

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

Final Decision

November 2016

Economic Regulation Authority

WESTERN AUSTRALIA

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Decision

1. On 1 April 2016, Western Power submitted to the Economic Regulation Authority (**Authority**) the following proposed amendments to the Technical Rules:¹
 - 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(b);
 - 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”.
2. On 7 September 2016, the Authority published its Draft Decision. The Authority considered that some elements of Western Power’s proposed revisions did not comply with chapter 12 of the *Electricity Networks Access Code 2004* (the **Code**), and the Code objective. Accordingly, the Authority:
 - did 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; and
 - did 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”.
3. Western Power submitted a revised proposal dated 28 September 2016. The revised proposal:
 - changed the wording for the NCR criterion in line with the Authority’s Draft Decision; and
 - agreed that further amendments were required to the Technical Rules Glossary as set out in the Authority’s Draft Decision, but noted that such amendments would be submitted to the Authority separately at a later date.³
4. A public submission on the Draft Decision was received from Mr Steve Davidson.
5. The Authority has reviewed Western Power’s revised proposal and the submission received from Mr Steve Davidson. The Authority notes Western Power will be resubmitting amendments to the Technical Rules Glossary concerning automatic revisions to Standards and Regulations at a future date. In relation to the other

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.

³ At the time of publishing this Final Decision, the Authority has not received any further proposals from Western Power concerning further amendments to the Technical Rules Glossary.

amendments proposed by Western Power, the Authority considers the revised amendments:

- are reasonable;
 - do not impose inappropriate barriers to entry to the electricity market;
 - are consistent with good industry practice;
 - will work in an integrated fashion with interconnected networks and reasonably accommodate the interconnection of further networks in the future.
6. The Authority's Final Decision is that Western Power's revised proposal to amend the Technical Rules, with the exception of the proposed changes to the Glossary for automatic adoptions of revisions to Standards and Regulations, complies with chapter 12 of the Code and the Code objective.
 7. Consistent with clause 12.53 of the Code, the Authority has determined that the date the approved amendments to the Technical Rules will take effect is 1 December 2016.
 8. The Authority's considerations and reasoning in coming to its Final Decision are set out in the following sections.

Reasons

Background

9. 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.
10. The proposed amendments were:
 - 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(b);
 - correction of the misspelling of the word "Distribution" in the title of Section 5; and
 - additions to the Technical Rules Glossary that will allow the rules to automatically adopt revisions to Standards and Regulations "as amended from time to time".
11. 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.
12. One public submission was received in response to the Authority's Issues Paper and consultation workshop. This submission is available on the Authority's website.
13. On 7 September 2016, the Authority published its Draft Decision. The Authority considered that some elements of the proposed revisions to Western Power's Technical Rules did not comply with chapter 12 of the *Electricity Networks Access Code 2004* (the **Code**), and the Code objective. Accordingly, the Authority:
 - did not approve Western Power's proposal to amend the wording of the NCR criterion, which outlines the permissible level of power loss following the unplanned loss of a supply transformer at a substation;
 - approved Western Power's proposal to replace references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015*;
 - approved Western Power's proposed amendment to correct an incorrect cross reference in Clause 4.2.1(a) of the Technical Rules;
 - approved Western Power's proposed amendment to correct the misspelling of the word "Distribution" in the title of Section 5; and

- did not approve Western Power’s proposed additions to the Technical Rules Glossary that would allow the Rules to automatically adopt revisions to Standards and Regulations “as amended from time to time”.
14. Western Power submitted (as a public submission in response to the Authority’s Draft Decision) a revised proposal dated 28 September 2016. The revised proposal:
 - amended the wording for the NCR criterion in line with the Authority’s Draft Decision; and
 - agreed that further amendments were required to the glossary as set out in the Authority’s Draft Decision, but noted this would be submitted at a later date.
 15. One submission in response to the Draft Decision was received. This submission is available on the ERA website.
 16. The Authority has made its Final Decision with respect to the changes proposed by Western Power, based on the amended proposal submitted by Western Power to the Authority dated 28 September 2016.
 17. The Authority is not required under the Code to issue a detailed decision when approving revisions to the Technical Rules. The Authority is committed to making transparent decisions, and accordingly, has published this Final Decision. The Authority appointed a technical consultant, Geoff Brown and Associates (**GBA**) to provide independent advice on the proposed amendments. The matters raised in stakeholder submissions have also been considered in this decision.

Regulatory Requirements

18. Under section 12.50 of the Code, a service provider may submit a proposal to amend its technical rules to the Authority at any time. 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 technical rules exemptions granted under sections 12.34 and 12.41 of the Code.
19. The objectives for technical rules as specified in section 12.1 of the Code are that the rules:
 - 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.
20. 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*”.
21. 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.
22. The Authority may reject the proposal to amend technical rules if, in its opinion, the proposal is misconceived or lacking in substance, or has been made on trivial or vexatious grounds.

23. The Authority may make a draft decision prior to making its final decision. 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. The Authority must consult the public⁴ if it considers the proposed amendments to the technical rules are substantial, and must approve the proposed amendments only if it considers that the amendments will not have a material adverse effect on the service provider or a user.

Considerations of the Authority

24. Each of Western Power's proposed amendments is considered separately below.

Normal Cyclic Rating (NCR) amendment

Draft Decision

25. Western Power proposed to amend the wording of Clause 2.5.4, (Zone Substations), which deals with the allowable power loss following the unplanned loss of a supply transformer at a substation. The current wording of clause 2.5.4, and Western Power's proposed amendments are outlined in Table 1 below.
26. Western Power noted 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.⁵ Consequently it proposed revised wording, which clarified the intent of the criterion.

⁴ The process for public consultation is set out in Appendix 7 of the Code.

⁵ Western Power, *Technical Rules Amendments Submission Part B 2016*, April 2016, p. 8.

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. Seventy-five per cent of the power transfer capacity of the smallest supply transformer within the substation; and B. Ninety per cent 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 substation, 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>

27. A submission on the Authority's Issues Paper was received from Mr James Davidson. 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.
28. The Authority's technical consultant, Geoff Brown and Associates (**GBA**), reviewed Western Power's proposal and the submission from Mr James Davidson.
29. GBA noted the submission from Mr James Davidson suggested he had assumed the proposed amendment related to changing the requirement of the clause, and had not appreciated it was an attempt by Western Power to simply clarify what was intended by the clause. GBA considered the submission highlighted that Western Power's proposed changes did not clarify the existing clause.⁶
30. GBA recommended 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:

⁶ Geoff Brown and Associates, *Technical Rules Amendment Application March April Report*, 2 August 2016. p. 12.

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) Seventy-five per cent 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.
31. GBA also recommended that the term load shedding in the second paragraph of 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.
 32. The Authority considered Western Power's proposal, the advice from GBA and the public submission from Mr James Davidson. The Authority did not consider Western Power's proposed amendment added clarity to the requirements of the NCR criterion.
 33. The Authority considered that good electricity industry practice, as required under chapter 12 of the Code, is for the Technical Rules to be clearly worded to enable users to understand its requirements. Accordingly, the Authority did not approve Western Power's proposed amendments to Clause 2.5.4 of the Technical Rules. The Authority considered the wording recommended by GBA would provide clarity in relation to the intent of the clause.

Revised Proposal

34. In its revised proposal, Western Power agreed with the comments from GBA and the Authority's Draft Decision in relation to clarifying the NCR criterion. Western Power has adopted the wording recommended by GBA for clause 2.5.4(b) of the Technical Rules.
35. Western Power has also adopted the wording change recommended by GBA for the second point in the explanatory box of clause 2.5.4 and replaced the term 'load shedding' with 'unmet demand'.

Public Submissions

36. One public submission was received from Mr Steve Davidson in response to the Authority's Draft Decision. Steve Davidson noted that:

If a techno-economic comparison of the existing requirement in the TR [technical rules] (NCR now) and proposed (NCR proposed change in April 2016) is performed, it will show to what extent that the proposed leads to inefficient investment outcomes (relative to NCR now).
37. The Authority's technical consultant, GBA, reviewed Mr Steve Davidson's submission and again noted there is no change to the existing rule requirement. GBA noted the only issue is the clarity with which the NCR requirement is prescribed in the rules, which has been addressed by Western Power's amended proposal.

Final Decision

38. In its Draft Decision the Authority did not accept Western Power's proposal and required Western Power to amend the wording of clause 2.5.4 of the Technical Rules, to clarify the requirements of the NCR criterion (similar to GBA's suggested wording as set out in the Draft Decision).
39. Western Power agreed with the Authority's required (draft decision) amendment and in its revised proposal has adopted the recommended wording of GBA in full. The Authority notes the submission from Mr Steve Davidson regarding the NCR, but also notes the advice from GBA that there is no actual change to the existing requirements and that the change relates purely to a clarification of the NCR requirement in the Technical Rules.
40. The Authority considers that good electricity industry practice, as required under chapter 12 of the Code, is for the Technical Rules to be clearly worded to enable users to understand its requirements. Accordingly, the Authority approves Western Power's revised proposed amendments to Clause 2.5.4 of the Technical Rules.

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

Draft Decision

41. Western Power proposed to replace references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015* in the following clauses of the Technical Rules:
 - Clause 2.5.8(c) – Maximum fault currents⁷
 - Clause 2.7 – Transmission and Distribution System Design and Construction Standards
 - Clause 3.4.6(a) – Design Standards
42. Western Power advised that the reason for the proposed change was because the *Electricity (Supply Standards and System Safety) Regulations 2001* had been repealed and subsequently replaced with the *Electricity (Network Safety) Regulations 2015*.
43. Western Power considered that its proposed change to reference the current regulations was prudent, and would result in no material changes to current practice. Western Power further submitted that not proceeding with the proposed amendment could create inconsistencies between the requirements of the Technical Rules and current regulations.
44. No submissions were received in relation to this proposed amendment during the initial public consultation period (in response to the Authority's Issues Paper).
45. In its Draft Decision, the Authority considered that updating the Technical Rules to reflect the most recent regulations would be consistent with good electricity industry

⁷ Western Power advised the Authority that its proposal of April 2016 incorrectly referenced Clause 2.5.8(b), and that the clause impacted 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](#).

practice as required under chapter 12 of the Code. The Authority therefore approved Western Power's proposal to replace references to *Electricity (Supply Standards and System Safety) Regulations 2001* with references to *Electricity (Network Safety) Regulations 2015*.

Revised Proposal

46. No revised proposal was submitted.

Public Submissions

47. No submissions were received.

Final Decision

48. As there were no further submissions from Western Power or interested parties, the Authority has maintained its Draft Decision to approve Western Power's proposed amendments. Accordingly, the Authority 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

49. Western Power identified that Clause 4.2.1(b) of the Technical Rules incorrectly referred to Clause 4.1.1(a), where it should have instead referred to Clause 4.2.1(a).
50. Western Power advised 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. Western Power therefore proposed that the clause be amended to correctly refer to Clause 4.2.1(a), as 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).

51. Western Power 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.
52. No submissions were received in relation to this proposed amendment during the initial public consultation period (in response to the Authority's Issues Paper).
53. The Authority considered that the correction of typographical errors and maintaining correct cross referencing throughout the Technical Rules would be consistent with good electricity industry practice, as required under chapter 12 of the Code. The Authority therefore approved 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(b).

Revised Proposal

54. No revised proposal was submitted.

Public Submissions

55. No submissions were received.

Final Decision

56. As there were no further submissions from Western Power or interested parties, the Authority has maintained its Draft Decision to approve Western Power's proposed amendments. Accordingly, the Authority 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(b)

Dates of Standards and Regulations

57. Western Power proposed to make a number of additions to the Technical Rules Glossary that would allow the rules to automatically adopt revisions to Standards and Regulations "as amended from time to time". Western Power considered there was no benefit to maintaining references in the Technical Rules to Standards and Regulations that were superseded.

58. Western Power's proposed additions to the Technical Rules Glossary 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.

59. No submissions were received in relation to this proposed amendment during the initial public consultation period (in response to the Authority's Issues Paper).

60. The Authority's technical consultant, GBA, reviewed Western Power's proposal to amend the Technical Rules and 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;
61. 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*.
 62. Having regard to GBA's advice, the Authority considered that good electricity industry practice, as required under chapter 12 of the 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
 - where it is appropriate to retain some dated references to Standards or Regulations, these references should be clarified in Section 1 of the Technical Rules.
 63. Accordingly, the Authority did not approve Western Power's proposed additions to the Technical Rules Glossary and considered that a further review was required to ensure the Technical Rules complied with good electricity industry practice.

Revised Proposal

64. Western Power accepted the Authority's Draft Decision to not approve the amendments originally proposed. Western Power has indicated it will carry out the review as recommended by the Authority and provide a list of identified corrective amendments to the Authority in due course.
65. Western Power expects to carry out and complete this final review prior to the release of an expected new version of the Technical Rules later this year.

Public Submissions

66. No submissions were received.

Final Decision

67. The Authority notes Western Power's response in its revised proposal that it has taken the Authority's recommendation into account and will now conduct a full review of the Technical Rules.
68. As Western Power is currently undertaking this review, which it indicates will be submitted to the Authority at a later date, the Authority maintains its Draft Decision position to not approve Western Power's proposal to amend the Technical Rules Glossary (as proposed in Table 3 above).

69. The Authority will separately consider any further proposed amendments to the Technical Rules Glossary when such amendments are submitted by Western Power. The Authority considers any further proposed amendments will form part of a new proposal (application) from Western Power to amend its Technical Rules.