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ELECTRICITY ACT 1945

**ELECTRICITY
(SUPPLY STANDARDS
AND SYSTEM SAFETY)
REGULATIONS 2001**

Western Australia

Electricity (Supply Standards and System Safety) Regulations 2001

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Electricity Act 1945

Electricity (Supply Standards and System Safety) Regulations 2001

Made by the Governor in Executive Council.

Part 1 — Preliminary

1. Citation

These regulations may be cited as the *Electricity (Supply Standards and System Safety) Regulations 2001*.

2. Commencement

These regulations come into operation on the day 28 days after the day on which they are published in the *Gazette*.

3. Definitions

(1) In these regulations, unless the contrary intention appears —

“accepted safety case” means a safety case that —

- (a) has been accepted, or is to be regarded as having been accepted, by the Director under Part 4 Division 3; and
- (b) has been implemented by the network operator under that Division,

and includes an accepted safety case amended under regulation 31 or 32;

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“**AG**” followed by a designation consisting of a number and a reference to a year, refers to the text of the document, published by the Australian Gas Association;

“**AS**” followed by a designation consisting of a number and a reference to a year, refers to the text, as from time to time amended and for the time being in force, of the document so designated, published by Standards Australia;

“**AS/NZS**” followed by a designation consisting of a number and a reference to a year, refers to the text, as from time to time amended and for the time being in force, of the document so designated, jointly published by Standards Australia and Standards New Zealand;

“**employee**”, in relation to a network operator, means —

- (a) a person employed or engaged by the operator;
- (b) a contractor or subcontractor to the operator; or
- (c) a person employed or engaged by a person referred to in paragraph (b);

“**high voltage**” means an operating voltage of more than 1 000 Vac or 1 500 Vdc between phase conductors or between a phase conductor and an earth;

“**implementation day**”, in relation to a safety case, means the day notified to the Director under regulation 27(2) in respect of the safety case;

“**low voltage**” means a voltage that is not a high voltage;

“**meter**” means a device used to measure and record the amount of electricity passing through the device;

“**network**” means —

- (a) a transmission or distribution works that is used to convey electricity under the authority of a consent given under section 7(1) of the Act or under any other Act; and
- (b) any line, switch, transformer, or apparatus on a generating station through which the output of the

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station's generating works passes to that transmission or distribution works;

“network operator” means a supply authority and any other person lawfully operating transmission or distribution works and includes Western Power Corporation;

“nominated auditor”, in relation to the safety case or accepted safety case of a network operator, means the person whose nomination by the network operator has been accepted under regulation 22;

“prescribed activity” means anything related to the conveyance, control, supply or use of electricity done by, for or with the authority of, the network operator in the course of the construction, maintenance, repair or operation of a network;

“quarter” means the period of 3 months beginning on 1 January, 1 April, 1 July or 1 October in any year;

“safety case” means a document that sets out the safety management and technical practices and procedures to be followed by a network operator in the operation of a network;

“utilised”, in relation to a purpose, includes capable of being, or intended to be, utilised for that purpose;

“working day” means a day that is not a Saturday, Sunday or public holiday.

- (2) In these regulations, unless the contrary intention appears, the numerical values prescribed are subject to tolerances according to normal industry practice.
- (3) To avoid doubt, it is declared that the word “network” does not include a line, pole, switch, transformer, or apparatus on or part of premises to which electricity is supplied by a network operator that is situated beyond the point at which electricity is so supplied to the premises.

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- (4) To avoid doubt, it is declared that the term “network operator” does not include the owner of premises to which electricity is supplied who distributes the electricity to a person who occupies a part or all of the premises.

4. Application of the *Electricity Regulations 1947* to a network operator

Part IX (other than regulation 316A) of the *Electricity Regulations 1947* does not apply to a network operator or an employee of a network operator.

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Standards for electricity supplied **Part 2**

r. 5

Part 2 — Standards for electricity supplied

5. Electricity supplied

- (1) Subject to subregulations (3) and (4), a network operator must use all reasonable endeavours to ensure that the supply of electricity to a consumer conforms to the benchmark standards for electricity quality and reliability set out in Schedule 1.
- (2) If a network operator is unable to satisfy the standards set out in Schedule 1 and the failure to satisfy those standards may result in damage to a consumer's installations or appliances, the network operator must use all reasonable endeavours to disconnect the supply of electricity to the consumer unless it is in the interest of consumers in the affected area to maintain the supply of electricity.
- (3) The standards set out in Schedule 1 do not apply at times when the network or a relevant part of it —
 - (a) is damaged, adversely affected, or disrupted by a network emergency or by a storm to such an extent that is not reasonably foreseeable and preventable by a network operator who complies with relevant industry standards;
 - (b) has been deliberately or accidentally damaged, adversely affected, or disrupted by a person other than the network operator; or
 - (c) in the opinion of the Director, has been damaged, adversely affected, or disrupted by an emergency that has resulted in a widespread interruption to the supply of electricity to consumers supplied with electricity from the network.
- (4) Part 2 does not apply to the supply of electricity to a consumer by a network operator or any other person given consent under section 7(1)(a), (b) or (d) of the Act (the “**electricity supplier**”) to the extent that the consumer and the network operator or

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electricity supplier have, after the day on which these regulations commence operation, otherwise agreed in writing.

- (5) Subregulation (4) does not apply unless the network operator or electricity supplier, as the case may be, has, before an agreement is entered into by the consumer and the network operator or electricity supplier, given the consumer an explanation in writing of the advantages and disadvantages of adopting standards for electricity quality and reliability other than those set out in Schedule 1.
- (6) If a consumer consumes, or can reasonably be expected to consume, more than 8760 MWh during any period of 12 months, Part 2 does not apply to the supply of electricity to that consumer by a network operator or electricity supplier to the extent that any standard set out in an agreement in writing entered into by the consumer and the network operator or electricity supplier before the day on which these regulations commence operation is inconsistent with a standard set out in Schedule 1.

6. Monitoring standards of supply

- (1) A network operator must take all reasonable steps to monitor and record the performance of its network to ensure that the standards set out in Schedule 1 are satisfied.
- (2) The monitoring of the network must include the monitoring of parts of the network that are known to be or are likely to be susceptible to supply interference or other problems.
- (3) A network operator must record every complaint made by a consumer in relation to the quality or reliability of the electricity supplied from its network to the consumer's premises.
- (4) Not more than 40 working days after the end of a calendar year, a network operator must provide the Director with a report on the performance of the operator's network during that calendar year, including the matters referred to in subregulations (1), (2), and (3).

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Standards for electricity supplied **Part 2**

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7. Failure to satisfy benchmark standards of supply

- (1) A consumer who considers that the supply of electricity to the consumer's electric installation by a network operator does not conform to the benchmark standard set out in Schedule 1 may request the network operator to verify that the supply of electricity conforms to that standard.
- (2) If a consumer makes a complaint in writing under regulation 6(3) or a request under subregulation (1) to a network operator, the network operator must —
 - (a) conduct an investigation within 20 working days of the day on which the complaint or request was made;
 - (b) if warranted, take field measurements; and
 - (c) if the supply of electricity to the consumer does not conform to the benchmark standard set out in Schedule 1, take action to ensure that the supply of electricity to the consumer conforms to that standard.
- (3) A consumer who is dissatisfied with —
 - (a) the manner in which an investigation has been conducted; or
 - (b) the results of an investigation,may request the Director to carry out a review of the investigation.
- (4) If the Director is requested to review an investigation, the network operator that carried out the investigation must, if requested in writing to do so by the Director, give the Director within 15 working days of the request being made details of action taken under subregulation (2) by the network operator.
- (5) If the Director is satisfied that a review of the investigation is warranted, the Director may conduct a review and give the consumer and the relevant network operator a summary of the Director's finding and any recommendation in relation to action

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Part 2 Standards for electricity supplied

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which the operator or consumer should take in relation to the supply of electricity to the consumer.

- (6) Not more than 20 working days after receiving the Director's finding or recommendation, the network operator must advise the Director of the action that it will take in relation to the finding or recommendation and the date the action will be completed.
- (7) The Director may publish the findings, recommendations and outcomes of a review in such manner as the Director considers appropriate.
- (8) A failure by a network operator to satisfy the benchmark standards set out in Schedule 1 or to comply with a recommendation of the Director does not constitute a contravention of these regulations.
- (9) A request for an investigation under subregulation (2) or a review under subregulation (3) may be made —
 - (a) by an agent of a consumer; or
 - (b) by any person who, in the opinion of the Director, represents the interests or likely interests of consumers or prospective consumers in the area supplied with electricity by the relevant network operator.

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Metering **Part 3**

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Part 3 — Metering

8. Definition

In this Part —

“**commencement**” means the day on which these regulations come into operation.

9. Maximum error for revenue meters

- (1) A network operator must prepare and implement a metering management plan (the “**plan**”) expressed in mandatory terms to ensure that a meter registers within the margin of error of the correct registration referred to in section 41(4) of the Act.
- (2) The plan must —
 - (a) provide for the systematic sampling and testing of in-service meters and meters taken out of service to enable the network operator to determine whether particular types or models of meters exceed the margin for error referred to in subregulation (1); and
 - (b) set out the technical, investigative, reporting, remedial action, and administrative practices to be adopted by the network operator.
- (3) A network operator must submit a plan to the Director for approval within 6 months of commencement and biennially after commencement.
- (4) The Director may approve a plan or, if the Director considers that a plan submitted to the Director for approval is inadequate, the Director may direct the network operator to amend the plan before it is implemented.
- (5) If the Director directs that a plan be amended, the network operator must submit a plan amended in accordance with the Director’s direction to the Director not more than 20 working days after the direction was given to the operator.

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- (6) If not more than 12 months after commencement or after the date of a biennial review the Director has not approved a network operator's plan, the Director may, after consulting the network operator, prepare a plan and that plan is to be taken to be a plan approved under subregulation (4).
- (7) A network operator must comply with the requirements of a plan approved by or prepared under subregulation (6) by the Director.
- (8) After 30 June and before 1 September in each year, a network operator must give to the Director a report on the extent to which the operator has complied with the plan during the 12 months preceding that date.
- (9) The Director may, by notice in writing, exempt from inclusion in a plan meters of a type specified in the notice or meters relating to electricity supplied to consumers or classes of consumers specified in the notice.

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Part 4 — Network safety

Division 1 — Obligations related to the carrying out of prescribed activities

10. Management of prescribed activities

- (1) A network operator must ensure that each prescribed activity is, so far as is reasonable and practicable, carried out in such a way as to —
 - (a) provide for the safety of persons, including employees of and contractors to the operator;
 - (b) avoid or minimise the exposure of persons, including employees of and contractors to the operator, to electric and magnetic field effects; and
 - (c) avoid or minimise any damage to property, inconvenience or other detriment as a result of the activity.
- (2) Without limiting subregulation (1), a network operator must ensure that —
 - (a) adequate work procedures and practices are developed and implemented;
 - (b) proper plans are developed and implemented for the inspection, maintenance and (if necessary) replacement of the network or parts of the network;
 - (c) adequate records of the location of the network are maintained and made available on request to —
 - (i) the Director; or
 - (ii) a person who, for reasons of safety, requires access to the records;
 - (d) adequate instruction, training and supervision is provided taking into account the nature of the activity and the competency of the personnel carrying out the activity; and

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- (e) the design, engineering and operation of, and the work practices used on, the network are regularly reviewed for safety and effectiveness.

11. Evidence of compliance: standards and codes

- (1) Compliance by a network operator to whom Division 2 applies with a relevant provision of —
 - (a) a standard or code published under a law of any jurisdiction in Australia;
 - (b) a standard or code published by Standards Australia, the Electricity Supply Association of Australia, or any other body approved by the Director;
 - (c) a standard or code published by any other body and approved by the Director; or
 - (d) a standard or code specified in Schedule 2,

is evidence of compliance by that network operator with regulation 10 if the provision is not inconsistent with a provision referred to in regulation 16(4).

- (2) A network operator may submit a standard or code to the Director for approval under subregulation (1)(c).

12. Evidence of compliance: accepted safety case

Compliance by a network operator to whom Division 3 applies with a practice, procedure or provision described in regulation 29 is evidence of compliance by that network operator with regulation 10.

13. Persons carrying out prescribed activities

- (1) In subregulation (2) —
 - (a) the reference to doing anything includes a reference to omitting to do anything; and

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Network safety

Part 4

Obligations related to the carrying out of prescribed activities

Division 1**r. 14**

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- (b) the reference to permitting anything to be done includes a reference to permitting an omission to do anything.
- (2) A person must avoid, so far as is reasonable and practicable, doing anything, or permitting anything to be done, in the course of carrying out a prescribed activity, that results, or is likely to result, in —
- (a) a person sustaining any personal injury; or
- (b) damage to any property or significant inconvenience or other detriment to any person.
- 14. Network operator to notify Director of proposed major activities**
- (1) In this regulation —
- “major activity”** means any of the following kinds of prescribed activity —
- (a) installation of a high voltage underground cable circuit of a length of 500 m or more or a high voltage overhead power line of a length of 500 m or more;
- (b) construction of a high voltage transformer substation with an installed capacity of more than 1 MVA or a high voltage switching station.
- (2) A network operator must —
- (a) give to the Director written notice of each major activity not less than 5 working days before it is carried out; or
- (b) submit to the Director, not less than 5 working days before the beginning of each quarter, a written outline of the major activities that the network operator proposes to carry out in that quarter.
- (3) If, in a particular quarter, a network operator proposes to carry out a major activity that was not mentioned in an outline submitted in respect of that quarter under subregulation (2)(b), the network operator must give to the Director written notice of

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that major activity not less than 5 working days before it is carried out.

- (4) A notice or outline under this regulation —
 - (a) is to be in a form acceptable to the Director;
 - (b) may advise the Director whether part or all of the information is commercially sensitive; and
 - (c) may be submitted by facsimile transmission or other electronic means approved by the Director.
- (5) The network operator must provide the Director with information on any major activity referred to in a notice or outline under this regulation that the Director considers necessary to enable the Director to assess whether or not the activity complies with these regulations.

Division 2 — Provisions applicable in absence of accepted safety case**15. Application of Division**

This Division applies to a network operator unless an accepted safety case has effect in relation to the network of the network operator.

16. Obligatory standards and codes

- (1) A network operator must ensure that a prescribed activity is carried out in such a way as to comply with any provision of a standard or code specified in Schedule 3.
- (2) If the Director is satisfied that the purpose of any provision described in subregulation (1) would be achieved at least as effectively if a provision of an alternative standard, code, guideline, or other similar document were complied with, the Director may give approval in writing to compliance with the alternative provision.

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Network safety

Part 4

Provisions applicable in absence of accepted safety case

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- (3) Subregulation (1) does not apply, when there is a failure to comply with a provision described in that subregulation, to the extent that an alternative provision is complied with in accordance with an approval under subregulation (2).
- (4) Compliance with a provision described in subregulation (1) or with an alternative provision in accordance with an approval under subregulation (2) is evidence of compliance with regulation 10 in so far as the scope of the prescribed activity is covered by the standard or code or the alternative standard, code, guideline, or other similar document, as the case may be.
- (5) Despite subregulation (1), a network operator is not required to comply with the provisions of HB C(b)1 – 1999 *Guidelines for design and maintenance of overhead distribution and transmission lines* if —
- (a) an overhead distribution or transmission line is designed by or under the supervision of a professionally qualified engineer using engineering methods other than those set out in that guideline;
 - (b) within 20 working days of commissioning the line, the network operator gives the Director a notice in writing to the effect that those other engineering methods have been used;
 - (c) the network operator has prepared a document recording —
 - (i) the reasons for using those other engineering methods; and
 - (ii) the details of the design work;and
 - (d) the operator keeps that document for 10 years after the date that the notice is given to the Director.

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17. Information and training

- (1) A network operator must ensure, so far as is reasonable and practicable, that any employee engaged in carrying out a prescribed activity —
 - (a) is provided with documents setting out appropriate work standards, procedures and practices; and
 - (b) is given instruction and training, and tested for competency, in how safely to apply and use those standards, procedures and practices.
- (2) Work standards, procedures and practices are not appropriate for the purposes of subregulation (1) unless they are consistent with these regulations.

18. Action when danger reported

- (1) In subregulation (2) —

“former network” means anything owned by the network operator that would be a network or part of a network if it were still utilised for a purpose for which it previously was, but no longer is, utilised.
- (2) If a network operator becomes aware that —
 - (a) anything at a place where a prescribed activity is being carried out; or
 - (b) the condition of any part of a network or former network at any place,

is a threat to the safety of any person or property, the network operator must investigate the matter as soon as is practicable.
- (3) If an employee, agent, or contractor of a network operator becomes aware of some thing referred to in subregulation (2), the employee, agent, or contractor must report the matter as soon as practicable to the network operator and the network operator must investigate the matter as soon as practicable.

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Network safety **Part 4**
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- (4) If the investigation reveals that there is a threat to the safety of any person or property, the network operator must take appropriate remedial action as soon as is practicable.

Division 3 — Safety case provisions**19. Submission of safety case**

- (1) A network operator may submit a safety case to the Director for specific parts, systems, or all systems of the operator's network.
- (2) A safety case submitted under subregulation (1) may with the prior approval of the Director exclude certain segments or systems and such network segments or systems must comply with the prescribed requirements of Division 2.
- (3) A safety case submitted under subregulation (1) must not cover generating works.
- (4) A safety case submitted under subregulation (1) is to be based on AG606 — 1997, *Code of Practice for the Preparation of a Safety and Operating Plan for Gas Networks*.

20. Exemption

- (1) The Director may, by instrument —
- (a) exempt a network operator from compliance with a provision of the code referred to in regulation 19(4) if the Director is satisfied that compliance with the provision would be inappropriate having regard to the size or complexity of the network; or
 - (b) revoke an exemption commencing on the day 3 months after the day on which the instrument is served on the network operator.
- (2) The Director may —
- (a) make the exemption subject to any condition; and

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- (b) impose any further condition or vary or revoke a condition at any time.

21. Guidelines

- (1) The Director may from time to time issue guidelines to assist in the preparation of a safety case.
- (2) Subject to any guidelines issued under subregulation (1), the *National Electricity Network Safety Code 2000* (Electricity Supply Association of Australia) are guidelines for the scope of risk management required under a safety case.

22. Nomination of person to perform auditing role

- (1) Before submitting a safety case under regulation 19, a network operator must nominate to the Director a person who, in the opinion of the network operator, is —
 - (a) independent of the network operator; and
 - (b) competent to perform the functions of a nominated auditor under this Division,

and provide the Director with enough information to enable the Director to decide whether or not to accept the nomination.

- (2) The Director may issue guidelines as to —
 - (a) the qualifications for nomination under subregulation (1); and
 - (b) the information to be provided under that subregulation.
- (3) The Director may accept a nomination under subregulation (1) or reject it.
- (4) A nomination is to be regarded as having been accepted unless, within 10 working days after receiving the nomination, the Director notifies the network operator that the Director has decided to reject the nomination.

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Network safety **Part 4**
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- (5) If the Director decides to reject a nomination, the network operator may make an alternative nomination to the Director in accordance with subregulation (1).
- (6) Notification under subregulation (4) is to be in writing and is to give reasons for the Director's decision.

23. Preliminary certification of safety case

- (1) A safety case submitted under regulation 19 is to be accompanied by a certificate signed by the nominated auditor certifying that —
 - (a) the safety case complies with the requirements of this Division;
 - (b) the safety case is appropriate having regard to the size and complexity of the network and the possible risks;
 - (c) the safety case adequately identifies the measures necessary —
 - (i) to prevent hazardous events identified in the safety case from occurring; and
 - (ii) to protect consumers, the public, employees, plant, equipment, and the environment, should such events occur;
 - (d) the safety case adequately identifies the training and equipment requirements necessary for personnel to be able to implement the various procedures set out in it; and
 - (e) the network operator has in place a plan (the **“implementation plan”**) for —
 - (i) implementing the measures referred to in paragraph (c); and
 - (ii) meeting the requirements referred to in paragraph (d).

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- (2) The certificate is to —
- (a) include a summary of the procedures, standards, tests, inspections, and maintenance measures contained in the safety case; and
 - (b) specify the estimated time for completion of the matters covered by the implementation plan.
- (3) A person who, in a certificate referred to in subregulation (1) —
- (a) makes a statement or representation recklessly or carelessly that is false in a material particular; or
 - (b) makes a statement or representation that the person knows to be false or misleading in a material particular,
- commits an offence.

24. Approval of safety case for purposes of final certification

- (1) The Director must assess any safety case submitted in accordance with this Division.
- (2) Following an assessment under subregulation (1), the Director may approve the safety case for the purposes of certification under regulation 25(1) or refuse approval, and is to notify the network operator in writing of the decision.
- (3) If the Director has not given notification under subregulation (2) within 30 working days after receiving the safety case (and the accompanying certificate), the safety case is to be regarded as having been approved for the purposes of certification under regulation 25(1).
- (4) Notification under subregulation (2) of a refusal to approve the safety case is to give —
- (a) reasons for the refusal; and
 - (b) guidance as to the changes needed to make the safety case acceptable.

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Network safety **Part 4**
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- (5) If the Director refuses to approve the safety case, the network operator may review and amend the safety case and submit it to the Director again in accordance with this Division.

25. Final certification of safety case

- (1) If a safety case is approved, or regarded as having been approved, under regulation 24, the network operator may, within such period as the Director allows having regard to the time specified under regulation 23(2)(b), submit to the Director a certificate signed by the nominated auditor certifying that —
- (a) the measures referred to in regulation 23(1)(c) have been implemented; and
 - (b) the requirements referred to in regulation 23(1)(d) have been met.
- (2) The certificate is to specify the day on which the network operator proposes to implement the safety case if it is accepted under regulation 26(1).

26. Acceptance or rejection of safety case

- (1) On receipt of a certificate under regulation 25(1), the Director may accept the safety case or reject it, and is to notify the network operator in writing of the decision.
- (2) The Director may only reject the safety case if the Director is satisfied that —
- (a) the measures referred to in regulation 23(1)(c) have not been implemented; or
 - (b) the requirements referred to in regulation 23(1)(d) have not been met.
- (3) If the Director has not given notification under subregulation (1) within 15 working days after receiving the certificate, the safety case is to be regarded as having been accepted.

Electricity (Supply Standards and System Safety) Regulations 2001**Part 4** Network safety**Division 3** Safety case provisions**r. 27**

- (4) Notification under subregulation (1) of the rejection of the safety case is to give reasons for the rejection and specify the measures to be taken or requirements to be met to make the safety case acceptable.
- (5) If the Director rejects a safety case, the network operator may submit to the Director a certificate signed by the nominated auditor certifying that —
 - (a) measures specified in the notification under subregulation (4) have been taken; or
 - (b) requirements specified in that notification have been met,

and this regulation applies, with all necessary changes, as if the certificate were a certificate under regulation 25(1).

27. Implementation of safety case

- (1) The acceptance of a safety case ceases to have effect for the purposes of these regulations if the network operator has not implemented it within 6 months after —
 - (a) notification of its acceptance is received under regulation 26(1); or
 - (b) it is regarded as having been accepted under regulation 26(3),

as the case may be.

- (2) The network operator must notify the Director of the day on which the safety case is to be implemented not less than 7 days before that day.
- (3) Notification under subregulation (2) is to be in writing.

28. Period of operation of accepted safety case

Subject to regulation 32(6), an accepted safety case has effect in relation to a network for the period of 5 years beginning on implementation day.

Electricity (Supply Standards and System Safety) Regulations 2001

Network safety **Part 4**
Safety case provisions **Division 3**
r. 29

29. Compliance with accepted safety case

If an accepted safety case has effect in relation to a network, the network operator must ensure that a prescribed activity is carried out in such a way as to comply with —

- (a) any practice or procedure set out in the accepted safety case; and
- (b) any provision of a code, standard or specification compliance with which is required under the accepted safety case.

30. Periodical audit

- (1) In subregulation (2) —

“auditing period” means —

- (a) if a report is being lodged under subregulation (2) for the first time in respect of the accepted safety case, a period of 12 months commencing on the implementation day; or
 - (b) otherwise, a period of 12 months, or such further period as the Director allows, commencing on the day on which a report was last lodged under subregulation (2) in respect of the accepted safety case.
- (2) A network operator must, within 20 working days after the end of each auditing period, lodge with the Director in respect of an accepted safety case a report by a person appointed by the network operator —
- (a) certifying that —
 - (i) the measures referred to in regulation 23(1)(c) are still in place; and
 - (ii) there continue to be properly trained and equipped personnel available to implement the various procedures set out in the accepted safety case;

Electricity (Supply Standards and System Safety) Regulations 2001**Part 4** Network safety**Division 3** Safety case provisions**r. 31**

- (b) reviewing the accepted safety case for its adequacy and appropriateness having regard to any changes in the network since a report was last lodged under this subregulation; and
 - (c) making recommendations as to the amendments (if any) required to the accepted safety case.
- (3) The person appointed for the purposes of subregulation (2) is to be a person who, in the opinion of the network operator, is suitably qualified to provide an independent and objective report, but nothing in this subregulation prevents the appointment of an employee of the network operator.
- (4) A person who, in a report referred to in subregulation (2) —
 - (a) makes a statement or representation recklessly or carelessly that is false in a material particular; or
 - (b) makes a statement or representation that the person knows to be false or misleading in a material particular,commits an offence.

31. Amendment of accepted safety case

- (1) A network operator may submit amendments to an accepted safety case to the Director for approval.
- (2) If a report under regulation 30 recommends amendments to an accepted safety case, the network operator must submit amendments consistent with those recommendations to the Director for approval.
- (3) The Director may approve or refuse to approve amendments submitted under subregulation (1) or (2), and is to notify the network operator in writing of the decision.
- (4) Notification under subregulation (3) of a refusal to approve amendments is to give reasons for the refusal and guidance as to any changes needed to make the amendments acceptable.

Electricity (Supply Standards and System Safety) Regulations 2001**Part 4** Network safety**Division 4** Notification, investigation and reporting of incidents**r. 34**

- (d) each report in respect of the accepted safety case under regulation 30; and
 - (e) each notification and each report given by the network operator to the Director as required by Division 4.
- (3) The network operator must ensure that the records are kept —
- (a) at the address nominated by the network operator in the accepted safety case;
 - (b) in a manner that makes their retrieval reasonably practicable; and
 - (c) in a secure manner.
- (4) The network operator must ensure that each of the records is kept for a period of 5 years after its creation.

Division 4 — Notification, investigation and reporting of incidents**34. Definitions**

In this Division —

“electrical incident” means an incident or event in, on or associated with a network, other than a notifiable incident, that —

- (a) materially affects or is likely materially to affect the supply of electricity; or
- (b) is caused by electricity;

“notifiable incident” means an incident, event, or other thing of which the Director must be given a notification under regulation 35;

“private property” means property that does not belong to —

- (a) a network operator; or
- (b) a contractor or subcontractor to a network operator;

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Part 4

Notification, investigation and reporting of incidents

Division 4**r. 35**

“serious damage” means —

- (a) damage to private property if the value of the damage is likely to exceed \$5 000 in total; or
- (b) damage to a facility of a network, or to property belonging to the network operator or a contractor or subcontractor to the network operator, if —
 - (i) the damage was caused by a fire or explosion and fire or other emergency services attended the scene of the fire or explosion; or
 - (ii) the value of the damage is likely to exceed \$50 000 in total;

“serious injury” means an injury that is fatal or requires the victim to be admitted to hospital whether for assessment, monitoring or treatment.

35. Notifiable incidents

- (1) A network operator must notify the Director of —
 - (a) any incident or event that is caused, or significantly contributed to, by electricity and that results in —
 - (i) serious injury; or
 - (ii) serious damage;
 - or
 - (b) any unplanned interruption to the supply of electricity from the network to —
 - (i) any consumer who has an average load of not less than 1 MW or whose annual electricity consumption usually exceeds, or can reasonably be expected to exceed, 8 760 MWh; or
 - (ii) at least 200 other consumers.
- (2) Notification under subregulation (1)(a)(i) is to be given by telephone immediately after the network operator becomes aware that serious injury has occurred.

Electricity (Supply Standards and System Safety) Regulations 2001**Part 4** Network safety**Division 4** Notification, investigation and reporting of incidents**r. 36**

- (3) Notification under subregulation (1)(a)(ii) is to be given in a form acceptable to the Director within 24 hours after the network operator becomes aware of the serious damage.
- (4) Notification under subregulation (1)(b) is to be given in the form of an annual statistical report of notifiable incidents.

36. Network operator to investigate and report on notifiable incidents

- (1) If a notifiable incident occurs, the network operator must —
 - (a) investigate the incident; and
 - (b) prepare a written report on the outcome of the investigation in a form acceptable to the Director.
- (2) The network operator must give the report to the Director within 20 working days after the day on which the notifiable incident occurred or within such further period as the Director allows.

37. Investigation of notifiable incidents by Director

- (1) If the Director intends to investigate a notifiable incident, the Director must notify the network operator of that intention.
- (2) Notification under subregulation (1) is to —
 - (a) include notification of any proposed examination of the site of the notifiable incident; and
 - (b) be given by telephone and confirmed in writing by facsimile transmission or electronic means.
- (3) The Director must carry out the investigation as soon as is practicable after giving notification under subregulation (1).

38. Examination of site of notifiable incident

- (1) If a network operator is given notification as described in regulation 37(2)(a), the network operator must ensure that, so far as is practicable, the site of the notifiable incident is not

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Notification, investigation and reporting of incidents

Division 4**r. 39**

disturbed in such a way as to prejudice the examination of the site except —

- (a) as authorised by or on behalf of the Director; or
 - (b) as is necessary to restore the supply of electricity or to guard against the risk of personal injury, damage or interruption to the supply of electricity.
- (2) The Director must notify the network operator when the examination of the site has been completed.
- (3) Notification under subregulation (2) is to be given by telephone and is to be confirmed in writing by facsimile transmission or by other electronic means.

39. Reporting requirements for electrical incidents

- (1) As soon as is practicable after each quarter, or such other period as the Director allows, a network operator must give to the Director a report of electrical incidents that have occurred in that quarter or period.
- (2) The report is to be in a summary statistical form acceptable to the Director.

Electricity (Supply Standards and System Safety) Regulations 2001**Part 5** Review of decisions**r. 40**

Part 5 — Review of decisions**40. Definitions**

In this Part —

“application for review” means an application made under regulation 42(1);

“review panel” means a panel mentioned in regulation 43.

41. Decisions to which this Part applies

This Part applies to a decision of the Director —

- (a) to refuse to approve a plan under regulation 9(4);
- (b) to refuse approval of a standard or code submitted under regulation 11(2);
- (c) to refuse approval of an alternative provision under regulation 16(2);
- (d) to refuse to grant an exemption under regulation 20(1);
- (e) to revoke an exemption under regulation 20(1);
- (f) to impose, vary or revoke a condition under regulation 20(2);
- (g) to reject a nomination under regulation 22(3);
- (h) to refuse approval of a safety case under regulation 24(2);
- (i) to reject a safety case under regulation 26(1);
- (j) to refuse approval of an amendment submitted under regulation 31(1) or 31(2);
- (k) to impose a requirement under regulation 32(2); or
- (l) to refuse approval of special standards under Schedule 1 clause 9.

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Review of decisions

Part 5**r. 42**

42. Application for review

- (1) A person who is aggrieved by a decision to which this Part applies may apply in writing to the Director for a review of the decision.
- (2) An application for review is to be made within 10 working days after the applicant receives notice of the decision or within such further period as the Director in a particular case allows.

43. Review panel

- (1) The Director may convene a panel of 3 independent professional engineers to advise the Director in relation to an application for review.
- (2) A review panel may inform itself about a relevant matter in any manner it considers appropriate.

44. Procedure on review

- (1) The Director must give the applicant a reasonable opportunity to make submissions in relation to the application for review.
- (2) The operation of a decision is not affected by an application for review unless, on application made by the applicant, the Director determines otherwise.
- (3) The Director, after considering submissions (if any) made under subregulation (1) and, if a review panel is convened, the recommendations (if any) made by the panel, may determine the application by —
 - (a) confirming the decision;
 - (b) varying the decision; or
 - (c) reversing the decision,

and the determination of the Director is final.

- (4) The Director must give written notice of his or her determination and the reasons for it to the applicant.

Electricity (Supply Standards and System Safety) Regulations 2001**Part 5** Review of decisions**r. 45**

- (5) If a review panel is convened, the notice under subregulation (4) is to set out the recommendations (if any) made by the panel.
- (6) The Director may publicise his or her determination in such manner as the Director thinks fit.

45. Costs

- (1) If the Director confirms the decision under regulation 44(3)(a), the applicant is liable to pay the reasonable costs of the review.
- (2) Any costs payable by the applicant under subregulation (1) are recoverable by the Director in a court of competent jurisdiction as a debt due to the State.

Electricity (Supply Standards and System Safety) Regulations 2001

Penalties

Part 6

r. 46**Part 6 — Penalties****46. General penalty**

A person who, either by act or omission, contravenes these regulations commits an offence.

Penalty: In the case of an individual — \$5 000.

In the case of a body corporate — \$20 000.

Electricity (Supply Standards and System Safety) Regulations 2001

Schedule 1 Benchmark standards for electricity quality and reliability

**Schedule 1 — Benchmark standards for electricity quality
and reliability**

[r. 5]

Division 1 — Preliminary

1. Definition

In this Schedule —

“**isolated network**” means a network other than the Pilbara power system or the South West interconnected system;

“**Pilbara power system**” means the electrical system from which electricity principally generated at one or more of the power stations at Dampier, Cape Lambert and Port Hedland, respectively, is supplied to consumers;

“**South West interconnected system**” means the electrical system from which electricity principally generated at one or more of the power stations at Kwinana, Muja, Collie and Pinjar, respectively, is supplied to consumers;

“**steady state**” means the average voltage level of electricity over a period of 5 minutes.

Division 2 — Standards for electricity quality

2. Voltage range

- (1) A network operator must ensure that the voltage of electricity supplied to a consumer’s electrical installation at the point of supply to the consumer’s mains —
 - (a) in the case of supply at low voltage, receives electricity at a steady state voltage of 240 v single-phase or 415 v three-phase with a steady state accuracy of $\pm 6\%$; or
 - (b) in the case of supply at high voltage, receives electricity that complies with AS 60038 — 2000 with a steady state accuracy of $\pm 10\%$.
- (2) Unless otherwise approved in writing by the Director, a network operator who commences to supply electricity to a consumer must use

Electricity (Supply Standards and System Safety) Regulations 2001**Benchmark standards for electricity quality and reliability Schedule 1**

a network voltage and phase relationship that is compatible with any existing adjacent network.

3. Voltage fluctuations

A network operator must ensure that the voltage fluctuations of electricity supplied to a consumer's electrical installation —

- (a) for low voltage supply, complies with the "Threshold of Irritability" shown in Schedule 4; or
- (b) for high voltage supply, complies with the "Threshold of Perceptibility" shown in Schedule 4.

4. Frequency range

A network operator must ensure that its network operates within $\pm 2.5\%$ of any frequency declared under section 25(1)(d) of the Act.

5. Harmonics

A network operator must ensure that under normal operating conditions the harmonic voltage distortion of its network does not exceed the levels set out in the Table in Schedule 5.

Division 3 — Standards for electricity reliability**6. Planned supply interruptions**

- (1) If a network operator plans to interrupt the supply of electricity to its consumers for the purpose of maintaining or altering the operator's network, the operator must make a reasonable endeavour to give each consumer affected by the interruption notice of the interruption, not less than 3 days before the interruption, by means of a notice —
 - (a) placed in the consumer's letterbox;
 - (b) broadcast twice on a television or radio station broadcasting to the area in which the supply is to be interrupted; or
 - (c) published in a newspaper circulating generally in the area in which the supply is to be interrupted.

Electricity (Supply Standards and System Safety) Regulations 2001**Schedule 1** Benchmark standards for electricity quality and reliability

- (2) A network operator must use reasonable endeavours to ensure that a planned interruption of the supply of electricity to consumers does not exceed —
 - (a) 6 hours on or south of the 26th parallel of latitude or 4 hours if the forecast maximum temperature in any part of the area in which the supply is to be interrupted is 30°C or more than 30°C; or
 - (b) 4 hours north of the 26th parallel of latitude.
- (3) A network operator must use all reasonable endeavours to reduce the effect of the supply interruption on a consumer and must consider providing a supply of electricity to a consumer by means of a portable generating facility in the following circumstances —
 - (a) the interruption of the supply of electricity exceeds the time specified in subclause (2);
 - (b) the effect of the interruption on the business of a consumer will be substantial; or
 - (c) an individual who lives in premises supplied with electricity by the network operator has special health needs.
- (4) A network operator must ensure that the voltage, frequency, and phase relationships of electricity supplied under subclause (3) is carefully managed.
- (5) If a consumer's use of electricity supplied by a network operator is likely to exceed 50kW during the period of a planned interruption, the network operator must consult the consumer about means of minimising disruption to the consumer's activities caused by that interruption of the supply of electricity.

7. Unplanned supply interruptions

- (1) If the supply of electricity to a consumer is interrupted other than for the purpose of maintaining or altering a network operator's network, the operator must ensure that the supply is restored to the consumer as soon as is reasonably practicable.
- (2) If a network operator considers that an emergency has occurred that has resulted in or might result in a widespread interruption to the

Electricity (Supply Standards and System Safety) Regulations 2001**Benchmark standards for electricity quality and reliability Schedule 1**

supply of electricity to its consumers, the operator must advise the Director as soon as practicable.

8. Supply reliability standards

A network operator must make a reasonable endeavour to ensure that unplanned full or partial interruptions to the supply of electricity to the operator's consumers in the areas shown in column 1 of the Table to this clause do not occur more often than is shown in column 2 of the Table for periods which on average each calendar year do not exceed the period referred to in column 3 of the Table.

Table

Network location	Average number of times a consumer's supply is interrupted per year	Average duration of each interruption
Perth CBD	1	30 minutes
Perth metropolitan area other than CBD	3	45 minutes
Rural and country areas other than areas supplied from an isolated network	4	60 minutes
Isolated network	5	30 minutes

9. Special standards

- (1) A network operator may apply to the Director for the approval of special standards for the quality and reliability of electricity supplied to its consumers.
- (2) An application for approval must contain such information as the Director considers is necessary for determining whether or not special standards for the quality and reliability of electricity should be approved.
- (3) If an application is made for the approval of special standards, the Director may request the network operator to provide such

Electricity (Supply Standards and System Safety) Regulations 2001**Schedule 1** Benchmark standards for electricity quality and reliability

information as the Director considers necessary for determining the application.

- (4) If the Director approves special standards in relation to the whole or part of an operator's network, those standards, and not the standards referred to in clauses 2 to 8, apply to the whole or a specified part of the network, as the case may be.
- (5) If a special standard has been approved for the whole or part of a network, a consumer supplied with electricity from that network or that part of the network may request a copy of the special standard from the operator of that network and that operator must immediately give the consumer a copy of it.

Electricity (Supply Standards and System Safety) Regulations 2001

Standards and codes containing provisions compliance with **Schedule 2**
which may be evidence

**Schedule 2 — Standards and codes containing provisions
compliance with which may be evidence**

[r. 11(1)]

General Standards

Guidelines for Electricity Transmission and Distribution work in Western Australia (Office of Energy WA).

Code of Practice, Safe electrical work on low voltage electrical installations (Office of Energy WA).

Utility Providers Code of Practice for Western Australia.

AS 1824.1 – 1995 *Insulation Coordination – Definitions, principles and rules.*

AS 1824.2 – 1985 *Insulation Coordination – Application Guide.*

AS/NZS 3000: 2000 *Electrical installations (known as the Australia/New Zealand Wiring Rules).*

Western Australian Electrical Requirements (WAER).

EC5 – 1992 *Guide to Protective Earthing* published by the Electricity Council of New South Wales.

EC7 – 1992 *Guide to the Prevention of Unauthorised Access* published by the Electricity Council of New South Wales.

EC 09 – 1993 *Guide to high voltage live line work* published by the Electricity Council of New South Wales.

EC 11 – 1993 *Guide to inspection procedures for plant and equipment* published by the Electricity Council of New South Wales.

EC 12 – 1993 *Guide to working on underground cables* published by the Electricity Council of New South Wales.

EC 16 – 1993 *Guide to safe electrical work procedures* published by the Electricity Council of New South Wales.

EC 17 – 1993 *Guide to working in electrical stations* published by the Electricity Council of New South Wales.

Electricity (Supply Standards and System Safety) Regulations 2001**Schedule 2** Standards and codes containing provisions compliance with which may be evidence

EA 6 – 1998 *Safety Rules Guidelines* published by the Electricity Association of New South Wales.

EA 18 – 1998 *Guide to the Training of Personnel working on or near Electricity Works* published by the Electricity Association of New South Wales.

ISSC 24 – 1997 *Guide to Electricity Workers' Escape and Rescue Procedures* published by the Electricity Association of New South Wales.

ISSC 25 – 1996 *Elevating Work Platform Purchasing Specification and Operating Guide* published by the Electricity Association of New South Wales.

Overhead lines

EC 1 – 1991 *Guide to the maintenance of protective devices for subtransmission and distribution overhead lines* published by the Electricity Council of New South Wales.

EC 2 – 1992 *Guide to the manual reclosing of overhead lines* published by the Electricity Council of New South Wales.

EC 4 – 1992 *Guide to the inspection of overhead lines* published by the Electricity Council of New South Wales.

EC 10 – 1992 *Guide to aerial inspection and patrol of overhead lines* published by the Electricity Council of New South Wales.

EC 15 – 1993 *Guide to working on overhead lines* published by the Electricity Council of New South Wales.

AS 3891.1:1991 *Air navigation – Cables and their supporting structures – Mapping and marking – Permanent marking of overhead cables and their supporting structures.*

AS 3891.2:1992 *Air navigation – Cables and their supporting structures – Mapping and marking – Marking of overhead cables for low-level flying.*

AS 1768 – 1991 *Lightning protection.*

Switchyards, substations and power stations

AS 1319 – 1994 *Safety signs for the occupational environment.*

AS 2374.1 – 1997 *Power Transformers – General.*

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Standards and codes containing provisions compliance with **Schedule 2**
which may be evidence

AS/NZS 2650:2000 *Common specifications for high voltage switchgear and controlgear standards.*

AS 2735 – 1984 *Dry-type power transformers.*

AS 2865 – 1995 *Safe working in a confined space.*

ESAA: *Specification for Pole Mounting Distribution Transformers: 1998.*

Underground cables

ESAA:D(b)31 – 1989 *Guide for the maintenance of High Voltage paper/oil insulated cables and Accessories.*

AS/NZS 2832.1:1998 *Cathodic protection of metals – Pipes and cables.*

AS/NZS 2648.1 – 1995 *Underground marking tape – Non detectable tape.*

Power coordination

HB87 – 1997 (CJC1) *Joint use of poles: The placement on poles of power lines and paired cable telecommunications lines.*

HB100 – 2000 (CJC4) *Coordination of power and telecommunications – Manual for the establishment of safe work practices and the minimisation of operational interference between power systems and paired cable telecommunications systems.*

HB101 – 1997 (CJC5) *Coordination of power and telecommunications – Low frequency induction (LFI): Code of practice for the mitigation of hazardous voltages induced into telecommunications lines.*

HB103 – 1997 (CJC7) *Coordination of power and telecommunications – Crossings code. : The arrangement of overhead power and telecommunications lines, pole stay wires, and suspension wires.*

AS 3835.3(Int) – 1998 *Coordination of power and telecommunications – Earth Potential Rise (EPR) – Isolation arrangements for paired cable telemetering/telecontrol services in LV areas and HV sites.*

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Schedule 3 Standards and codes containing obligatory provisions for network operators

Schedule 3 — Standards and codes containing obligatory provisions for network operators

[r. 16(1)]

General Standards

AS 2067 – 1984 *Switchgear assemblies and ancillary equipment for alternating voltages above 1kV.*

ESAA:D(b)26 – 1995 *Guide for Working on Cables and Ancillary Equipment Under Induced Voltage Conditions and Transferred Earth Potentials.*

EC 14 – 1993 *Guide to Electrical workers' safety equipment* published by the Electricity Association of New South Wales.

ESAA:EG1(97) *Substation Earthing Guide.*

Overhead lines

HB C(b)1 – 1999 *Guidelines for design and maintenance of overhead distribution and transmission lines.*

HB ESAA LLM01 – 2000 *Guidelines for Live Line Bare Hand Work.*

HB ESAA LLM02 – 2000 *Guidelines for Live Line Stick Work.*

HB ESAA LLM03 – 2000 *Guidelines for Live Line Glove and Barrier Work.*

ESAA – ND/NL – 04 – 1995 *Guidelines for Use of Helicopters for Live Line Work.*

AS 1222.1 – 1992 *Steel conductors and stays – Bare overhead Galvanized (SC/GZ).*

AS 1222.2 – 1992 *Steel conductors and stays – Bare overhead Aluminium clad (SC/AC).*

AS 1531 – 1991 *Conductors – Bare overhead – Aluminium and aluminium alloy.*

AS 1746 – 1991 *Conductors– Bare overhead – Hard drawn copper.*

AS 3607 – 1989 *Conductors– Bare overhead – Aluminium and aluminium alloy – Steel reinforced.*

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Standards and codes containing obligatory provisions for
network operators

Schedule 3

AS 1720.1 – 1997 *Timber structures – Design methods.*

AS 1720.2 – 1990 *Timber structures – Timber properties.*

AS 2209 – 1994 *Timber – Poles for overhead lines.*

AS/NZS 2878 – 2000 *Timbers – Classification.*

AS 3600 – 2001 *Concrete structures.*

AS/NZS 4065:2000 *Concrete Utility Service Poles.*

AS 4100 – 1998 *Steel structures.*

AS/NZS 4677:2000 *Steel Utility Service Poles.*

AS 3995 – 1994 *Design of steel lattice towers and masts.*

Switchgear and Protection

AS 2006 – 1986 *High voltage a.c. switchgear and controlgear – Circuit breakers for rated voltages above 1000V.*

AS 1025.1 – 1984 *High voltage a.c. switchgear and controlgear – Switches and switch disconnectors – For rated voltages above 1kV and less than 52kV.*

AS 1025.2 – 1989 *High voltage a.c. switchgear and controlgear – Switches and switch disconnectors – For rated voltages 52kV and above.*

AS 1306 – 1985 *High voltage a.c. switchgear and controlgear – Disconnectors (isolators) and earthing switches.*

AS 2024 – 1991 *High voltage a.c. switchgear and controlgear – Switch-fuse combinations.*

AS 2086 – 1995 *A.C. metal enclosed switchgear and controlgear for rated voltages above 1kV and up to and including 72.5kV.*

AS 2264 – 1995 *A.C. insulation – enclosed switchgear and controlgear for rated voltages above 1kV and up to and including 38kV.*

AS/NZS 3947.1:1998 *Low voltage switchgear and controlgear – General rules.*

AS 1033.1 – 1990 *High voltage fuses (for rated voltages exceeding 1000V) – Expulsion type.*

Electricity (Supply Standards and System Safety) Regulations 2001**Schedule 3** Standards and codes containing obligatory provisions for
network operators

AS 1033.2 – 1988 *High voltage fuses (for rated voltages exceeding 1000V) –
Current limiting (powder filled) type.*

AS/NZS 60269.1:2000 *Low-voltage fuses – General requirements.*

Electricity (Supply Standards and System Safety) Regulations 2001

Standards and codes containing obligatory provisions for network operators

Schedule 4

Schedule 4 — Voltage fluctuation limits

[Schedule 1 cl. 3]

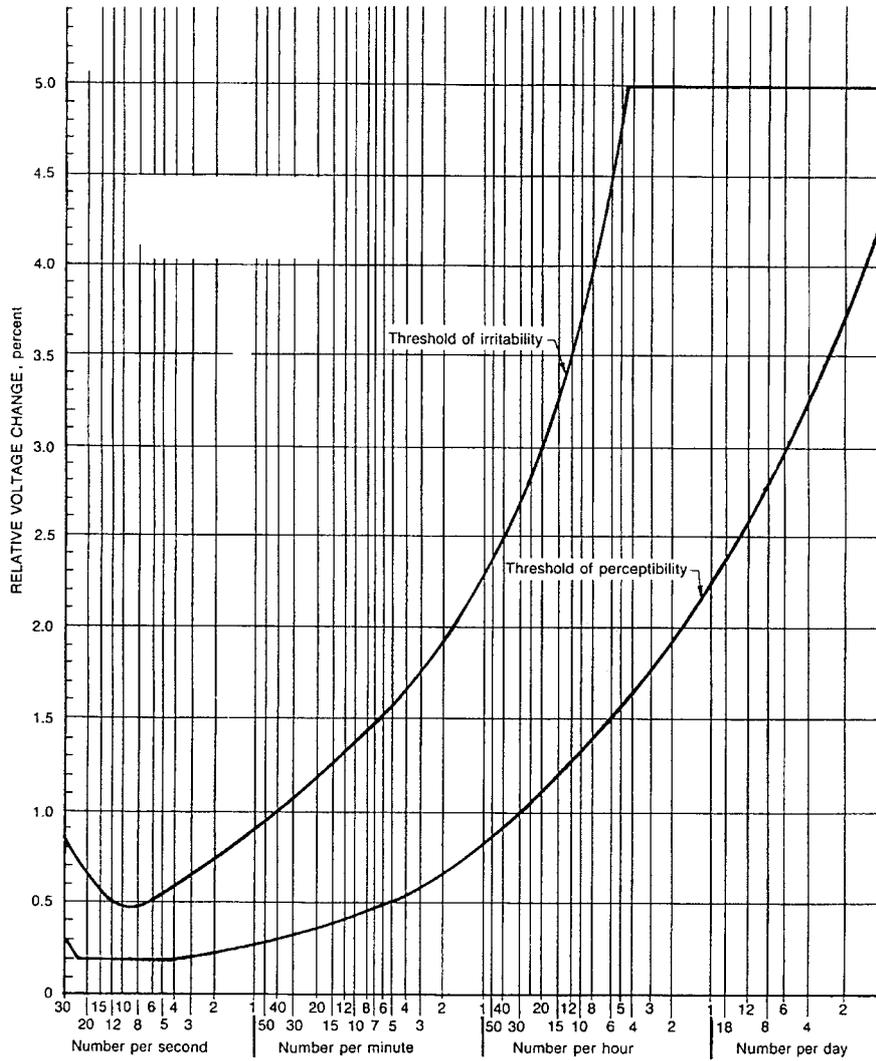


FIGURE 1 PERCEPTION OF RELATIVE STEP-VOLTAGE CHANGES

Electricity (Supply Standards and System Safety) Regulations 2001

Schedule 5 Standards and codes containing obligatory provisions for network operators

Schedule 5 — Harmonic voltage ratio limits at any point on the system (including background levels)

[Schedule 1 cl.5]

Supply system	Voltage at common point of coupling kV	Total harmonic voltage ratio %	Individual harmonic voltage ratio %	
			Odd	Even
Primary and secondary distribution	≤ 33	5	4	2
Transmission and subtransmission	22, 33 and 66	3	2	1
	110	1.5	1	0.5

By Command of the Governor,

M. C. WAUCHOPE, Clerk of the Executive Council.

Electricity (Supply Standards and System Safety) Regulations 2001**Defined Terms****Defined Terms**

[This is a list of terms defined and the provisions where they are defined.

The list is not part of the law.]

Defined Term	Provision(s)
accepted safety case	3(1)
AG.....	3(1)
application for review	40
AS	3(1)
AS/NZS.....	3(1)
auditing period	30(1)
commencement	8
electrical incident	34
electricity supplier.....	5(4)
employee.....	3(1)
former network.....	18(1)
high voltage.....	3(1)
implementation day.....	3(1)
implementation plan.....	23(1)(e)
isolated network	Schedule 1, clause 1
low voltage.....	3(1)
major activity	14(1)
meter	3(1)
network operator	3(1)
network	3(1)
nominated auditor	3(1)
notifiable incident	34
Pilbara power system	Schedule 1, clause 1
plan.....	9(1)
prescribed activity.....	3(1)
private property.....	34
quarter	3(1)
review panel	40
safety case	3(1)
serious damage.....	34
serious injury.....	34
South West interconnected system.....	Schedule 1, clause 1
specified	32(1)
steady state	Schedule 1, clause 1
utilised.....	3(1)
working day	3(1)

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