

## **Electricity (Network Safety) Amendment Regulations 2021**

**SL 2021/218**

Made by the Governor in Executive Council.

**1. Citation**

These regulations are the *Electricity (Network Safety) Amendment Regulations 2021*.

**2. Commencement**

These regulations come into operation as follows —

- (a) regulations 1 and 2 — on the day on which these regulations are published in the *Gazette*;
- (b) the rest of the regulations — on the day after that day.

**3. Regulations amended**

These regulations amend the *Electricity (Network Safety) Regulations 2015*.

**4. Regulation 3 amended**

- (1) In regulation 3(1) insert in alphabetical order:

*adequate* has a meaning affected by subregulation (5);  
*good industry practice* means the exercise of that degree of competence, diligence, prudence and foresight that a competent person in the electricity supply industry would reasonably and ordinarily be expected to exercise under comparable circumstances;  
*IEC* followed by a designation that includes 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 the International Electrotechnical Commission;

***reasonably practicable***, in relation to a duty to ensure that a network is safe or that an activity is carried out safely, means that which is, or was at a particular time, reasonably able to be done in relation to so ensuring, taking into account and weighing up all relevant matters including —

- (a) the likelihood of the hazard or the risk concerned occurring; and
  - (b) the degree of harm that might result from the hazard or the risk; and
  - (c) what the person concerned knows, or ought reasonably to know, about —
    - (i) the hazard or the risk; and
    - (ii) ways of eliminating or minimising the hazard or the risk;
- and
- (d) the availability and suitability of ways to eliminate or minimise the hazard or the risk; and
  - (e) after assessing the extent of the hazard or the risk and the available ways of eliminating or minimising the hazard or the risk — the cost associated with available ways of eliminating or minimising the hazard or the risk, including whether the cost is grossly disproportionate to the hazard or the risk;

***stand-alone power system*** has the meaning given in the *Electricity Industry Act 2004* section 3(1);

***storage works*** has the meaning given in the *Electricity Industry Act 2004* section 3(1);

(2) In regulation 3(1) in the definition of ***network***:

- (a) in paragraph (a) delete “operator; and” and insert:

operator, including storage works connected to the transmission works, other than storage works that are not part of the transmission works; and

- (b) in paragraph (b)(i) delete “that are” (1<sup>st</sup> occurrence);
- (c) in paragraph (b)(i) delete “and that are” and insert:

that are

(d) after paragraph (b)(i) insert:

- (ia) storage works connected to the distribution works, other than storage works that are not part of the distribution works; and

(e) after paragraph (b) insert:

- (ba) stand-alone power systems operated by a network operator; and

(f) in paragraph (c) delete “(a) or (b)” and insert:

(a), (b) or (ba)

- (3) In regulation 3(1) in the definition of *prescribed activity* delete “design,”.
- (4) In regulation 3(4) delete “within 6 metres of the network.” and insert:

at the site at which the network is located or is being constructed.

(5) After regulation 3(4) insert:

- (5) For the purposes of these regulations, the adequacy of plans, procedures, standards, work practices, instruction, training, supervision, records or other things must be assessed by reference to good industry practice.

## **5. Regulation 4 amended**

- (1) In regulation 4(1)(f) delete “BHP Billiton Iron Ore Pty. Ltd.” and insert:

BHP Iron Ore Pty Ltd

- (2) In regulation 4(2):
- (a) in paragraph (b) delete “Nippon Steel & Sumikin Resources Australia Pty. Ltd.” and insert:

Nippon Steel Raw Materials Australia Pty Ltd

- (b) in paragraph (c) delete “Nippon Steel & Sumitomo Metal Australia Pty Ltd” and insert:

Nippon Steel Australia Pty. Limited

- (3) In regulation 4(3)(a) delete “Billiton”.

**6. Regulation 5A inserted**

At the beginning of Part 2 Division 1 insert:

**5A. Duty of network operator to ensure safety of network**

- (1) A network operator must ensure, so far as is reasonably practicable, that the network of the network operator is designed, constructed, operated and maintained so as to ensure that it is safe.

Penalty for this subregulation: a fine of \$250 000.

- (2) A network operator contravenes subregulation (1) if the network operator fails to —

- (a) develop, implement and maintain adequate —

- (i) design standards and construction procedures for the network; or
- (ii) plans and procedures for the inspection, testing, maintenance and replacement of the network or parts of it; or
- (iii) operating standards and procedures for the operation of the network;

or

- (b) regularly review the design, engineering and operation of the network for safety and effectiveness, in accordance with good industry practice.

- (3) Subregulation (2) does not limit the generality of subregulation (1).

- (4) A network operator must maintain records that are sufficient to demonstrate the extent of the network operator's compliance with its duty under subregulation (1).

Penalty for this subregulation: a fine of \$250 000.

- (5) A network operator must —
- (a) maintain adequate records of the location of the network; and
  - (b) make those records available on request to a person who, for reasons of safety, requires access to the records.

Penalty for this subregulation: a fine of \$250 000.

## **7. Regulation 6 amended**

In regulation 6(2):

- (a) delete paragraph (b);
- (b) in paragraph (d) delete “design of the network; or” and insert:

plans, procedures and standards referred to in regulation 5A(2)(a); or

- (c) in paragraph (f) delete “the design, engineering and operation of the network, and”;
- (d) in paragraph (f) delete “network,” (2<sup>nd</sup> occurrence) and insert:

network

## **8. Regulation 7 amended**

In regulation 7(2)(a) delete “activity carried out” and insert:

activities carried out by those persons

**9. Regulation 16 amended**

In regulation 16(1) delete “regulation 6.” and insert:

regulations 5A and 6.

Note: The heading to amended regulation 16 is to read:

**Compliance with safety management system evidence of compliance with regulation 5A, 6 or 7**

**10. Regulation 22 amended**

- (1) In regulation 22 delete the definition of *good work practice*.
- (2) In regulation 22 in the definition of *notifiable incident* paragraph (a)(vii) and (viii) delete “good work” and insert:

good industry

**11. Schedules 1 and 2 replaced**

Delete Schedules 1 and 2 and insert:

**Schedule 1 — Standards and codes containing evidentiary provisions**

[r. 17]

**Division 1 — General**

Code of Practice for Safe Low Voltage Work Practices by Electricians, published by the Director in December 2017.

Utility Providers Code of Practice for Western Australia, produced by the Utility Providers Services Committee and applicable from 1 March 2018.

WA Electrical Requirements, published by the Director in December 2019.

AS 2676.1:2020 Guide to the installation, maintenance, testing and replacement of secondary batteries in buildings — Part 1: Vented cells.

AS 2676.2:2020 Guide to the installation, maintenance, testing and replacement of secondary batteries in buildings — Part 2: Sealed cells.

AS 5577-2013 Electricity network safety management systems.

AS/NZS 3000:2018 Electrical installations (known as the Australian/New Zealand Wiring Rules).

AS/NZS 3013:2005 Electrical installations — Classification of the fire and mechanical performance of wiring system elements.

AS/NZS 3100:2017 Approval and test specification — General requirements for electrical equipment.

AS/NZS 60479.1:2010 Effects of current on human beings and livestock — Part 1: General aspects.

ENA Doc 008-2006 National guidelines on electrical safety for emergency service personnel.

ENA Doc 015-2006 National guidelines for prevention of unauthorised access to electricity infrastructure.

ENA Doc 018-2015 Guideline for the fire protection of electricity substations.

ENA Doc 044-2020 Guideline for energised low voltage work.

## **Division 2 — Overhead lines**

Code of Practice for Personnel Electrical Safety for Vegetation Control Work Near Live Power Lines, published by the Director in May 2021.

AS/NZS 1768:2007 Lightning protection.

AS 3891.1:2021 Air navigation — Cables and their supporting structures — Marking and safety requirements — Part 1: Marking of overhead cables and supporting structures.

AS 3891.2:2018 Air navigation — Cables and their supporting structures — Marking and safety requirements — Part 2: Low level aviation operations.

## **Division 3 — Switchyards, substations and power stations**

AS 1319-1994 Safety signs for the occupational environment.

AS 62271.1:2019 High-voltage switchgear and controlgear — Part 1: Common specifications for alternating current switchgear and controlgear (IEC 62271-1:2017 MOD).

AS 2865-2009 Confined spaces.

AS 60076.1:2014 Power transformers — Part 1: General (IEC 60076-1, Ed. 3.0 (2011) MOD).

AS 60076.11-2006 Power transformers — Part 11: Dry-type transformers.

ENA Doc 007-2006 Specification for polemounting distribution transformers.

## **Division 4 — Underground cables**

AS 2832.1:2015 Cathodic protection of metals — Part 1: Pipes and cables.

AS/NZS 2648.1:1995 Underground marking tape — Part 1: Non-detectable tape.

## **Division 5 — Power coordination**

AS/NZS 3835.1:2006 Earth potential rise — Protection of telecommunications network users, personnel and plant — Part 1: Code of practice.

AS/NZS 3835.2:2006 Earth potential rise — Protection of telecommunications network users, personnel and plant — Part 2: Application guide.

HB 100-2000 (CJC 4) 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.

HB 101-1997 (CJC 5) Coordination of power and telecommunications — Low Frequency Induction (LFI) — Code of practice for the mitigation of hazardous voltages induced into telecommunications lines.

HB 102-1997 (CJC 6) Coordination of power and telecommunications — Low Frequency Induction (LFI) — Application guide to the LFI code.

HB 103-1997 (CJC 7) Coordination of power and telecommunications — Crossings Code: The arrangement of overhead power and telecommunications lines, pole stay wires, and suspension wires.

## **Schedule 2 — Standards and codes containing obligatory provisions**

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### **Division 1 — General**

AS 1882-2002 Earth and bonding clamps.

AS 2067:2016 Substations and high voltage installations exceeding 1 kV a.c.

AS 3011.1:2019 Electrical installations — Secondary batteries installed in buildings — Part 1: Vented cells.

AS 3011.2:2019 Electrical installations — Secondary batteries installed in buildings — Part 2: Sealed cells.

AS 3851-1991 The calculation of short circuit currents in three-phase a.c. systems.

AS/NZS 3863:2002 Galvanised mild steel wire for armouring cables.

AS 4741-2010 Testing of connections to low voltage electricity networks.

AS/NZS 4836:2011 Safe working on or near low-voltage electrical installations and equipment.

AS 60529-2004 Degrees of protection provided by enclosures (IP Code).



ENA DOC 003-2021 (NENS 03) National guidelines for safe access to electrical and mechanical apparatus.

ENA Doc 025-2010 EG-0 Power system earthing guide — Part 1: Management principles, version 1.

ENA Doc 042-2018 National guidelines for manual reclosing of high voltage electrical apparatus following a fault operation (Manual Reclose Guidelines).

ENA Doc 044-2020 Guideline for energised low voltage work.

ENA NENS 04-2006 National guidelines for safe approach distances to electrical and mechanical apparatus.

ENA NENS 08-2006 National guidelines for aerial surveillance of overhead electricity networks.

ENA NENS 09-2014 National guideline for the selection, use and maintenance of personal protection equipment for electrical arc hazards.

IEC 61914:2015 Cable cleats for electrical installations.

## **Division 2 — Overhead lines**

AS 1222.1-1992 Steel conductors and stays — Bare overhead — Part 1: Galvanised (SC/GZ).

AS 1222.2-1992 Steel conductors and stays — Bare overhead — Part 2: Aluminium clad (SC/AC).

AS 1531-1991 Conductors — Bare overhead — Aluminium and aluminium alloy.

AS 1720.1-2010 Timber structures — Part 1: Design methods.

AS 1720.2-2006 Timber structures — Part 2: Timber properties.

AS 1746-1991 Conductors — Bare overhead — Hard drawn copper.

AS/NZS 2878:2000 Timber — Classification into strength groups.

AS 3600:2018 Concrete structures.

AS 3607:1989 Conductors — Bare overhead, aluminium and aluminium alloy — Steel reinforced.

AS 3818.11-2009 Timber — Heavy structural products — Visually graded — Part 11: Utility poles.

AS 4100:2020 Steel structures.

AS 5804.1-2010 High-voltage live working — Part 1: General.

AS 5804.2-2010 High-voltage live working — Part 2: Glove and barrier work.

AS 5804.3-2010 High-voltage live working — Part 3: Stick work.

AS 5804.4-2010 High-voltage live working — Part 4: Barehand work.

AS 6947-2009 Crossing of waterways by electricity infrastructure.

AS/NZS 7000:2016 Overhead line design.

### **Division 3 — Underground cables**

AS/NZS 1026:2004 Electric cables — Impregnated paper insulated —  
For working voltages up to and including 19/33 (36) kV.

AS/NZS 1125:2001 Conductors in insulated electric cables and  
flexible cords.

AS/NZS 1429.1:2006 Electric cables — Polymeric insulated —  
Part 1: For working voltages 1.9/3.3 (3.6) kV up to and including  
19/33 (36) kV.

AS/NZS 1429.2:2009 Electric cables — Polymeric insulated —  
Part 2: For working voltages above 19/33 (36) kV up to and including  
87/150 (170) kV.

AS/NZS 3008.1.1:2017 Electrical installations — Selection of  
cables — Part 1.1: Cables for alternating voltages up to and including  
0.6/1 kV — Typical Australian installation conditions.

### **Division 4 — Switchgear and protection**

AS 1033.1-1990 High voltage fuses (for rated voltages exceeding  
1000 V) — Part 1: Expulsion type.

AS 1033.2-1988 High voltage fuses (for rated voltages exceeding  
1000 V) — Part 2: Current-limiting (powder-filled) type.

AS 1307.2-1996 Surge arresters — Part 2: Metal-oxide surge arresters  
without gaps for a.c. systems.

AS/NZS 60137:2020 Insulated bushings for alternating voltages  
above 1000 V (IEC 60137:2017 (ED.7.0) MOD).

AS/NZS 60265.1:2001 High-voltage switches — Part 1: Switches for  
rated voltages above 1 kV and less than 52 kV (IEC 60265-1:1998,  
MOD).

AS 60296:2017 Fluids for electrotechnical applications — Unused  
mineral insulating oil for transformers and switchgear  
(IEC 60296:2012, MOD).

AS/NZS IEC 60947.1:2015 Low-voltage switchgear and  
controlgear — Part 1: General rules.

AS/NZS 61439.1:2016 Low-voltage switchgear and controlgear  
assemblies — Part 1: General rules.

AS/NZS 61439.2:2016 Low-voltage switchgear and controlgear  
assemblies — Part 2: Power switchgear and controlgear assemblies.

AS/NZS 61439.3:2016 Low-voltage switchgear and controlgear  
assemblies — Part 3: Distribution boards intended to be operated by  
ordinary person (DBO).

AS/NZS 61439.4:2016 Low-voltage switchgear and controlgear  
assemblies — Part 4: Particular requirements for assemblies for  
construction sites (ACS).

AS/NZS IEC 61439.5:2016 Low-voltage switchgear and controlgear  
assemblies — Part 5: Assemblies for power distribution in public  
networks.

AS 61869.1:2021 Instrument transformers — Part 1: General requirements (IEC 61869-1:2007 (ED.1.0) MOD).

AS 61869.2:2021 Instrument transformers — Part 2: Additional requirements for current transformers (IEC 61869-2:2012 (ED 1.0) MOD).

AS 61869.3:2021 Instrument transformers — Part 3: Additional requirements for inductive voltage transformers (IEC 61869-3:2011 (ED.1.0) MOD).

AS 61869.4:2021 Instrument transformers — Part 4: Additional requirements for combined transformers (IEC 61869-4:2013 (ED.1.0) MOD).

AS 61869.5:2021 Instrument transformers — Part 5: Additional requirements for capacity voltage transformers (IEC 61869-5:2011 (ED 1.0) MOD).

AS 62271.100:2019 High-voltage switchgear and controlgear — Part 100: High-voltage alternating-current circuit-breakers (IEC 62271-100:2008+AMD1:2012+AMD2:2017 CSV (ED.2.2)/COR 1:2018, MOD).

AS 62271.102:2019 High-voltage switchgear and controlgear — Part 102: Alternating current disconnectors and earthing switches (IEC 62271-102:2018, MOD).

AS IEC 62271.105:2015 High-voltage switchgear and controlgear — Part 105: Alternating current switch-fuse combinations for rated voltages above 1 kV up to and including 52 kV.

AS 62271.110:2019 High-voltage switchgear and controlgear — Part 110: Inductive load switching (IEC 62271-110:2017 (ED 4.0)/COR 1:2017/COR 2:2018, MOD).

AS 62271.200:2019 High-voltage switchgear and controlgear — Part 200: A.C. metal enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV (IEC 62271-200:2011/COR 1:2015, MOD).

AS 62271.201:2019 High-voltage switchgear and controlgear — Part 201: A.C. insulation enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV (IEC 62271-201:2014, MOD).

AS 62271.202:2019 High-voltage switchgear and controlgear — Part 202: High-voltage/low-voltage prefabricated substation (IEC 62271-202:2014, MOD).

AS 62271.203-2012 High-voltage switchgear and controlgear — Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV.

AS IEC 62271.4:2015 High-voltage switchgear and controlgear — Part 4: Handling procedures for sulphur hexafluoride (SF<sub>6</sub>) and its mixtures.

**12. Various penalties amended**

In the provisions listed in the Table delete “Penalty:” and insert:

Penalty for this subregulation:

**Table**

r. 6(1) and (4)	r. 7(1)
r. 8(1)	r. 9(2), (4) and (5)
r. 13(1)	r. 14(1) and (2)
r. 15(1), (2) and (3)	r. 19(1) and (2)
r. 21(1) and (2)	r. 23(1), (2), (3), (4) and (6)
r. 24(1)	r. 25(2), (3) and (4)
r. 26(3)	r. 31(1) and (5)
r. 32(2) and (5)	r. 41(2), (3), (4) and (5)

V.MOLAN, Clerk of the Executive Council.