23 December, 2011, p. 31)</p>

4. Benefits of the proposed <i>Rule</i> amendment	<p>The change is limited to replacing the reference to the repealed <i>Electricity (Supply and System Safety) Regulations 2001</i> by a reference to the <i>Electricity (Network Safety) Regulations 2015</i>.</p> <p>“Part 6 — Repeal, consequential amendments and transitional provisions</p> <p>Division 1 — Repeal</p> <p><i>42. Electricity (Supply Standards and System Safety) Regulations 2001 repealed.”</i></p> <p>(see <i>Electricity (Network Safety) Regulations 2015</i>, Version 00-a0-01¹ as at 06 Aug 2015, page 38)</p> <p>Western Power considers adopting the more recent 2015 regulations prudent and no material change to current practice is expected.</p>
5. Requirements for <i>NER</i> utilities	<p>Similar approach and regulations apply to utilities required to comply with the <i>NER</i>.</p>
6. Identifiable risks associated with the proposed <i>Rule</i> amendment	<p>Western Power considers the risk of the proposed amendment to be low. A greater risk exists if the change is not made as this may result in an inconsistency between the Rules requirement and the relevant Regulations.</p>
7. Summary of the results of the stakeholder engagement	<p>As this is a compliance driven change, engagement has been of an informative nature.</p>

¹ Extract taken from *Electricity (Network Safety) Regulations 2015*, retrieved from www.slp.wa.gov.au on 8th February 2016, see that website for further information.

4 Various typographical corrections

4.1 Correction to cross reference

Clause 4.2.1(a) refers to witnessing the same ‘inspections and tests’ prescribed in clause 4.2.1(b), whereas clause 4.1.1(a) refers to ‘rights of entry and inspection’. This is not in the same context as is the intention of cl. 4.2.1(b) which considers the same inspections and tests as are generally addressed in Rule 4.2.1. Therefore it is proposed that cl. 4.2.1(b) reference to cl. 4.1.1(a) be replaced with 4.2.1(a).

The new clause 4.2.1(b) becomes:

(b) If a *User* installs or replaces *equipment* at a *connection point*, the *Network Service Provider* is entitled to witness the inspections and tests described in clause ~~4.1.1(a)~~ 4.2.1(a).

4.2 Typographical corrections

Correct the misspelling of the word “DISTRIBUTION” in the title of Section 5.

4.3 Dates of Standards and Regulations

The proposed change to the glossary is to see the Rules automatically adopt revisions to Standards and Regulations “as amended from time to time”. There is no apparent benefit to maintaining a reference within the *Rules* to superseded Standards and Regulations.

Proposed additions to the Glossary:

<u>Australian Standard (AS) and Australian/New Zealand Standard (AS/NZS)</u>	<u>Unless otherwise stated, the latest version, as published and amended from time to time, of referenced International and Australian Standard and/or Australian/New Zealand Standard applies. Where a date reference is supplied this is to indicate the version of the Standard to which specific (content/location within the text) references are made.</u>
<u>IEC, EN</u>	<u>The latest version of stated Standard applies, as published and amended from time to time. Where a date reference is supplied this is to indicate the version of the standard to which specific (content/location within the text) references are made.</u>
<u>Regulation, sets of regulations</u>	<u>The latest version of a stated Regulation, or a set of regulations, applies, as approved, amended and published from time to time.</u>

The included amendment B2 is of a similar type, but the referenced regulation has undergone a substantial change with the previous Regulation having been repealed, renamed and replaced by a new Regulation.

Appendix A. References

List of supporting documents

Document	Link
Technical Rules	https://www.erawa.com.au/electricity/electricity-access/western-power-network/technical-rules