
CHAPTER 8

DISTRIBUTION SYSTEM OPERATION

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CHAPTER 8 DISTRIBUTION SYSTEM OPERATION

8.1 PRELIMINARY

8.1.1 Purposes of this Chapter 8

The purposes of this Chapter 8 are to regulate in a safe, efficient and *reliable* manner:

- (a) the supply of electricity to or from *Distribution Network Service Providers' distribution systems* on mainland Tasmania; and
- (b) the way in which *Customers' electrical installations* and *embedded generating units* affect the *distribution system* to which they are *connected*.

8.1.2 To whom and how this Chapter 8 applies

- (a) Each *Distribution Network Service Provider* which supplies electricity on mainland Tasmania must comply with this Chapter 8 under the *distribution licence* held by it.
- (b) As a result of requirements imposed on each *Distribution Network Service Provider* under the *distribution licence* it holds, each *tariff or individual contract* for the *supply* of electricity between a *Distribution Network Service Provider* and a *Customer*, must require the relevant *Customer* to comply with those provisions of this Chapter 8 which are expressed to impose obligations on *Customers*.

8.1.3 Other sources of rights and obligations

This Chapter 8 does not set out comprehensively all rights and obligations of *Distribution Network Service Providers* and *Customers* in respect of matters relating to:

- (a) the *supply* of electricity to or from *Distribution Network Service Providers' distribution systems*; and
- (b) the way in which *Customers' electrical installations* and *embedded generating units* affect the *distribution system* to which they are *connected*,

so reference should be made to other statutes, regulations, proclamations, ordinances and by-laws binding upon a *Distribution Network Service Provider* or a *Customer*.

8.2 DISTRIBUTION SYSTEM REQUIREMENTS

8.2.1 Maintenance standards

A *Distribution Network Service Provider* must in relation to the maintenance of its *electrical infrastructure*:

- (a) adopt quality management and assurance procedures which:

- (1) comply with the laws and other performance obligations which apply to the provision of *distribution services*, including those contained in this *Code*; and
 - (2) minimize the risks associated with the failure or reduced performance of assets; and
- (b) adopt *good electricity industry practice*.

8.2.2 Assets register

A *Distribution Network Service Provider* must keep a register of all *electrical infrastructure* and other assets forming part of its *distribution system*, which must include:

- (a) a physical description of each item of *electrical infrastructure* or other asset, including its location; and
- (b) the value of each item of *electrical infrastructure* and other asset, calculated in accordance with accounting standards under the Corporations Law and, if not inconsistent with those accounting standards, generally accepted principles and practices applied from time to time in Australia in the electricity supply industry.

8.2.3 Public lighting

A *Distribution Network Service Provider* must repair or replace an item of *public lighting* within 7 *business days* of being notified by any person that such repair or replacement is necessary, unless the *public lighting* provider has contractual or other arrangements with another party.

8.3 PROVISION OF INFORMATION

8.3.1 Customer Charter

- (a) A *Distribution Network Service Provider* must prepare a *customer charter*:
 - (1) approved by the *Regulator*, stating the services and the level and standard of such services that a *customer* is entitled to receive from the *Distribution Network Service Provider*;
 - (2) describing how to make a complaint to the *Ombudsman*; and
 - (3) including a telephone number at which the *Distribution Network Service Provider* can be contacted, at any time, in an emergency.
- (b) The *Distribution Network Service Provider* must send or give a copy of the *customer charter* to a *Customer*:
 - (1) within 10 days of the *Customer* being *connected* to the *distribution system*; and
 - (2) on request.

8.3.2 Distribution Annual Planning Report Publication Date

For the purpose of clause 5.13.2(a)(1) of the *National Electricity Rules*, the *Distribution Network Service Provider* is required to publish a *Distribution Annual Planning Report* by 30 June each year.

8.4 COMPLAINT HANDLING

- (a) A *Distribution Network Service Provider* must handle a complaint by a *customer* in accordance with the relevant *Australian Standard* on Complaints Handling. The *Distribution Network Service Provider* must include information on its complaint handling processes in the *Distribution Network Service Provider's customer charter*.
- (b) When a *Distribution Network Service Provider* responds to a *Customer's* complaint, the *Distribution Network Service Provider* must inform the *Customer* that the *Customer* has a right to raise the complaint to a higher level within the *Distribution Network Service Provider's* management structure.
- (c) If the complaint is raised to a higher level, the *Distribution Network Service Provider* must advise the *Customer* in writing that the *Customer* has a right to refer the complaint to the *Ombudsman* or other relevant external dispute resolution body.

8.5 SUPPLY RESTORATION AND LOW RELIABILITY PAYMENTS

A *Distribution Network Service Provider* must comply with any guideline, issued by the *Regulator*, which sets out the minimum level of *network reliability* performance to be provided to a *Customer* by a *Distribution Network Service Provider*.

8.6 CUSTOMERS' ELECTRICAL INSTALLATIONS

8.6.1 Tasmanian By-laws and Regulations

A *Distribution Network Service Provider* must, in respect of *connection* of the *Customer's electrical installation* to the *Distribution Network Service Provider's distribution system*, use reasonable endeavours to ensure that the *Customer* is notified of its obligation to comply with any relevant Tasmanian by-laws and regulations.

8.6.2 Customers' general obligations

- (a) Deleted
- (b) A *Distribution Network Service Provider* must ensure that the network tariff applicable to a *Large Customer* provides that a *Large Customer* who, in respect of an *electrical installation*, has a maximum *demand* over 100 kVA must, if the *Distribution Network Service Provider* is unable to continue to satisfy that maximum *demand* without installing a new *substation*, sell or lease to the *Distribution Network Service Provider* the land upon which a new *substation* can be installed by the *Distribution Network Service Provider* in order to allow the *Distribution Network Service Provider* to satisfy that maximum *demand*.

8.6.3 Power factor

- (a) A *Distribution Network Service Provider* must ensure that the *tariff* applicable to a *Customer* or an individual contract between a *Customer* and a *Distribution Network Service Provider* provides that a *Customer* (unless otherwise agreed with its *Distribution Network Service Provider*) must, at all times, keep the *power factor* of its *electrical installation* within the relevant range set out in the table appearing below.

Table 1

Supply voltage (kV)	Power factor range for customer maximum demand and voltage					
	Up to 100 kVA		Over 100 kVA - 2 MVA		Over 2 MVA	
	Minimum lagging	Minimum leading	Minimum lagging	Minimum leading	Minimum lagging	Minimum leading
< 6.6	0.75	0.8	0.8	0.8	0.85	0.85
6.6 11 22	0.8	0.8	0.85	0.85	0.9	0.9
33 44 66	0.85	0.85	0.9	0.9	0.95	0.98

- (b) If the *power factor* of an *electrical installation* falls outside the relevant range set out in the table appearing in clause 8.6.3(a), the *Distribution Network Service Provider* must forward a notice to the *Customer* requiring it to restore the *power factor* of the *electrical installation* within the relevant range.

8.6.4 Voltage

- (a) Subject to a *Customer* fulfilling its obligations under the *Code*, the *tariff* or an *individual contract*, and to clause 8.6.4(b), the *Distribution Network Service Provider* must maintain a *voltage* level at the *point of supply* to the *Customer's electrical installation* at one of the following standard nominal *voltages*:
- (1) 230V;
 - (2) 400V;
 - (3) 460 V;
 - (4) 6.6 kV;
 - (5) 11 kV;

- (6) 22 kV;
 - (7) 33 kV;
 - (8) 44 kV;
 - (9) 66 kV; or
 - (10) replacements of the above standard nominal *voltages* published by the Standards Association of Australia from time to time.
- (b) Variations of the magnitude set out in the table appearing below around the relevant standard nominal *voltage* listed in clause 8.6.4(a) are permissible, unless otherwise agreed with the *Customer*.

Table 2

Voltage level (kV)	Voltage range for time periods		
	Steady state (average over 10 minute period)	Less than 1 minute	Less than 10 seconds
< 1.0	Refer to: AS 61000.3.100 Section 5.1	$\pm 10 \%$	Phase to earth 0 % - 150 % Phase to phase 0 % - 130 %
1-6.6 11 22	AS 61000.3.100 Section 5.2	$\pm 10 \%$	Phase to earth 0 % - 180 % Phase to phase 0 % - 130 %
33 44 66	AS 61000.3.100 Section 5.2	$\pm 15 \%$	Phase to earth 0 % - 150 % Phase to phase 0 % - 130 %

- (c) If the *Distribution Network Service Provider* fails to fulfil its obligations under clause 8.6.4(a) in respect of a *Customer's electrical installation* it must, within 20 *business days* of that failure being established, notify the *Customer* of what steps are to be taken to remedy that failure.
- (d) The *Distribution Network Service Provider* must use best endeavours to minimise the occurrence of *voltage* variations allowed under clause 8.6.4 for periods of less than 1 minute.
- (e) The *Distribution Network Service Provider* may send, in accordance with IEC 1000-2-2, signals for the following:
- (1) ripple control systems;
 - (2) medium-frequency power-line carrier systems; or

- (3) radio-frequency power-line carrier systems.

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8.6.11 Interruptions to supply

- (a) A *Distribution Network Service Provider* must use reasonable endeavours to ensure that the average number and duration of planned and unplanned interruptions per annum to the *supply* of electricity due to interruptions on the *distribution system*, calculated using the methodology outlined in Schedule 8.1, does not exceed the frequency and duration figures:
- (1) of all *Customers* in all *supply reliability areas* within the relevant *supply reliability category* in column A and column C of Table 3; and
 - (2) of all *Customers* in each *supply reliability area* in the relevant *supply reliability category* in column B and column D of Table 3.

Table 3: Supply Reliability Standards

Supply reliability category	Annual number of supply interruptions (on average)		Annual duration of supply interruptions (on average)	
	Category A	Area B	Category C	Area D
Critical Infrastructure	0.2	0.2	30 mins	30 mins
High Density Commercial	1	2	60 mins	120 mins
Urban and Regional Centres	2	4	120 mins	240 mins
High Density Rural	4	6	480 mins	600 mins
Lower Density Rural	6	8	600 mins	720 mins

- (b) On request, a *Distribution Network Service Provider* must make available to a *Customer* the applicable *supply reliability* standards relating to that *Customer's electrical installation* and the actual *supply reliability* performance of that *Customer's electrical installation*.

8.6.12 Electromagnetic interference

- (a) A *Distribution Network Service Provider* must ensure that a *Customer* complies with the requirement that the electromagnetic interference caused by a *Customer's electrical installation* or any appliances *connected* to that *electrical*

installation is less than the limits set out in AS/NZS 2344 and any industry guidelines in respect of waveform distortion.

- (b) A *Distribution Network Service Provider* must ensure that each *embedded generating unit* does not cause electromagnetic interference above the limits set out in AS/NZS 2344 and any industry guidelines in respect of waveform distortion.
- (c) A *Distribution Network Service Provider* must ensure, consistent with *good electricity industry practice*, that electromagnetic interference caused by its *distribution system* is less than the limits set out in AS/NZS 2344 and any industry guidelines in respect of waveform distortion.
- (d) A *Distribution Network Service Provider* must investigate the source of any electromagnetic interference in its *distribution area* above the limits set in AS/NZS 2344 and any industry guidelines in respect of waveform distortion when it becomes aware of such electromagnetic interference.
- (e) If a *Distribution Network Service Provider* establishes that the source of electromagnetic interference above the relevant limits is in its *distribution system*, it must reduce the level of electromagnetic interference below those limits.
- (f) If a *Distribution Network Service Provider* establishes that the source of electromagnetic interference above the relevant limits is in a *Customer's electrical installation*, and that electromagnetic interference adversely affects other *Customers* or causes damage to property or malfunction in electrical appliances, the *Distribution Network Service Provider* must notify the *Customer* that it must reduce the level of electromagnetic interference below those limits and the *Customer* must comply with the notice.

8.7 SAFETY AND OTHER MANUALS

- (a) Each *Distribution Network Service Provider* must observe *good electricity industry practice* as adopted by the national electricity supply industry for the planning, design, construction, maintenance and operation of each *Distribution Network Service Provider's distribution system* to ensure that the relevant standards for safety and *reliability* of the system are consistent with community, business and customer needs.
- (b) Each *Distribution Network Service Provider* must maintain manuals documenting design, construction, operation and maintenance standards that comply with the *good electricity industry practice*.

8.8 LOAD INFORMATION

- (a) A *Distribution Network Service Provider* must ensure that the network tariff applicable to a *Large Customer* provides that the *Large Customer* must *supply*, if requested, to the *Distribution Network Service Provider*, details of *loads connected* or planned to be *connected* to the *Distribution Network Service*

Provider's distribution system which the *Distribution Network Service Provider* requires for the purpose of planning its *distribution system*, including:

- (1) the location of the *load* in the *distribution system*;
 - (2) existing *loads*;
 - (3) existing *load profile*;
 - (4) changes in *load* scheduling;
 - (5) planned outages;
 - (6) forecasts of *load* growth;
 - (7) anticipated new *loads*;
 - (8) anticipated redundant *loads*; and
 - (9) the nature of any disturbing *loads*.
- (b) A *Distribution Network Service Provider* must on request from another *Distribution Network Service Provider* provide such information concerning a *point of common coupling* as the other *Distribution Network Service Provider* may reasonably require for the purpose of the integrated planning of the system.