

Western Power's Proposed Amendments to the Technical Rules Submitted April 2016

Draft Decision

September 2016

Economic Regulation Authority

WESTERN AUSTRALIA

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Invitation to make submissions

On 1 April 2016, Western Power submitted proposed amendments to the Technical Rules for the South West Interconnected Network (**SWIN**) to the Economic Regulation Authority (**Authority**).

Western Power's proposal was made under section 12.50 of the *Electricity Networks Access Code 2004* (**the Code**).

The Authority published an [Issues Paper](#) on 2 May 2016, inviting interested parties to make submissions regarding the changes proposed by Western Power by 3 June 2016. One submission was made by an interested party.

Interested parties are invited to make submissions on this Draft Decision by **4.00 pm (WST) on 28 September 2016**. Submissions should be marked to the attention of the Assistant Director, Electricity Access.

Submissions should be made via the [portal](#) on the ERA website.

CONFIDENTIALITY

In general, all submissions from interested parties will be treated as being in the public domain and placed on the Authority's website. Where an interested party wishes to make a submission in confidence, it should clearly indicate the parts of the submission for which confidentiality is claimed, and specify in reasonable detail the basis for the claim. Any claim of confidentiality will be considered in accordance with the provisions of *Electricity Networks Access Code 2004*, sections 14.12 to 14.15.

The publication of a submission on the Authority's website shall not be taken as indicating that the Authority has knowledge either actual or constructive of the contents of a particular submission and, in particular, whether the submission in whole or part contains information of a confidential nature and no duty of confidence will arise for the Authority.

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Decision

1. On 1 April 2016, Western Power submitted to the Economic Regulation Authority (**Authority**) a number of proposed amendments to the Technical Rules.¹
2. Western Power's proposed amendments include:
 - amendments to the wording of the Normal Cyclic Rating (**NCR**) criterion,² which outlines the permissible level of power loss following the unplanned loss of a supply transformer at a substation;
 - the replacement of references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015*;
 - correction of an incorrect cross reference in Clause 4.2.1(a);
 - correction of the misspelling of the word "Distribution" in the title of Section 5; and
 - additions to the Glossary of the Technical Rules that will allow the Rules to automatically adopt revisions to Standards and Regulations "as amended from time to time".
3. The Authority's Draft Decision is that some elements of the proposed revisions to Western Power's Technical Rules do not comply with chapter 12 of the *Electricity Networks Access Code 2004* (the **Code**), and the Code objective. Accordingly, the Authority:
 - Does not approve Western Power's proposal to amend the wording of the Normal Cyclic Rating (**NCR**) criterion, which outlines the permissible level of power loss following the unplanned loss of a supply transformer at a substation;
 - Approves Western Power's proposal to replace references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015*;
 - Approves Western Power's proposed amendment to correct an incorrect cross reference in Clause 4.2.1(a) of the Technical Rules;
 - Approves Western Power's proposed amendment to correct the misspelling of the word "Distribution" in the title of Section 5; and
 - Does not approve Western Power's proposed additions to the Glossary of the Technical Rules that will allow the Rules to automatically adopt revisions to Standards and Regulations "as amended from time to time".
4. The Authority's considerations in coming to the above Draft Decision are set out in the following sections.

¹ The Technical Rules set out the standards, procedures and planning criteria governing the construction and operation of Western Power's network.

² The NCR criterion permits the loss of a portion of power transfer capacity at a substation following the unplanned loss of a supply transformer.

Reasons

Background

5. On 1 April 2016, Western Power submitted a number of proposed amendments to its Technical Rules. Western Power's proposal was made under section 12.50 of the Code.
6. The proposed amendments are:
 - amendments to the wording of the Normal Cyclic Rating (NCR) criterion, which outlines the permissible level of power loss following the unplanned loss of a supply transformer at a substation;
 - the replacement of references to Electricity (Supply Standards and System Safety) Regulations 2001 with references to Electricity (Network Safety) Regulations 2015;
 - correction of an incorrect cross reference in Clause 4.2.1(a);
 - correction of the misspelling of the word "Distribution" in the title of Section 5; and
 - additions to the Glossary of the Technical Rules that will allow the Rules to automatically adopt revisions to Standards and Regulations "as amended from time to time".
7. The Authority published an Issues Paper on 2 May 2016, inviting interested parties to make submissions regarding the changes proposed by Western Power by 3 June 2016. On 10 May 2016, the Authority held a workshop to allow Western Power to communicate its proposed changes directly to interested stakeholders. Stakeholders were able to ask questions about the proposed changes, and to raise any further issues that might arise as a result of the amended proposal.
8. One public submission was received and is available on the ERA website.
9. The Authority is not required under the Code to issue a detailed decision when approving revisions to the Technical Rules. However, the Authority is committed to a transparent decision making process and accordingly, has published this Draft Decision.
10. To assist it in making its decision, the Authority appointed a technical consultant, Geoff Brown and Associates (**GBA**) to provide advice on the proposed amendments. The matters raised in stakeholder submissions have also been considered in this decision.

Regulatory Requirements

11. Under Section 12.50 of the Code, a service provider may submit a proposal to amend its technical rules at any time.
12. As soon as practicable, the Authority must consider whether the proposed amendments are consistent with Chapter 12 of the Code and the Code objective, having regard to any exemptions granted under sections 12.34 and 12.41.

13. The objective of the Code is to promote the economically efficient investment in and operation of and use of, networks and services of networks in order to promote competition in markets upstream and downstream of the networks.
14. The objectives for technical rules as specified in section 12.1 of the Code are that they:
 - a) are reasonable;
 - b) do not impose inappropriate barriers to entry to a market;
 - c) are consistent with good electricity industry practice; and
 - d) are consistent with relevant written laws and statutory instruments.
15. If the network is part of an interconnected system, the technical rules must work in an integrated fashion with the technical rules governing all interconnected networks and reasonably accommodate the interconnection of further networks in the future.
16. The Authority may reject the proposal if in its opinion, the proposal is misconceived or lacking in substance, or has been made on trivial or vexatious grounds.
17. Subject to paragraph 16 above, the Authority must either approve or not approve the proposed amendments by publishing a notice of its decision. If a decision is to approve the proposed amendments, the Authority must also approve and publish the date on which the amendments commence.
18. The Authority must consult the public³ if it considers the proposed amendments to the Technical Rules to be substantial, and must approve the proposed amendment only if it considers that the amendment will not have a material adverse effect on the service provider or a user.

Considerations of the Authority

19. Each of Western Power's proposed amendments are considered separately below.

Normal Cyclic Rating (NCR) amendment

20. Western Power proposes to amend the wording of Clause 2.5.4, (Zone Substations), which deals with the amount of allowable power loss following the unplanned loss of a supply transformer at a substation.
21. The current wording of clause 2.5.4, and Western Power's proposed amendment are outlined in Table 1 below.

³ The process for public consultation is set out in Appendix 7 of the Code.

Table 1 Current Clause 2.5.4 and amendments proposed by Western Power

Clause 2.5.4 Zone Substations	Amended Clause 2.5.4
<p>2.5.4 Zone Substations</p> <p>1) The 1% Risk Criterion</p> <p>The 1% Risk criterion permits the loss of supply to that portion of a substation's peak load that is demanded for up to 1% of time in a year (87 hours) following the unplanned outage of any supply transformer in that substation.</p> <p>2) Normal Cyclic Rating (NCR) Criterion</p> <ol style="list-style-type: none"> 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. 2. The portion of the <i>power transfer</i> capacity that may be lost is the lesser of: <ol style="list-style-type: none"> A. 75% of the power transfer capacity of the smallest supply transformer within the substation; and B. 90% of the <i>power transfer</i> capacity of the rapid response spare supply transformer. 	<p>2.5.4 Zone Substations</p> <p>1) The 1% Risk Criterion</p> <p>The 1% Risk criterion permits the loss of supply to that portion of a substation's peak load that is demanded for up to 1% of time in a year (87 hours) following the unplanned outage of any supply transformer in that substation.</p> <p>2) Normal Cyclic Rating (NCR) Criterion</p> <ol style="list-style-type: none"> 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>. 2. <u>The maximum <i>power transfer</i> at an NCR substation 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 not exceed 90% of the <i>power transfer</i> capacity of the rapid response spare <i>supply transformer</i>.</u>

22. Western Power notes that its preparation of a recent submission for a Technical Rules exemption for the Meadow Springs zone substation, highlighted a lack of clarity in the NCR criterion.⁴ Consequently it has proposed revised wording, which it considers clarifies the intent of the criterion.
23. A submission from James Davidson was received by the Authority. James Davidson submitted that Western Power's proposed amendments to the NCR criterion might not result in improved efficiency of investment. James Davidson provided the Authority with a list of values that in his opinion, provided evidence that the amendments would instead reduce the capacity of substations affected by this clause.
24. The Authority's technical Consultant, Geoff Brown and Associates (**GBA**), has reviewed the proposal by Western Power to amend Clause 2.5.4, as well as the submission from James Davidson.
25. GBA notes the submission from James Davidson suggests he has understood the proposed amendment to relate to changing the requirement of the clause, and has not appreciated that it is an attempt by Western Power to simply clarify what was intended by the clause. GBA considers the submission highlights that Western Power's proposed changes do not add clarity to the existing clause.⁵

⁴ Western Power, *Technical Rules Amendments Submission Part B 2016*, April 2016, p. 8.

⁵ Geoff Brown and Associates, *Technical Rules Amendment Application March April Report*, 2 August 2016. p. 12.

26. GBA recommends the following wording would clarify the intent of clause 2.5.4 and takes into account the definition of the term “supply” in the *Electricity Industry Act 2004*, which includes both supply to loads and supply from generators:

Normal Cyclic Rating (NCR) Criterion

- (1) The NCR risk criterion permits a limited amount of unmet demand for power transfer capacity following the unplanned loss of a supply transformer within a substation.
 - (2) The maximum power transfer through a substation subject to the NCR risk criterion must be the lesser of:
 - (A) 75% of the total power transfer capacity of the substation, with all supply transformers in service; or
 - (B) the power transfer for which the maximum unmet demand for power transfer capacity following the loss of the largest supply transformer in the substation is equal to 90% of the power transfer capacity of the rapid response spare supply transformer.
27. GBA also recommends that the term load shedding in the second paragraph of the clause 2.5.4 explanatory box be replaced by the term unmet demand to reflect the fact that the power transfer capacity may be required for either supply from generators or supply to loads.
28. The Authority has considered Western Power’s proposal, the advice from GBA and the public submission from James Davidson. The Authority does not consider Western Power’s proposed amendment adds clarity to the requirements of the NCR criterion.
29. The Authority considers good electricity industry practice, as required under Chapter 12 of the Code, is for all clauses of the Technical Rules to be clearly worded to enable users to properly understand the requirements. Accordingly, the Authority does not approve Western Power’s proposed amendments to Clause 2.5.4. The Authority considers the wording recommended by GBA would provide clarity in relation to the intent of the clause.

Required Amendment 1

Western Power must amend the wording of clause 2.5.4 to provide clarity in relation to the requirements of the NCR criterion, similar to GBA’s suggested wording as set out in paragraphs 26 and 27 above.

Replace out of date references to *Electricity (Supply Standards and System Safety) Regulations 2001*

30. Western Power proposes to replace references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015* in the following sections of the Technical Rules:
- Clause 2.5.8 (c) Maximum fault currents⁶

⁶ Western Power has advised the Authority that its proposal of April 2016 incorrectly referenced Clause 2.5.8(b), and that the clause affected by this change is in fact Clause 2.5.8(c). Western Power has provided the Authority with an updated version of its proposal, which is available on the [ERA website](#).

- Clause 2.7 Transmission and Distribution System Design and Construction Standards
 - 3.4.6(a) Design Standards
31. Western Power advises that it has proposed this change because the *Electricity (Supply Standards and System Safety) Regulations 2001* have been repealed and subsequently replaced with the *Electricity (Network Safety) Regulations 2015*.
 32. Western Power considers that its proposed change to reference the current regulations is prudent, and will result in no material changes to current practice. Western Power further submits that not proceeding with the proposed amendment will result in the risk that there may be inconsistency between the requirements of the Technical Rules and the current regulations.
 33. No submissions were received in relation to this proposed amendment.
 34. The Authority considers updating the Technical Rules to reflect the most recent regulations would be consistent with good electricity industry practice as required under Chapter 12 of the Access Code.
 35. The Authority therefore approves Western Power's proposal to replace references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015*.

Corrections to cross reference and typographical error

36. Western Power has identified that Clause 4.2.1(a) incorrectly refers to Clause 4.1.1(a), where it should instead refer to Clause 4.2.1(b).
37. Western Power advises that Clause 4.1.1(a) relates to "rights of entry and inspection", in a different context to the intention of Clause 4.2.1(b), where it is considered that the same inspections and tests are generally addressed in Rule 4.2.1.
38. Western Power has therefore proposed that Clause 4.2.1(a) be amended to correctly refer to Clause 4.2.1(b). The amendment proposed by Western Power is outlined in Table 2 below.

Table 2 Proposed amendment to Clause 4.2.1(b)

Clause 4.2.1(b):

(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).

39. Western Power has also identified a typographical error in the spelling of the word "Distribution" in the title of Section 5 of the Technical Rules. Western Power proposes to correct this error.
40. No public submissions were received in relation to this proposed amendment.
41. The Authority considers ensuring that spelling is correct and that cross references are correctly applied in the Technical Rules would be consistent with good electricity industry practice as required under Chapter 12 of the Access Code. The Authority

therefore approves Western Power's Proposal to correct the spelling of the word "Distribution" in the title of Section 5, and to amend the cross reference in Clause 4.2.1(a) so that it correctly refers to Clause 4.2.1(b).

Dates of Standards and Regulations

42. Western Power has proposed to make a number of additions to the Glossary of the Technical Rules that will allow the Rules to automatically adopt revisions to Standards and Regulations "as amended from time to time".
43. Western Power considers that there is no benefit to maintaining references in the Technical Rules to Standards and Regulations which have been superseded.
44. Western Power's proposed additions to the Glossary of the Technical Rules are outlined in Table 3 below.

Table 3 Proposed additions to the Technical Rules Glossary

Term	Definition
Australian Standard (AS) and Australian/New Zealand Standard (AS/NZS)	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.
IEC, EN	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.
Regulation, sets of regulations	The latest version of a stated Regulation, or a set of regulations, applies, as approved, amended and published from time to time.

45. No public submissions were received in relation to this proposed amendment.
46. The Authority's technical consultant, GBA, reviewed Western Power's proposal to amend the Technical Rules in its report to the Authority. GBA expressed the following concerns:
 - there is already a definition of Australian Standard (AS) in the glossary, but this is not noted or referred to in Western Power's proposal;
 - there don't appear to be any dated references to IEC standards in the Rules;
 - there don't appear to be any references to an EN standard in the Rules;
47. GBA recommended that instead of the proposed changes, Western Power should systematically remove all inappropriate dates from the reference standards. In cases where Western Power wishes to retain some dated references to Standards or Regulations, it would be more consistent with standard legal drafting practice to include this clarification in Section 1, perhaps as clause 1.10 *References to Standards and Regulations*.
48. The Authority considers that good electricity industry practice, as required under Chapter 12 of the Access Code, would be to:

- remove any terms in the Technical Rules Glossary that are not referred to within the body of the Technical Rules;
 - review the Technical Rules to identify all instances where standards are incorrectly date referenced, and amend accordingly; and
 - if it is appropriate to retain some dated references to Standards or Regulations, this should be clarified in Section 1 of the Technical Rules.
49. Accordingly, the Authority does not approve Western Power's proposed additions to the Technical Rules Glossary and considers further review is required to ensure the Technical Rules comply with good electricity industry practice.

Required Amendment 2

Western Power should amend the Technical Rules as set out in paragraph 48 of this draft decision.