

# NORTHERN TERRITORY ELECTRICITY INDUSTRY PERFORMANCE CODE

**25 OCTOBER 2017** 

Version 24 - as varied X Month 2023

#### **FOREWORD**

This <u>second</u>First <u>v</u>Version of the Northern Territory Electricity Industry Performance Code (*Code*):

- is made by the Utilities Commission of the Northern Territory pursuant to section 24 of the Utilities Commission Act 2000 (NT);
- commences operation on X Month 2023 and
- replaces the Northern Territory Electricity Standards of Service Code and the Northern Terriotry Guaranteed Service Level Code previous versions of the Code.-

Notice of the making of the *Code* was published in the Gazette on X Month 2023.

Any questions regarding the *Code* should be directed in the first instance to the *Commission*, at any of the following:

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# **Amendment Version** History

Version	Date made	Date of Commencement
1	25 October 2017	25 October 2017
2	X Month 2023	X Month 2023

# Northern Territory Electricity Industry Performance Code

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#### 1 Introduction

# 1.1 Authority

- 1.1.1 This Electricity Industry Performance Code (*Code*) is made by the Northern Territory

  Utilities Commission (*Commission*) of the Northern Territory under section 24 of the *Act*.
- 1.1.2 The *Commission* is authorised to make a *Code* relating to standards of service in the *electricity supply industry* and *supply* of electricity in the *electricity supply industry* under section 24 of the *Act* and regulation 2B of the Utilities Commission Regulations.

# 1.2 Scope

- 1.2.1 Without limiting clause 1.1.2, the *Code* may deal with any one or more of the following:
  - (a) standards of service by licensed entities in the *electricity supply industry*;
  - (b) **performance indicators** for standards of service by licensed entities in the **electricity supply industry**; and
  - (c) payments to certain *customers* if specified standards of service are not met.
- 1.2.2 In making this *Code*, making a decision to vary or revoke any part of the *Code*, or in approving the proposed *target standards* for *network entities*, or in making any other decision under this *Code* the *Commission* will:
  - (a) seek to promote and achieve the object of the **Act**,
  - (b) seek to promote and achieve the object of the **ERA**;
  - (c) have regard to matters listed in section 6(2) of the **Act**; and
  - (d) have regard to **good electricity industry practice**.

#### 1.3 Date of commencement

1.3.1 This **Code** takes effect on and from the **Commencement Date**.

# 1.4 Application

- 1.4.1 This *Code* applies to *electricity entities* in the Northern Territory.
- 1.4.2 To avoid doubt, this **Code** will only apply to an **electricity entity** to the extent that it provides **generation services**, **network services**, or **retail services** in **athe regulated network**.

#### 1.5 Guidelines

- 1.5.1 The *Commission* may publish guidelines relating to (among other things) the application or interpretation of matters arising under this *Code* including, but not limited to:
  - (a) administrative procedures and arrangements the *Commission* intends to adopt when administering the *Code*; and
  - (b) the *Commission's* interpretation of any clauses or terms used in this *Code*.
- 1.5.2 In publishing a guideline under clause 1.5.1, the *Commission* must:
  - (a) give notice to all **electricity entities**; and
  - (b) publish the guideline on the *Commission*'s website.
- 1.5.3 A guideline takes effect from the date of publication or from such later date as the *Commission* specifies in the guideline.

#### 1.6 Directions

- 1.6.1 The *Commission* may issue a direction to an *electricity entity* regarding any matter related to this *Code*. An *electricity entity* must comply with any direction issued (and notified in writing) by the *Commission* to the *electricity entity* from time to time.
- 1.6.2 Without limiting clause 1.6.1, the *Commission* may issue a direction requiring the *electricity entity* to:
  - (a) segment *performance indicators*; and
  - (b) report on *performance indicators* and *guaranteed service levels*;

in any way the **Commission** considers is appropriate in the circumstances.

# 1.7 Interpretation

- 1.7.1 The *Interpretation Act* applies to the interpretation of this *Code*.
- 1.7.2 Unless the contrary intention is apparent:
  - (a) a reference to a clause or schedule is a reference to a clause or schedule in this **Code**:
  - (b) a reference in this *Code* to a document or a provision of a document includes an amendment or supplement to, or replacement or novation of, the document or provision;
  - (c) words appearing in bold and italics like 'this' are defined in schedule 7 of this Code; and

- (d) without limiting clause 1.7.1:
  - the word 'may' in conferring a power will be interpreted to imply a power may be exercised or not, at discretion;
  - (ii) the word 'must' in conferring a function will be interpreted to mean the function so conferred must be performed.
- 1.7.3 Schedules to this **Code** form part of this **Code**.
- 1.7.4 If there is any inconsistency between the substantive provisions of this *Code* and the provisions of any schedules then the provisions of the substantive provisions will prevail to the extent of the inconsistency and the provisions of this *Code* will be construed accordingly.
- 1.8 Preservation of other obligations
- 1.8.1 Nothing in this **Code** will derogate from any obligation imposed upon an **electricity entity** under an **applicable regulatory instrument**.
- 2 Adding to or Amending this Code
- 2.1 Variation or revocation by the Commission under the Act
- 2.1.1 The *Commission* may at any time vary or revoke any part of this *Code* in accordance with section 24 of the *Act*.
- 2.2 Request for variation or revocation
- 2.2.1 An *electricity entity* or interested stakeholder may request the *Commission* to vary or revoke any part of this *Code*.
- 2.2.2 Unless the *Commission* considers the request is made on trivial or vexatious grounds (in which case the *Commission* may immediately reject the request) an application to vary or revoke any part of this *Code* will be dealt with by the *Commission* in accordance with this clause 2.
- 2.3 Matters to which the Commission will have regard to in making a decision
- 2.3.1 In deciding whether to vary or revoke this *Code* (or any part of this *Code*) under clause 2.1 and 2.2, or impose any additional or varied obligations on an *electricity entity*, the *Commission* will seek to promote and achieve the objects of the *Act* and the *ERA* and will have regard to the matters listed in section 6(2) of the *Act* and *good electricity industry practice*.

# 3 Target Standards for Network Entities

- 3.1 Establishing target standards
- 3.1.1 A *network entity* must develop *target standards* for a *regulatory control period* in accordance with this clause 3.1 and submit the proposed target standards to the *Commission* for approval.
- 3.1.2 The submission required under clause 3.1.1 must:
  - (a) set out the proposed *target standards* on a year-by-year basis for the *regulatory control period*;
  - (b) include the **performance indicators** requiring a **target standard** in schedule 3;
  - (c) be segmented in accordance with clause 7 and schedule 3;
  - (d) be calculated and defined in accordance with schedule 3;
  - (e) contain sufficient information and documentation to support the submission including:
    - historical outcomes (for example, at least the last four years and the current regulatory periods' performance *data*) and benchmarking information;
    - ii. a list of feeders by feeder categories;
    - iii. information on stakeholder engagement, including engagement with other *electricity entities*;
    - iv. evidence and justification for targets that do not match historical outcomes;
    - v. evidence and justification for any substantial change in targets including detailed information on the cost to achieve the current target and cost to achieve the proposed target, and specific stakeholder engagement;
    - vi. specifically addressing the object of the **Code**;
    - vii. where relevant, specifically addressing individual elements of section 6(2) of the *Act*, and
    - viii. any other information requested by the *Commission*

- 3.1.3 A **network entity** must provide all additional information requested by the **Commission** from time to time in relation to the proposed **target standards** within the timeframe specified by the **Commission**.
- 3.1.4 In deciding whether to approve the proposed *target standards*, the *Commission* may consult with other *electricity entities*, the *Minister* and anyone else it considers pertinent.
- 3.1.5 The *Commission* may approve the proposed *target standards* subject to such conditions as it considers appropriate.
- 3.1.6 If in the *Commission*'s reasonable opinion a *target standard* is contrary to the object of the *Act* or the *ERA* or the matters listed in section 6(2) of the *Act* or *good electricity industry practice*, the *Commission* may vary that *target standard* (in which case the *Commission* must provide reasonable notice to the *network entity*) at any time and in any way the *Commission* sees fit (but not in a manner that is inconsistent with the *Act*).
- 3.1.7 If the *Commission* does not receive or approve the proposed *target standards* under this clause 3.1 by the date 12 months prior to the start of a *regulatory control period*, the *Commission* may, prior to the commencement of that *regulatory control period*, set a *target standard* for each *performance indicator* requiring a *target standard* in any way the *Commission* sees fit.
- 3.1.8 Where the submission is complete (as set out in clause 3.1.2) and provided sufficient stakeholder engagement has been undertaken, the *Commission* must make a decision on the *network entity's* proposed submission within three months of receipt of the submission.
- 3.2 Varying the target standards
- 3.2.1 A *network entity* may at any time request the *Commission* to vary one or more of its *target standards*.
- 3.2.2 A request under clause 3.2.1 must state the reasons for varying the *target standards* and include information as per clause 3.1.2.
- 3.2.3 The *Commission* will deal with the request as per clauses 3.1 to clause 3.1.8.
- 3.2.4 A variation to a *target standard* under this clause 3.2.1 will take effect on a date specified by the *Commission*. The *Commission* is to consult with the relevant *network entity* before deciding on the effective date of change.
- 3.3 Target standard obligations
- 3.3.1 A **network entity** must use its **best endeavours** to meet the **target standards** approved by the **Commission** under this clause 3.

- 3.4 Publication of target standards
- 3.4.1 The *Commission* will publish the *target standards* and associated information on the *Commission*'s website
- 4 Guaranteed Service Level Scheme
- 4.1 GSL Payment
- 4.1.1 Clause 4 applies to *network entities*, *retail entities* and *small customers*.
- 4.1.2 A *network entity* must use its *best endeavours* to meet the *guaranteed service levels* applying to the *network entity*.
- 4.1.3 If a *network entity* does not meet a *guaranteed service level* in relation to a *small customer* it must pay that *small customer* the relevant *GSL payment* set out in schedule 1 for that *guaranteed service level* in accordance with this clause 4.
- 4.1.4 A *network entity* must determine the amount of the *GSL payment* (if any) that each *eligible small customer* is entitled to under this clause 4.
- 4.1.5 Where the *guaranteed service level* is based on performance within a *financial year*, the *network entity* must determine the amount of the *GSL payment* by 31 August following the end of the relevant *financial year*. Where the *guaranteed service level* is based on an event (with a payment made per event or per day) the *network entity* must determine the amount of the *GSL payment* as soon as practicable after the event.
- 4.1.6 When determining *financial year*-based *GSL payments*, *network entities* must base the assessment on the performance at the relevant *premises* across the *financial year*, which may include multiple *customers* and meters. Payment for these *GSL payments* must be made to the *small customer* at the premise as at 30 June of the *financial year*.
- 4.1.7 A *network entity* is not required to make a *GSL payment* under clause 4.1.3 if the cause of the *network entity*'s failure to meet the *guaranteed service level* is one or more of the events set out in clause 7.2.3.
- 4.1.8 When a *network entity* has determined a *GSL payment* is required under clauses 4.1.4 and 4.1.5 then, subject to clause 4.1.7, the *network entity* must either (at its election):
  - (a) pay the **eligible small customer** the relevant amount of the **GSL payment directly**; or

(b) notify the *retail entity* for an *eligible small customer* of the amount of the *GSL payment* for that *eligible small customer* and the manner in which that *GSL payment* was determined and make that *GSL payment* to the *eligible small customer's retail entity* in accordance with clause 4.3;

as soon as reasonably practicable after that entitlement is determined under clause 4.1.5.

- 4.1.9 **GSL payments** to **eligible small customers** can be in the form of a rebate (that is, a credit on the **customer's** bill), credit, cheque or bank transfer, or as agreed between the **eligible small customer** and **electricity entity.**
- 4.1.10 After receiving a notice from a *network entity* under clause 4.1.8(b), the *retail entity* must pay the relevant *eligible small customer* the amount of the *GSL payment* as soon as practicable.
- 4.1.11 Upon payment of the *GSL payment*, the relevant *electricity entity* must provide the *eligible small customer* with the details provided by the *network entity* describing the manner in which that *GSL payment* was determined.
- 4.1.12 Nothing in this clause 4.1 will entitle a *network entity* to recover any *GSL payment* from an *eligible small customer*.
- 4.2 Ceased eligible small customer
- 4.2.1 If an *eligible small customer*, before receiving payment to which it is entitled under clause 4.1.4, notifies its *retail entity* or *network entity* that it will cease being a *customer* of the entity, the *retail entity* or *network entity* will include, if reasonably possible, the *GSL payment* in the *customer's* final bill.
- 4.2.2 If a *GSL payment* is not made in the *eligible small customer's* final bill then the *network* entity (and relevant retail entity) must use best endeavours to locate and pay the eligible small customer.
- 4.2.3 If, after 12 months of ceasing being a *customer*, the *retail entity* or *network entity* is not able to locate the *eligible small customer* under clause 4.2.2, neither the *network entity* nor the *retail entity* will have any further obligations under clause 4.1.8 or 4.2 in relation to that *GSL payment*.
- 4.3 Payments between network entities and retail entities
- 4.3.1 At the request of the *retail entity*, the *network entity* must pay any reasonable charges:
  - (a) for costs incurred by the *retail entity* in providing services under clauses 4.1.9, 4.1.10 and 4.1.11; and
  - (b) approved by the *Commission*.

- 4.3.2 A **network entity** must ensure that the **retail entity** is reimbursed for any **GSL payment** passed through or required to be passed through by that retailer to an **eligible small customer** after notifying the **retail entity** under clause 4.1.8(b).
- 4.3.3 A *retail entity* must provide *written* confirmation to the *network entity* of any *GSL payments* made by the *retail entity* to an *eligible small customer* under clause 4.1.8(b).
- 4.3.4 Upon receipt of confirmation pursuant to clause 4.3.3, a *network entity* must reimburse the *retail entity* for the payment of the *GSL payment* and any charges provided for in clause 4.3.1 within 21 days or as otherwise agreed with the *retail entity*.
- 4.3.5 The *retail entity* or *network entity* must cooperate to ensure a timely and accurate *GSL payment* is paid to each *eligible small customer* in accordance with this clause 4.

# 4.4 Effect of a GSL payment

- 4.4.1 To avoid doubt, a *network entity* does not make any admission of legal liability or a breach of the *Code* or other applicable codes and laws in making a *GSL payment*.
- 4.4.2 To avoid doubt, a *retail entity* does not make any admission of legal liability or a breach of the *Code* or other applicable codes and laws when a *network entity* makes, or is required to make, a *GSL payment* that is passed through the *retail entity* to a *customer*.

# 4.5 GSL complaints

- 4.5.1 If a dispute arises relating to a *network entity* in respect of any matter relating to or in connection with *GSL payments*, the *network entity* must attempt to resolve the dispute by negotiations in good faith.
- 4.5.2 **Complaints** against **network entities** owned by the Northern Territory Government must be made to the Northern Territory Ombudsman and must be made in accordance with applicable procedures in the Ombudsman Act.
- 4.5.3 **Complaints** against **network entities** not owned by the Northern Territory Government must be made to the **Commission**.

# 4.6 GSL complaints to the Commission

- 4.6.1 **Complaints** to the **Commission** under clause 4.5.3 are subject to the following rules and process.
- 4.6.2 A group of **small customers** with substantially the same dispute to resolve with a **network entity** may elect to resolve that dispute individually or collectively.

- 4.6.3 If the disputing parties cannot resolve the dispute by negotiations in good faith within 10 *business days* of the dispute first arising, a *small customer* may make a *complaint* to the *Commission* about the *network entity* on the following grounds:
  - (a) the **small customer** is eligible for a **GSL payment**,
  - (b) an error has been made in relation to a *GSL payment* and as a result, the *small customer* has been adversely affected; or
  - (c) the bona fide attempts made by the **small customer** to resolve the dispute with a **network entity** have failed.

#### 4.6.4 A *complaint* under clause 4.5.3:

- (a) must be in writing;
- (b) must be made within one year after the **small customer** first becomes aware of the action or conduct that is the subject of the **complaint**, and
- (c) contain details of the grounds of the *complaint*, including:
  - i. reasons why the *small customer* is of the view that they are entitled to receive a *GSL payment*; and
  - ii. details showing how the **small customer** has made a genuine, but unsuccessful, attempt to resolve the dispute with the **network entity**.
- 4.6.5 A **small customer** can authorise a **retail entity** to act on their behalf in relation to a dispute.
- 4.6.6 Subject to the rules of natural justice, the *Commission* must conduct a dispute resolution process with as little formality and technicality and as much expedition as possible.
- 4.6.7 In determining a dispute under clause 4.6.5, the *Commission* may:
  - (a) seek and review all the information the *Commission* deems necessary;
  - (b) consult other persons as the *Commission* sees fit;
  - (c) take measures as the *Commission* sees fit to expedite the completion of the dispute resolution process; and
  - (d) make any order that it considers expedient to dispose of the dispute.

- 4.6.8 The *Commission* must deliver to the disputing parties a *written* determination that sets out the reasons for the determination and findings of fact on which the determination is based.
- 4.6.9 The findings of the *Commission* are final and binding on the disputing parties and the *network entity* must give effect to the *Commission's* findings including making any *GSL payments* required by the *Commission's* findings.

#### 4.7 Review of GSL Scheme

4.7.1 The **Commission** must complete a review of the **performance indicators**, **guaranteed service levels** and **GSL payment** amounts in schedule 1 at least 20 months prior to the start of a new **regulatory control period** for electricity networks.

# 5 Reporting

- 5.1 Obligations to report actual performance
- 5.1.1 **Retail entities** and **generator entities** must, no later than 31 August, submit to the **Commission** a report on their actual performance against the **performance indicators** for the previous **financial year**.
- 5.1.2 **Network entities** must, no later than 31 October, submit to the **Commission** a final report, on their actual performance against the **performance indicators** for the previous **financial year**.
- 5.1.3 Where an *electricity entity* believes it cannot report all or part of its requirements under clauses 5.1.1 or 5.1.2 it may seek an exemption or an extension from the *Commission*. The request for an exemption or extension under clause 5.1.1 or 5.1.2 must be received prior to the end of the *reporting period*.

# 5.2 Requirements

- 5.2.1 A report under clause 5.1.1 must:
  - (a) in relation to **generation services**, include the **performance indicators** set out in schedule 2;
  - (b) in relation to *network services*, include the *performance indicators* set out in schedules 1 and 3.
  - (c) in relation to *retail services*, include *performance indicators* set out in schedule 4, noting only *small customers* are required to be reported against; and
  - (d) be segmented in accordance with clause 7 and as per the relevant schedules.

- 5.2.2 A report under this clause 5 must include:
  - (a) a **responsibility statement**;
  - (b) relevant internal audit reports; and
  - (c) four years of historical *data* plus the *reporting period data*.
- 5.2.2A The methodology used for the reporting of historical *data* under clause 5.2.2(c) must be consistent with the methodology used for the reporting of *reporting period data* under clause 5.2.2(c).
- 5.2.3 The *Commission* may request further information or clarification in relation to a report submitted under this clause 5.
- 5.2.4 An *electricity entity* must respond to a request under clause 5.2.3 within 20 *business days* of receipt of request or as otherwise specified by the *Commission*.
- 5.3 Reporting against target standards for network entities
- 5.3.1 If a **network entity** fails to meet a **target standard** for a **reporting period**, the report submitted to the **Commission** by that **network entity** for the **reporting period** under this clause 5 must include:
  - (a) a statement of the reasons for that failure;
  - (b) a statement that explains and demonstrates how the *network entity* has used its *best endeavours* to meet the relevant *target standard*; and
  - (c) a statement on the measures the *network entity* proposes to take to ensure the relevant *target standard* will be met ongoing into the future.

#### 5.4 IEEE beta 2.5 events for network entities

- 5.4.1 If a natural event occurs that is, or that may be, identified as a statistical outlierne using the *IEEE 2.5 beta method* the *network entity* must notify the *Commission* in writing within 14 *business days* of the event occurring.
- 5.4.2 If a **network entity** excludes a **network outage** from the **adjusted** category or **GSL payments** in accordance with clause 7.2.3(f), the **network entity** must issue a report to the **Commission** within 30 **business days** of the **network outage** event.
- 5.4.3 A report submitted to the *Commission* under clause 5.4.2 must include:
  - (a) the relevant event identified under clause 7.2.3(f);
  - (b) information and documentation on the circumstances surrounding the event;
  - (c) the impact of the event on the **network entity's** ability to meet the **guaranteed** service levels:

- (d) the extent of the exclusion from the **adjusted** category;
- (e) the proposed extent of the exclusion; and
- (f) reasons why the *Commission* should consider the event as an exclusion.
- 5.4.4 The *Commission* will review the information provided by the *network entity* to verify that the event was outside the control of the *network entity*.
- 5.4.5 As part of its review under clause 5.4.4, the *Commission* may consult with other persons as the *Commission* sees fit and request additional information from the *network entity*.
- 5.4.6 If the *Commission* is not satisfied the event was outside the control of the *network entity*, it may disallow the event as an excluded event for *GSL payments* under clause 4.1 and reporting purposes under clause 5.
- 5.4.7 The *network entity* must use its *best endeavours* to minimise the events and *interruptions* set out in clause 7.2.3.

# 5.5 The Commission's obligations

- 5.5.1 On receipt of a report submitted under this clause 5, the *Commission*:
  - (a) must publish an assessment of the report within a reasonable time;
  - (b) may make the report publicly available; and
  - (c) must ensure any information made publicly available by the *Commission* complies with section 26 of the *Act*.

# 6 Data Quality

# 6.1 Data quality

- 6.1.1 An *electricity entity* must, in accordance with *good electricity industry practice:* 
  - (a) periodically collect and maintain *data* (in connection with *the target standards, performance indicators* or *reporting requirements* under clause 5), as is reasonably sufficient for the purpose of complying with its obligations under this *Code* and enabling the *Commission* to perform its functions under this *Code*; and
  - (b) make this *data* available on request to the *Commission* and an auditor appointed under clause 6.2 or clause 6.3.

#### 6.2 Periodic audit of data

6.2.1 An *electricity entity* must undertake an independent audit to ensure compliance with clause 6.1.1(a) at least once every three years for each *performance indicator* that the *electricity entity* is required to report against pursuant to clause 5.

- 6.2.2 The first auditing period will be from 2017-18 to 2019-20, and thereafter every three years.
- 6.2.3 An independent auditor appointed under this clause 6 must have the necessary technical expertise, be appointed for no longer than a six-year period and not be reappointed for a further three years after a six-year appointment.
- 6.2.4 An *electricity entity* must consult with the *Commission* in relation to the scope of an audit required by clause 6.2.1 and <u>its preferred a list of potential independent auditors</u> before appointing an independent auditor.
- 6.2.5 If an *electricity entity* fails to appoint an independent auditor under clause 6.2.1 the *Commission* may appoint an independent auditor to undertake an audit of the *electricity entity's* compliance with clause 5.

#### 6.3 Additional audit of data

- 6.3.1 In addition to the audit required under clause 6.2, the *Commission* may at any time give notice to the *electricity entity* to require it to appoint an independent auditor to undertake an audit of the *electricity entity*'s compliance with clause 4 and clause 5.
- 6.3.2 The audit requirements will be determined by the *Commission* in consultation with the *electricity entity*.
- 6.3.3 An auditor appointed under this clause 6.3.1 must have the necessary technical expertise determined by the *Commission* and notified to the *electricity entity*.
- 6.3.4 If the *electricity entity* fails to comply with a notice given by the *Commission* under this clause 6.3 by the date set out in the notice, the *Commission* may appoint an independent auditor to undertake an audit of the *electricity entity's* compliance with clause 4 and clause 5.
- 6.3.5 An *electricity entity* must meet the costs of any audit under this clause 6 including an audit under clause 6.2.5 or 6.3.4.

# 7 Data Segmentation

# 7.1 Data segmentation

7.1.1 An *electricity entity* must segment the *performance indicators* and *GSL payments* in accordance with the categories listed against the relevant *performance indicator* in schedules 1 to 4.

- 7.2 Adjusted and unadjusted performance indicators
- 7.2.1 Clause 7.2 applies to *network entities*.
- 7.2.2 A **network entity** must segment the **performance indicators** separately for the following categories:
  - (a) adjusted; and
  - (b) unadjusted,

in accordance with schedule 1 and 3 and clause 7.2.3.

- 7.2.3 A *network entity* may only exclude an *unplanned network interruption* from the *adjusted* category if the event that caused the *unplanned network interruption* is listed below and was beyond the reasonable control of the *network entity*:
  - (a) **load shedding** due to a generation shortfall;
  - (b) automatic *load shedding* due to the operation of under-frequency relays following the occurrence of a *power system* under-frequency condition;
  - (c) **load shedding** at the direction of the **system controller**;
  - (d) load interruptions caused by the exercise of any obligation, right or discretion imposed upon or provided for under jurisdictional electricity legislation or national electricity legislation applying to a network entity;
  - (e) for load *interruptions* caused or extended by a direction from state or federal emergency services, provided a fault in or the operation of the network did not cause, in whole or part, the event giving rise to the direction; and
  - (f) a natural event identified as a statistical outlier using the *IEEE 2.5 beta method.*

# **SCHEDULE 1: GUARANTEED SERVICE LEVEL SCHEME**

- S.1.1 Performance indicators, guaranteed service levels and GSL payment amounts
- S.1.1.1 Table 1 sets out various:
  - (a) **performance indicators**;
  - (b) guaranteed service levels; and
  - (c) **GSL payment** amounts, by year.
- S.1.2 Guaranteed service levels categories
- S.1.2.1 *Guaranteed service levels* only apply to *small customers*.
- S.1.3 GST
- S.1.3.1 All *GSL payments* specified in Table 1 are inclusive of GST, if applicable

Table 1

Performance indicators			notes				
		2023-24	<u>2024-25</u>	<u>2025-26</u>	<u>2026-27</u>	2027-28	2028-29
Duration of a single <i>interruption</i> <u>unplanned network</u> <u>interruption</u> :							
More than 12 hours and less than 20 hours	per event	\$99.50	<u>\$112.50</u>	<u>\$116.00</u>	<u>\$119.00</u>	<u>\$121.50</u>	\$125.00
More than 20 hours	per event	\$155.50	<u>\$175.50</u>	<u>\$181.00</u>	<u>\$185.50</u>	<u>\$190.00</u>	<u>\$195.00</u>
Frequency of interruptions unplanned network interruptions:							
More than 12 interruptions unplanned network interruptions in a financial year	per <b>financial year</b>	\$99.50	\$112.50	<u>\$116.00</u>	<u>\$119.00</u>	<u>\$121.50</u>	<u>\$125.00</u>
Cumulative duration of <i>interruptions</i> <u>unplanned network</u> <u>interruptions</u> :							
More than 20 <b>hours</b> of <b>interruptions</b> unplanned network interruptions in a <b>financial year</b>	per financial year	\$155.50	<u>\$175.50</u>	<u>\$181.00</u>	<u>\$185.50</u>	\$190.00	<u>\$195.00</u>
Time for establishing a <i>connection</i> :			-	-	<u> </u>	-	
Re-connection of an existing premises – within 24 hoursone business day of receipt by the network entity of a valid request for re-connection from the small customer	per day late, up to a maximum of \$300.00	\$62.00	<u>\$70.00</u>	<u>\$72.50</u>	<u>\$74.00</u>	<u>\$76.00</u>	<u>\$78.00</u>
New connection of a customer's premises (excluding connections requiring network extension or augmentation) — within 5 business days of receipt by the network entity of a valid electrical certificate of compliance from the small customer, or as otherwise agreed with the customer	per day late, up to a maximum of \$300.00	\$62.00	<u>\$70.00</u>	<u>\$72.50</u>	<u>\$74.00</u>	<u>\$76.00</u>	<u>\$78.00</u>
Time for giving notice of <i>planned interruptions</i> :			_	_	_=	_	
At least 2 <b>business</b> <i>days</i> ' notice prior to the commencement of the <i>day</i> upon which the <i>planned interruption</i> will occur		\$62.00	<u>\$70.00</u>	<u>\$72.50</u>	<u>\$74.00</u>	<u>\$76.00</u>	<u>\$78.00</u>
Keeping appointments:		-					
Within 30 minutes of the time agreed with the small customer		<del>\$24.90</del>					

#### SCHEDULE 2: GENERATION SERVICES PERFORMANCE INDICATORS

# S.2.1 Interpretation

- S.2.1.1 Where information in this schedule is set out in brackets (namely '[' and ']'), and preceded by the expression 'Example' or 'Note', the information:
  - (a) is provided to assist readers; and
  - (b) may be used in interpreting this **Code**.

# S.2.2 Application of schedule 2

- S.2.2.1 This schedule defines the *performance indicators* for *generation entities*.
- S.2.2.2 In particular, this schedule specifies the way in which *data* must be used to calculate those *performance indicators*.
- S.2.2.3 This schedule is separated into sections: *generation service performance indicators*; *generating unit* availability *performance indicators*; and *generation services* reliability *performance indicators*.
- S.2.2.4 A *generation entity* must calculate the *performance indicators*:
  - (a) identified in Table 24 of this schedule; and
  - (b) in accordance with the formulas set out in this schedule or the Definitions and Interpretation schedule.
- S.2.2.5 The *data* used to calculate each *performance indicator* must correspond with the *reporting period* for that *performance indicator*.

# S.2.3 Generation services performance indicators

#### S.2.3.1 Table 24:

- (a) lists the *generation services performance indicators* for the purpose of clause 5 of this *Code*; and
- (b) specifies the way in which these *performance indicators* must be segmented for reporting under this *Code*; and
- (c) specifies the performance indicators that will be treated as confidential.
- S.2.3.2 Where a *performance indicator* is confidential, the *Commission* will seek to use the information in aggregated form (that is, combined with other *generator entity data*).
- S.2.3.3 Where there is only one *generator entity* suppling to the *power system*, or there is sufficient reason, then individual *generator entity data* may be reported by the *Commission*.

Table 24: Generation Services Performance Indicators

Performance Indicator	Report	Confidential	Segmentation
Availability Factor (AF)	Yes	Yes	Power station
Unplanned Availability Factor (UAF)	Yes	Yes	Power station
Equivalent Availability Factor (EAF)	Yes	Yes	Power station
Forced Outage Factor (FOF)	Yes	Yes	Power station
Equivalent <i>Forced Outage</i> Factor (EFOF)	Yes	Yes	Power station
System average interruption duration index (SAIDI) relating to generation interruption	Yes	No	<b>Power system</b> and region
System average interruption frequency index (SAIFI) relating to generation interruption*	Yes	No	Power system and region

\*Note: To avoid doubt, clause 7.2.3 of this **Code** does not apply to **generation services** reliability **performance indicators**. However, any **generation event** that affects **supply** to **customers** and is caused by assets or equipment that are outside **plant management control** in accordance with the IEEE Standard 762-2006 must be excluded for the purpose of calculating **generation services** reliability **performance indicators**.

# S.2.4 Generating unit availability performance indicators

- S.2.4.1 The *generating unit* availability *performance indicators* in this clause S.2.4 of this schedule are based on the group performance indices in the US Institute of Electrical and Electronics Engineers (IEEE) Standard 762-2006.
- S.2.4.2 When calculating the *generating unit* availability *performance indicators* for each *power station*, only *generation outages* that are caused by a *generation event* that relates to *generating units* that form part of the same *power station* must be included.
- [Note: Each value that is used to calculate the **generating unit** availability **performance indicator** must be weighted by multiplying the value with the **generating unit**'s gross maximum capacity. All those products are then summed over all of the **generating units** which make up the relevant **power station**. Where necessary, this is reflected in the formula. To avoid doubt, each value is weighted while calculating the **performance indicator** and not after.]
- S.2.4.3 Each *electricity entity* must provide the following information in relation to its *generating units* and *power stations* to the *Commission* in the report submitted to the *Commission* pursuant to clause 4.1.1 of this *Code*:
  - (a) the gross maximum capacity of each generating unit,
  - (b) any *unit derating* for each *generating unit* (permanent or otherwise); and

(c) information that explains any changes in **gross maximum capacity** or **unit derating** from the previous **reporting period**.

[Note: The Commission intends to compare this information with the report submitted for the previous reporting period to assess any changes in gross maximum capacity and unit derating and to ensure that the generating unit availability performance indicators are calculated correctly and accurately to reflect the true availability of generating units in the reporting period.]

S.2.4.4 In circumstances where it is necessary to calculate the 'equivalent partial outage hours' that a generating unit is unavailable due to a generation outage that results in a unit derating, the following formula will be used:

[Note: This formula is used to calculate the number of equivalent partial outage hours (EH) that a generating unit is unavailable due to partial planned outages, partial unplanned outages or partial forced outages. The EH due to partial planned outages and partial unplanned outages are used as an input to calculate the Equivalent Availability Factor (clause S.2.4.7 of this schedule) whereas the EH due to partial forced outages are used as an input to calculate the Equivalent Forced Outage Factor (clause S.2.4.9 of this schedule).]

EquivalentPartialOutageHours (EH)=
$$H \times \left(\frac{UD}{GMC}\right)$$

Where:

- (a) H is the total number of *hours* that a *generating unit* is unavailable due to a *generation outage* that results in a *unit derating*:
- (b) UD (or 'unit derating') is the *unit derating value*.
- (c) GMC is the *gross maximum capacity*.

[Example: If a generating unit with a gross maximum capacity of 10.1 MW had its output reduced to 6.06 MW (unit derating value of 4.04 MW) for a period of 30 days the Equivalent Partial Outage Hours will be:

30 (days) 
$$\times$$
 24 (hours)  $\times$  (4.046.06 / 10.1) = 288432 hours]

S.2.4.5 Availability factor (AF)

$$AF = \left(1 - \left(\frac{\sum_{i=1}^{n} (UH_i \times GMC_i)}{\sum_{i=1}^{n} (H_i \times GMC_i)}\right)\right) \times 100$$

- (a) i is each *generating unit*.
- (b) UH (or 'unavailable *hours'*) is the total number of *hours* that a *generating unit* is unavailable due to *planned outages* and *unplanned outages*. This excludes the number of *equivalent partial outage hours* due to *partial planned outages* and *partial unplanned outages*.

(c) H is the total number of *hours*. However, if a *generating unit* is commissioned during the relevant *reporting period*, H will be the total number of *hours* from the date the *generating unit* is commissioned up until the end of that *reporting period*.

[Example:

If a **generating unit** is commissioned at 12:00 p.m on 1 December of the **reporting period**, H will be the total number of **hours** from 12:00 p.m on 1 December up until the end of the **reporting period**.]

- (d) GMC is the **gross maximum capacity** (applicable to weighted multiple **generating units** that are part of the same **power station**).
- (e) The AF is expressed as a percentage.

[Example:

Assuming a **power station** has two **generating units**, A and B, with a **gross maximum capacity** of 10 and 20 MW respectively – if **generating unit** A is shut down for a total of exactly 30 days and **generating unit** B is shut down for a total of exactly 20 days for **planned outages** or **unplanned outages** in a **reporting period** of one year, it would have been unavailable for 1,200 **hours** (720 **hours** for **generating unit** A and 480 **hours** for **generating unit** B).

The AF for the **power station** is calculated as follows:

$$AF = (1-((720 \times 10) + (480 \times 20)) / ((8760 \times 10) + (8760 \times 20))) \times 100$$

$$AF = 93.61\%$$

S.2.4.6 Unplanned Availability Factor (UAF)

$$UAF = \left(1 - \left(\frac{\sum_{i=1}^{n} (UOH_{i} \times GMC_{i})}{\sum_{i=1}^{n} (H_{i} \times GMC_{i})}\right)\right) \times 100$$

- (a) i is each *generating unit*.
- (b) UOH (or 'unplanned outage hours') is the total number of hours that a generating unit is unavailable due to unplanned outages. This excludes the number of equivalent partial outage hours due to partial unplanned outages.
- (c) H is the total number of *hours*. However, if a *generating unit* is commissioned during the *reporting period*, H will be the total number of *hours* from the date the *generating unit* is commissioned up until the end of the *reporting period*.

- (d) GMC is the **gross maximum capacity** (applicable to the weighted multiple **generating units** that are part of the same **power station**).
- (e) The UAF is expressed as a percentage.

[Example:

Assuming a **power station** has two **generating units**, A and B, with a **gross maximum capacity** of 10 MW and 20 MW respectively – if **generating unit** A is shut down for 12 days and **generating unit** B is shut down for 15 days for **unplanned outages**, both **generating units** would have been unavailable for 288 **hours** and 360 **hours**, respectively.

The UAF for the **power station** is calculated as follows:

$$UAF = (1-((288 \times 10) + (360480 \times 20))/((8760 \times 10) + (8760 \times 20))) \times 100$$
  
 $UAF = 96.1695.25\%$ 

S.2.4.7 Equivalent Availability Factor (EAF)

$$EAF = \left(1 - \left(\frac{\sum_{i=1}^{n} ((UH_i + EUH_i) \times GMC_i)}{\sum_{i=1}^{n} (H_i \times GMC_i)}\right)\right) \times 100$$

- (a) i is each *generating unit*.
- (b) UH (or 'unavailable *hours*') is the total number of *hours* that a *generating* unit is unavailable due to *planned outages* and unplanned outages. This excludes the number of equivalent partial outage hours due to partial planned outage and partial unplanned outages.
- (c) EUH (or 'equivalent unavailable *hours*') is the total *equivalent partial outage hours* due to *partial planned outages* and *partial unplanned outages*.
- (d) H is the total number of hours. However, if a generating unit is commissioned during the reporting period, H will be the total number of hours from the date the generating unit is commissioned up until the end of the reporting period.
- (e) GMC is the **gross maximum capacity** (applicable to weighted multiple **generating units** that are part of the same **power station**).
- (f) The EAF is expressed as a percentage.

[Example:

Assuming a **power station** has two **generating units**, A and B, with a **gross maximum capacity** of 10 MW and 20 MW, respectively – if **generating unit** A is shut down due to **planned outages** and **unplanned outages** for 30 days and **generating unit** B had its output reduced by a **partial outage** to 60% of its total generation output <u>(unit derating value of 8 MW)</u> for a further period of 30 days, its **equivalent partial outage hours** will be 30 (days) x 24 (hours)  $\times$  0.46 = 288432 hours.

The EAF for the **power station** is calculated as follows:

$$EAF = (1 - ((720 \times 10) + (288432 \times 20))/((8760 \times 10) + (8760 \times 20))) \times 100$$
  
 $EAF = 95.0786.85\%$ 

#### S.2.4.8 *Forced outage* factor (FOF)

$$FOF = \left(\frac{\sum_{i=1}^{n} (FOH_{i} \times GMC_{i})}{\sum_{i=1}^{n} (H_{i} \times GMC_{i})}\right) \times 100$$

Where:

- (a) i each **generating unit**.
- (b) FOH (or 'forced outage hours') is the total number of hours that a generating unit is unavailable due to forced outages. This excludes equivalent partial outages hours due to partial forced outages.
- (c) H is the total number of *hours*. However, if a *generating unit* is commissioned during the *reporting period*, H will be the total number of *hours* from the date the *generating unit* is commissioned up until the end of the *reporting period*.
- (d) GMC is the **gross maximum capacity** (applicable to weighted multiple **generating units** that are part of the same **power station**).
- (e) FOF is expressed as a percentage.

[Example:

Assuming a **power station** has two **generating units**, A and B, with a **gross maximum capacity** of 10 MW and 20 MW respectively, if **generating unit** A is forced out of service on two occasions for periods of 5 days and 3 days in the **reporting period**, its total **forced outage** time is 192 **hours**. If **generating unit** B is forced out of service for a period of 2 days, its total **forced outage** time is 48 **hours**.

The FOF for the **power station** is calculated as follows:

$$FOF = ((192 \times 10) + (48 \times 20)) / ((8760 \times 10) + (8760 \times 20)) \times 100$$
  
 $FOF = 1.10\%$ 

#### S.2.4.9 Equivalent *forced outage* factor (EFOF)

$$EFOF = \left(\frac{\sum_{i=1}^{n} ((FOH_i + EFOH_i) \times GMC_i)}{\sum_{i=1}^{n} (H_i \times GMC_i)}\right) \times 100$$

Where:

- (a) i is each *generating unit*
- (b) FOH (or 'forced outage hours') is the total number of hours that a generating unit is unavailable due to forced outages.
- (c) EFOH (or 'equivalent forced outage hours') is the equivalent partial outage hours due to partial forced outages.
- (d) H is the total number of *hours*. However, if a *generating unit* is commissioned during the *reporting period*, H will be the total number of *hours* from the date the *generating unit* is commissioned up until the end of the *reporting period*.
- (e) GMC is the **gross maximum capacity** (applicable to weighted multiple **generating units** that are part of the same **power station**).
- (f) EFOF is expressed as a percentage.

[Example:

Assuming a **power station** has two **generating units**, A and B, with a **gross maximum capacity** of 10 MW and 20 MW respectively – During the **reporting period generating unit** A was forced out of service for 8 days and was also restricted to 50% of its total generation output for 80 **hours** because of a **partial forced outage. Generating Unit** B was restricted to 30% of its total generation output (unit dertating value of 14 MW) for 48 **hours**.

The power station's EFOF would be calculated as

$$EFOF = (((192 + (80 \times 0.5)) \times 10) + ((48 \times 0.73) \times 20)) / ((8760 \times 10) + (8760 \times 20)) \times 100$$
  
 $EFOF = 1.140.99\%$ 

# S.2.5 Generation services reliability performance indicators

- S.2.5.1 When calculating *generation services* reliability *performance indicators*:
  - (a) for each **power system**:
    - i. only include those generation interruptions that are caused by generation events that are related to generating units/facilities that form part of the same power system and affect supply to customers located within the same power system; and

- ii. only include those *customers* who are supplied by the same *power* system; and
- (b) for each *region*:
  - i. only include those generation interruptions caused by generation events related to generating units/facilities that form part of the same power system and affect supply to customers located within the boundaries of the same region; and
  - ii. only include those *customers* who receive *supply* from within the boundaries of the same *region*.



#### SCHEDULE 3: NETWORK SERVICES PERFORMANCE INDICATORS

# S.3.1 Interpretation

- S.3.1.1 Where information in this schedule is set out in brackets (namely '[' and ']'), and preceded by the expression 'Example', the information:
  - (a) is provided to assist readers; and
  - (b) may be used in interpreting this **Code**.

#### S.3.2 Application of schedule 3

- S.3.2.1 This schedule defines the *performance indicators* for *network entities*.
- S.3.2.2 In particular, this schedule specifies the way in which *data* must be used to calculate those *performance indicators*.
- S.3.2.3 For the purposes of this **Code** all **transmission networks** are classified as **distribution networks** and their performance must be reported as per the **distribution network performance indicators**.
- S.3.2.4 An *electricity entity* must calculate the *performance indicators* identified in the relevant clauses of this schedule and in accordance with the formulas set out in this schedule.
- S.3.2.5 The *data* used to calculate each *performance indicator* must correspond with the relevant *reporting period*.

# S.3.3 Distribution network reliability performance indicators

# S.3.3.1 Table <u>32</u>:

- (a) lists the **performance indicators** to measure performance of the **distribution network** for the purpose of clause 5 of this **Code**;
- (b) identifies whether a *target standard* needs to be set for each *performance indicator* for the purpose of clause 3 of this *Code*; and
- (c) specifies the way in which the *performance indicators* must be segmented for *target standard setting* and reporting under this *Code*.

Table 32: Distribution network reliability performance indicators

Performance Indicator	Report	Segmentation	Target Standard	Segmentation	
System average <i>interruption</i> duration index ( <i>SAIDI</i> ) <i>unadjusted</i>	Yes	<b>Regional</b> and <b>Feeder Category</b>	Not required	N/A	
System Average <i>Interruption</i> Duration Index ( <i>SAIDI</i> )  adjusted	Yes	Regional and Feeder Category	Yes	Feeder category	
System Average <i>Interruption</i> Frequency Index ( <i>SAIFI</i> ) <i>unadjusted</i>	Yes	Regional and Feeder Category	Not required	N/A	
System Average <i>Interruption</i> Frequency Index ( <i>SAIFI</i> )  adjusted	Yes	Regional and Feeder Category	Yes	Feeder category	
Poorly performing feeders	Yes	Individual feeder	Not required	N/A	

- S.3.3.2 The *distribution network* reliability *performance indicators* in clause S.3.3 of this schedule are based on the reliability indices in the US Institute of Electrical and Electronics Engineers (IEEE) Standard 1366-2012.
- S.3.3.3 A *network interruption* must be reported when the *remote monitoring equipment* signals a loss of *supply* or when the *customer* signals the loss of *supply* to the *electricity entity* whichever is the first to occur.
- S.3.3.4 For the purpose of calculating *distribution network* reliability *performance indicators:* 
  - (a) for each **region**:
    - i. only include those network interruptions that are caused by a distribution network related event and occur on a part of the distribution network that is within the boundaries of the same region; and
    - ii. only include those *customers* who receive *supply* from within the boundaries of the same *region*; and
  - (b) for feeder category:
    - i. only include those *network interruptions* that are caused by individual feeders that are part of the same *feeder category*; and

- ii. only include those *customers* who are supplied by a group of individual feeders that are part of the same *feeder category*.
- S.3.3.5 System Average *Interruption* Duration Index (*SAIDI*) means the sum of the duration of each sustained *unplanned network interruption* (in *customer* minutes) divided by the total number of distribution *customers*. *SAIDI* excludes momentary *interruptions* of one minute or less.
- S.3.3.6 **SAIDI unadjusted** and **adjusted** are to use the following formula using relevant **data**. That is, **unadjusted SAIDI** uses **unadjusted data** and **adjusted SAIDI** is to use **adjusted data**.

$$SAIDI = \left(\frac{\sum IDi * Ci}{CS}\right)$$

- (a) ID (or '*interruption* duration') is the sum of the duration of each *unplanned network interruption* expressed in minutes.
- (b) C (or 'customers') is the sum of the number of impacted customers of each unplanned network interruption.
- (c) CS (or 'customers supplied') is the average of the number of all customers supplied at the beginning of the reporting period and the number of all customers supplied at the end of the reporting period.
- (d) Additional notes
  - i. Unmetered street lighting supplies are excluded. Other unmetered supplies can either be included or excluded from the calculation of reliability measures.
  - ii. Inactive accounts are excluded
- S.3.3.7 System Average *Interruption* Frequency Index (*SAIFI*) means the total number of *unplanned network interruptions* divided by the total number of distribution *customers*. *SAIFI* excludes momentary *interruptions* of one minute or less. *SAIFI* is expressed per 0.01 *interruptions*.

S.3.3.8 **SAIFI unadjusted** and **adjusted** are to use the following formula using relevant **data**. That is, **unadjusted SAIFI** uses **unadjusted data** and **adjusted SAIFI** is to use **adjusted data**.

SAIFI = 
$$\left(\frac{\text{TI}}{\text{CS}}\right)$$

Where:

- (a) TI (or 'total *interruptions'*) is the total number of *unplanned network interruptions*.
- (b) CS (or 'customers supplied') is the average of the number of all customers supplied at the beginning of the reporting period and the number of all customers supplied at the end of the reporting period.
- (c) Additional notes
  - Unmetered street lighting supplies are excluded. Other unmetered supplies can either be included or excluded from the calculation of reliability measures.
  - ii. Inactive accounts are excluded;

# S.3.4 Reporting on Feeders

S.3.4.1 For each *reporting period*, *network entities* must provide the *Commission* with a list of feeders by *feeder category* as set out in the guidelines.

# **S.3.5** Poorly Performing Feeders

- S.3.5.1 **Network entities** must report to the **Commission** on the 5 worst performing feeders for each **feeder category** for the **reporting period** including the following information:
  - (a) the **SAIDI** performance of the individual feeder that was used to identify each individual feeder that has performed poorly; and
  - (b) a statement that explains the poor **SAIDI** performance of each of these individual feeders and the action the **network entity** intends to take to improve the poor **SAIDI** performance of these individual feeders.
- S.3.5.2 Network entities must provide the Commission with a list of feeders that will be subject to capital improvements in the current financial year. The information provided should include a brief description of the capital works, capital expenditure in the financial year, total capital expenditure for the project, and planned start and completion dates.

#### S.3.6 Network entities Customer Service Performance Indicators

# S.3.6.1 Table <u>43</u>

- (a) lists the **performance indicators** to measure **customer** performance of **network entities**; and
- (b) specifies the way in which the *performance indicators* must be segmented for the purpose of reporting under this *Code*.

Table 43: Network customer service performance indicators

Performance Indicator	Report	Segmentation
Connections	Yes	Region
Phone Answering	Yes	NT
Network <i>Complaints</i>	Yes	Region

#### S.3.6.2 **Connections**: The **performance indicator is**:

- (a) the number and average length of time taken to provide network access to new subdivisions where minor extensions or augmentation is required.
- S.3.6.3 Phone answering: The *performance indicators* are:
  - (a) the average time taken to answer the phone:
  - (b) the percentage and total number of calls not answered within 30 seconds of caller asking to talk to a person; and
  - (c) the percentage and total number of calls abandoned.
- S.3.6.4 For further detailed information refer to the *AER's* Distribution STPIS requirements, as updated from time to time.

[Example:

Calls to the fault line answered in 30 seconds where the time to answer a call is measured from when the call enters the telephone system of the call centre (including that time when it may be ringing unanswered by any response) and the caller speaks with a human operator, but excluding the time that the caller is connected to an automated interactive service that provides substantive information. This measure does not apply to calls to payment lines and automated interactive services and calls abandoned by the **customer** within 30 seconds of the call being queued for response by a human operator. Where the time in which a telephone call is abandoned is not measured, then an estimate of the number of calls abandoned within 30 seconds will be determined by taking 20 per cent of all calls abandoned.

Note: Being placed in a queuing system (automated or otherwise) does not constitute a response.]

- S.3.6.5 Network *Complaints*: The *performance indicators* are:
  - the percentage and total number of *complaints* associated with *network* related activities segmented into *complaint* categories; and
  - (b) the percentage and total number of *complaints* associated with the *network* quality of *supply* issues.

#### S.3.7 Guaranteed Service Performance indicators

- S.3.7.1 **Network entities** are to report on their **GSL payments**. The report must be categorised by **performance indicator** and by **Guaranteed Service Level**, as specified in schedule 1, and is to include:
  - (a) 4 years of history plus *reporting period* outcome;
  - (b) the number of **GSL payments** made to **customers** (actual or forecast) by **performance indicator**;
  - (c) the number of payments that should have been made but where not as per clause 4.2; and
  - (d) the total value of **GSL payments** (actual or forecast) by **performance** indicator.
- S.3.7.2 If a forecast is provided, the date of the forecast must also be included.

#### S.3.8 Exclusions

- S.3.8.1 A network entity must provide details of each of the exclusions under clause 7.2.3 that has been applied in calculating the adjusted distribution network performance indicators and GSL payments.
- S.3.8.2 At a minimum *network entities* must detail the number and type, as per clause 7.2.3 of exclusions by *performance indicator* and by *region*, and report these in a manner consistent with clause 5 of this *Code*.

#### SCHEDULE 4: RETAIL SERVICES PERFORMANCE INDICATORS

- S.4.1 Retail Services Performance Indicators
- S.4.1.1 This schedule defines the *performance indicators* for *retail entities*.
- S.4.1.2 In particular, this schedule specifies the way in which *data* must be used to calculate those *performance indicators*.
- S.4.1.3 This schedule is separated into two sections; *AER* based *performance indicators* and Northern Territory specific *performance indicators*.
- S.4.1.4 A *retail entity* must calculate the *performance indicators* identified in the relevant clauses of this schedule.
- S.4.1.5 The *data* used to calculate each *performance indicator* must correspond with the relevant *reporting period*.

#### S.4.2 Performance Indicators

- S.4.2.1 Table <u>5</u>4:
  - (a) lists Northern Territory and the *AER performance indicators* to measure *customer* performance of a *retail entity*;
  - specifies the relevant *reporting period* in which the *performance indicators* must be reported for the purposes of reporting under this *Code*;
     and
  - (c) specifies the way in which the **performance indicators** must be segmented for the purposes of reporting under this **Code**.
- S.4.2.2 Where indicated in Table 54, for the purpose of calculating *AER retail services* performance indicators, retail entities must be consistent with the *AER*'s, *AER* (Retail Law) Performance Reporting Procedures and Guidelines (or equivalent), as updated from time to time.
- S.4.2.3 Notwithstanding any requirements of the *AER*, <u>retail entities must</u>, for the purpose of calculating:
  - (a) -retail services performance indicators for this Code, a retail entity mustonly include small customers that are taking (or likely to take less than) 160 megawatt hours of electricity from the distribution network during the reporting period.
  - (b) AER retail services performance indicators that require segmentation by residential customers and small business customers, apply the definition of residential customer and small business customer in this Code.
  - (c) AER retail services performance indicators in relation to debt and energy bill debt, count debt from the date a bill is due to be paid.

- (d) AER retail services performance indicators in relation to debt and energy bill debt, exclude customers with debt or energy bill debt of less than \$10.
- S.4.2.4 Where there is a conflict between this *Code* (or guidelines issued by the *Commission*) and *AER* guidelines, this *Code* and guidelines takes precedent.

Table 54: Retail Services Performance Indicators

Topic	Performance Indicator	AER / NT	Relevant Reporting Period	Segmentation
Custon	ner Service and <i>Complaint</i> s	1		1
	Total number of calls to an operator	AER	AER	NT
	Number and percentage of calls forwarded to an operator that are answered within 30 seconds.	AER	AER	NT
	Number and percentage of calls abandoned before being answered by an operator.	AER	AER	NT
	Complaints—billing	AER	AER	NT
	Complaints—energy marketing	AER	AER	NT
	Complaints—customer transfers	AER	AER	NT
	Complaints - Hardship	NT	quarterly	NT
	Complaints—Other	AER	AER	NT
Handlir	ng customers experiencing payment difficulties			
	Number of small customers repaying an energy bill debt	AER	AER	NT Region
	Average amount of energy bill debt for small customers	AER	AER	NT Region
	Amount of residential customer energy bill debt	AER	AER	NT Region
	Number of residential customers on a payment plan	AER	AER	NT Region
	Number of residential customers who successfully completed their payment plan	AER	AER	NT Region
Pre-pay	yment meters			
	Number of customers by meter type	NT	Quarterly	Meter type / Region
	Number of PPM customers using a PPM system capable of detecting and reporting self-disconnections	AER	AER	Region
	Total number of PPM customers self-disconnected	AER	AER	Region
	Total number of PPM self-disconnection events	<u>AER</u>	<u>AER</u>	<u>Region</u>
	Average duration of self-disconnection events	AER	AER	Region
De-ene	rgisation (disconnection) and Re-energisation (reconnect	tion)		
	Number of customers disconnected for non-payment	AER	AER	NT Region
	Number of customers reconnected within 7 days of disconnection	AER	AER	NT-Region
	Total number of residential customers reconnected in the same name at the same address ip Program	AER	AER	NT Region

Topic	Performance Indicator	AER/NT	Relevant Reporting Period	Segmentation
	Number of customers on a retailer's hardship program	AER	AER	<u>NT</u> Region
	Average debt upon entry into the hardship program	AER	AER	NT Region
	Levels of debt of customers entering the hardship program	AER	AER	<u>NT</u> Region
	Average debt of hardship program customers	AER	AER	NT-Region
	Number of customers exiting the hardship program	AER	AER	NT Region
	Reasons for customers exiting the hardship program	AER	AER	<u>NT</u> Region
	Assistance provided to hardship program customers	AER	AER	NT Region
	Case studies	AER	AER	Region

- S.4.2.5 Additional information for Northern Territory *performance indicators* is provided below:
  - (a) **Complaints Hardship**, is the total number of **customer** service **complaints** associated with **customer hardship** measures.
  - (b) Not used Number of customers by meter type is number of active customers on the last calendar day of the reporting period. Meters must be categorised as per functionality; including unmetered, pre-payment meters, interval meters, accumulation meters, and other.

### **SCHEDULE 5: TRANSITIONAL PROVISIONS**

#### S.5.1 General

- S.5.1.1 Clauses 1, 2, 3, 4, and 7 of the **Code** apply from the **commencement date**.
- S.5.1.2 The *target standards* proposed for the 2019 *regulatory control period* determination must be based on this *Code* including schedule 3.
- S.5.1.3 Clause 5 of the *Code* applies from the *commencement date* however the reports required by clause 5.1.1 for the 2016-17 *financial year* must be provided by 1 November 2017. Reports required subsequent to this *financial year* must be provided pursuant to clause 5.
- S.5.1.4 Clause 6 of the *Code* applies from the *commencement date*. Thus initial audits of the *performance indicators* must be undertaken for either the 2017-18, 2018-19, or 2019-20 financial reports.
- S.5.1.5 **Generation entities** must report against the revised schedule 2 from the 2016-17 *financial year* onwards.
- S.5.1.6 **Network entities** must, with regard to schedule 1, report against the **GSL payments** from the 2016-17 **financial year** onwards.
- S.5.1.7 **Network entities** must report against the **Legacy ESS Code's** schedule 2 including transmission **performance indicators** for the 2014-15 to 2018-19 determination period (excluding poor feeder information).
- S.5.1.8 Subject to clause S.5.1.9 below, *network entities* must report against schedule 3 of this *Code* from the 2019-20 *financial year* onwards.
- S.5.1.9 In relation to the poor feeders section of schedule 3, *network entities* must report against the schedule 3 of this *Code* from the 2016-17 *financial year* onwards.
- S.5.1.10 *Retail entities* must report against *Legacy ESS Code's* schedule 3 for the 2016-17 *financial year*. From the 2017-18 *financial year* onwards, *retail entities* must report against schedule 4 of this *Code*.

## **SCHEDULE 6: RESPONSIBILITY STATEMENT**

## **Responsibility Statement**

This report has been prepared by [name of electricity entity] with all due care and skill in accordance with the requirements of the Electricity Industry Performance Code issued by the Utilities Commission of the Northern Territory.

The report covers the reporting period from [date] to [date] during which period [name of electricity entity] had effective policies, systems and procedures in place to monitor compliance with the Electricity Industry Performance Code in accordance with its license.

## This report includes:

- if applicable, a list of the target standards relevant to [name of electricity entity] as agreed with the Utilities Commission of the Northern Territory on [date];
- if applicable, a list of performance indicators relevant to [name of electricity entity] which failed to meet the target standards; and
- a list of the results achieved for all performance indicators relevant to [name of electricity entity] for the period of this report.

Date:	
Signed:	
Print name:	
Chief Executive/D	elegate of Chief Executive Officer

Failure to comply with the Electricity Industry Performance Code is a breach of the licence and the Electricity Reform Act and may attract civil penalties. The Utilities Commission Act and the Electricity Reform Act makes it a serious offence to give false or misleading information to the Utilities Commission. If a corporation contravenes this obligation, each director of the corporation is also taken to have contravened this obligation to comply.

# **SCHEDULE 7: DEFINITIONS AND INTERPRETATION**

Term	Definition
Act	Utilities Commission Act
Adjusted	To exclude all <b>network outages</b> that meet the requirements of clause 7.2.3 of this <b>Code</b>
AER	Australian Energy Regulator
Applicable regulatory instruments	The <b>Act</b> , the <b>ERA</b> , the <b>ENTPA Act</b> , any regulation made under those Acts, the <b>National Electricity (NT) Rules National Electricity Rules</b> , any condition of a licence issued to an <b>electricity entity</b> or any other code, rule, determination or relevant statutory instrument made by the <b>Commission</b> under the <b>Act</b>
Best endeavours	To act in good faith and use all reasonable efforts, skill and resources
Bulk supply point	A major substation where <i>transformers</i> reduce the <i>transmission network</i> voltage to a lower level suitable for the <i>distribution network</i>
Business day(s)	A day which is not a Saturday, Sunday or observed as a public holiday in the Northern Territory
Code	This Electricity Industry Performance Code
Commencement Date	The date on which this <b>Code</b> is gazetted, or a later date specified in that gazette as the date upon which this <b>Code</b> will commence operation
Commission	The Utilities Commission of the Northern Territory established under the <i>Act</i>
Complaint	Written or verbal expression of dissatisfaction about an action, or a proposed action, or a failure to act by an electricity entity, its employees, agents or contractors, and includes failure by an electricity entity to observe its published or agreed practices or procedures
Connect, connected, connection	To form a physical link between a <i>regulated network</i> and a <i>premises</i> to allow the flow of electricity
Connection alteration	An alteration to an existing <i>connection</i> , including an addition, upgrade, extension, expansion, augmentation or any other kind of alteration

Term	Definition
Connection point	Means a point at which electricity is transferred to or from an electricity network Has the meaning given in the ENTPA
Customer(s)	Has the meaning given in the <i>ERA</i>
Data	Data that results from measuring the performance of <i>generation services</i> , <i>network services</i> , or <i>retail services</i> for the purpose of complying with the reporting requirements of this <i>Code</i>
Distribution assets	<ul> <li>Include:</li> <li>distribution lines including all poles and associated hardware;</li> <li>terminating switchgear (circuit breakers and isolators) including associated protection and controls;</li> <li>transformers between distribution network voltage levels;</li> <li>switchgear for the above transformers;</li> <li>underground cable systems including conduits and trenching; and</li> <li>transmission assets.</li> </ul>
Distribution network	For the purpose of this <b>Code</b> , is the <b>regulated network</b> and includes the <b>bulk supply points</b> , <b>distribution assets</b> and <b>distribution network connection assets</b> owned or operated by the relevant <b>network entity</b>
Distribution network connection assets	<ul> <li>Include:         <ul> <li>service lines plus meters for customers that are taking (or likely to take less than) 160 megawatt hours of electricity from the distribution network in a financial year;</li> <li>service lines, high voltage lines and plant, meters, dedicated distribution network transformers and associated switchgear for customers that are taking (or likely to take more than) 160 megawatt hours of electricity from the distribution network in a financial year; and</li> <li>transmission network connection assets.</li> </ul> </li> </ul>
Distribution network related event	Any event caused by assets or equipment within the <i>distribution network</i> that affects the conveyance or the control of conveyance of electricity within the <i>distribution network</i> .

Term	Definition
Electrical installation	Has the meaning given in the <i>ERA</i> .
Electricity entity/entities	Has the meaning given in the <i>ERA</i> .
Electricity network	Has the meaning given in the <b>ERA</b>
Electricity supply industry	Has the meaning given in the <i>ERA</i>
ENTPA Act	Electricity Networks (Third Party Access) Act
Eligible small customer	The <b>small customer</b> entitled to a <b>GSL payment</b> under clause 4
ERA	Electricity Reform Act
Equivalent partial outage hours	Represents the number of <i>hours</i> that a <i>generating unit</i> is unavailable due to a <i>generation outage</i> that results in a <i>unit derating</i> calculated in accordance with the 'equivalent partial outage <i>hours</i> ' formula in schedule 2
Feeder category	Any categories defined in guidelines issued by the <i>Commission</i> including CBD, urban, short rural, and long rural feeders
Financial year	A year commencing 1 July and ending 30 June
Forced outage	A <i>generation outage</i> (that is not a <i>partial forced outage</i> ) of a <i>generating unit</i> caused by a <i>generation event</i> that requires the performance of breakdown maintenance or repairs in relation to that <i>generating unit</i> which cannot be delayed until the next period of reduced <i>power system</i> demand as determined by the <i>System Controller</i>
Generation entity/entities	An electricity entity that provides generation services
Generation event(s)	Any event caused by a <i>generating unit</i> that affect a <i>generating unit's operating capacity</i> but excludes events caused by assets or equipment that are outside <i>plant management control</i> as determined by the relevant <i>electricity entity</i>
Generation interruption	A <i>generation outage</i> that results in a temporary unavailability or temporary curtailment of <i>supply</i> to a <i>customer</i> by the relevant generator and excludes <i>generation interruptions</i> that are less than one (1) minutes' duration

Term	Definition
Generation outage	Any full or partial unavailability of a <i>generating unit</i> , or related equipment and excludes <i>generation outages</i> that are less than one (1) minutes' duration
Generation services	The services provided by an <i>electricity entity</i> that is licensed to generate electricity for sale under the <i>ERA</i> and excludes the services provided by an <i>Independent Power Producer</i>
Generating unit	Has the meaning given in the <u>National Electricity (NT)</u> <u>Rules National Electricity Rules</u>
Good electricity industry practice	The exercise of that degree of skill, diligence, prudence and foresight that would reasonably be expected from a significant portion of <i>electricity entities</i> carrying on operations in the <i>electricity supply industry</i> under conditions comparable to those applicable to the relevant <i>electricity entity</i> consistent with the <i>applicable regulatory instruments</i> , safety and environmental protection. The determination of comparable conditions is to take into account factors such as the relative size, duty, age and technological status of the relevant <i>electricity entity</i> and the <i>applicable regulatory instruments</i>
Gross maximum capacity	The 'gross maximum capacity' value for a <i>generating unit</i> expressed in MWs and calculated in accordance with US Institute of Electrical and Electronics Engineers (IEEE) Standard 762-2006
GSL payment	A <i>guaranteed service level</i> payment to be made in accordance with clause 4 of the amount set out in schedule 1
Guaranteed service level	A guaranteed service level set out in Table 1 of schedule 1
Hardship	Includes financial <i>hardship</i>
Hour(s)	60 minutes or part thereof
IEEE 2.5 Beta Method	The 2.5 method described in the US Institute of Electrical and Electronics Engineers (IEEE) Standard 1366-2012
Independent Power Producer	An <i>electricity entity</i> identified as an 'Independent Power Producer' in the relevant generation licence issued by the <i>Commission</i> in accordance with the <i>ERA</i>
Interpretation Act	Interpretation Act
Interruption	A temporary unavailability or temporary curtailment of the <i>supply</i> of electricity to a <i>premises</i> , but does not include unavailability or curtailment in accordance with the terms and

Term	Definition
	conditions of that contract for the supply of electricity at that premises
Legacy ESS Code	The Electricity Standards of Service Code dated 1 December 2012.
Load shedding	Has the meaning given in the <b>System Control Technical Code</b>
Minister	The Minister of the Crown who is responsible for the administration of the <i>ERA</i>
National Electricity (NT) Rules	See section 3(1) of the National Electricity (Northern Territory) (National Uniform Legislation) Act 2015
National Electricity Rules	Means the National Electricity Rules as applied in the Northern Territory by the National Electricity (Northern Territory) (National Uniform Legislation) Act
Network access legislation	The legislation regulating connection to and use of <i>electricity</i> networks as in force in the Northern Territory from time to time, being the National Electricity (NT) Rules
Network entity/entities	An electricity entity that provides network services
Network interruption	A <b>network outage</b> that results in a temporary unavailability or temporary curtailment of <b>supply</b> to a <b>customer</b> by the relevant network and excludes <b>network interruptions</b> that are less than one (1) minutes duration
Network outage	Any full or partial unavailability of apparatus, equipment, plan and buildings used to convey, and control the conveyance of electricity and excludes <i>network outages</i> that are less than one (1) minute's duration
Network services	Has the meaning given in the <i>ERA</i>
New connection	A <b>new connection</b> where there is no existing <b>connection</b> at the <b>premises</b> or a <b>connection alteration</b>
Operating capacity	The reduction of a <i>generating unit's</i> output from its <i>gross</i> maximum capacity
Partial forced outage	A <i>generation outage</i> (that is not a <i>forced outage</i> ) of a <i>generating unit</i> that results in a <i>unit derating</i> that requires the performance of breakdown maintenance or repairs in relation to that <i>generating unit</i> which cannot be delayed until

Term	Definition
	the next period of reduced <i>power system</i> demand as determined by the <i>System Controller</i>
Partial planned outage	A <i>planned outage</i> that results in a <i>unit derating</i>
Partial unplanned outage	An <i>unplanned outage</i> that results in a <i>unit derating</i>
Performance indicators	The 'performance indicators' prescribed in schedules 1 to 4 of this <b>Code</b>
Planned interruption	<ul> <li>An <i>interruption</i> of the <i>supply</i> of electricity for:         <ul> <li>planned maintenance, repair or augmentation of an <i>electricity network</i> to which the <i>regulated network</i> is <i>connected</i>; or</li> <li>planned maintenance, repair or augmentation of the <i>regulated network</i>, including planned or routine maintenance of metering equipment; or</li> <li>installation of a <i>new connection</i>.</li> </ul> </li> </ul>
Planned network interruption	A <i>network interruption</i> where more than two <i>business days</i> ' notice was given to <i>customers</i> by the <i>network entity</i> and the <i>network entity</i> has otherwise complied with the relevant requirements of the <i>applicable regulatory instruments</i>
Planned outage	A <i>generation outage</i> that is planned in advance and notified to <i>System Control</i> in accordance with the <i>System Control Technical Code</i>
Plant management control	The methodology in the US Institute of Electrical and Electronics Engineers (IEEE) Standard 762-2006 that is used to determine causes that are internal or external to plant operation and equipment
Power station	The electricity generating plant identified as a 'power station' in a generation licence issued by the <i>Commission</i> in accordance with the <i>ERA</i> , which is connected to a <i>regulated network</i> , and excludes minor <i>power stations</i> as specified by the <i>Commission</i>
Power system	<ul> <li>Means:</li> <li>the Darwin-Katherine power system;</li> <li>the Tennant Creek power system; and</li> <li>the Alice Springs power system.</li> </ul>

Term	Definition
Premises	The address for which a <b>small customer</b> has a contract for the <b>supply</b> of electricity
Re-connection	Re-installation of a <i>connection</i> where there is an existing connection at the <i>premises</i>
Region	<ul> <li>Includes the:</li> <li>Darwin region, being the area where customers are able to be supplied by the Darwin 11 and 22 kilovolt distribution network;</li> <li>Katherine region, being the area where customers are able to be supplied by the Katherine 11 and 22 kilovolt distribution network;</li> <li>Tennant Creek region; and</li> <li>Alice Springs region.</li> </ul>
Regulatory control period	Has the meaning given under the National Electricity (NT)  Rules National Electricity Rules
Regulated network	An <b>electricity network</b> that is subject to <u>network access</u> <u>legislation</u> price regulation by the <b>AER</b> or the <b>Commission</b> .  For the avoidance of doubt, the <b>regulated network</b> ceases at the <b>electrical installation</b>
Remote monitoring equipment	Includes faulted circuit indicators (or equivalent) and related equipment commonly used to monitor <i>network outages</i>
Reporting period	The last completed <i>financial year</i> , that is, 1 July to 30 June, or a period as otherwise stated within the <i>Code</i>
Residential customer	A <u>small customer</u> eustomer who purchases electricity principally for its own personal, household or domestic use at <b>premises</b>
Responsibility statement	A statement in the form of the template set out in schedule 6, completed, signed, and dated by the Chief Executive Officer or a delegate of the Chief Executive Officer of an <i>electricity entity</i>
Retail entity/entities	An electricity entity that provides retail services
Retail services	The services provided by an <i>electricity entity</i> that is licensed to trade in electricity and to retail electricity to <i>customers</i> under the <i>ERA</i>

Term	Definition
SAIDI (System Average Interruption Duration Index)	The sum of the duration multiplied by the number of customer affected of each sustained unplanned network interruption (in minutes) divided by the total number of distribution customers. SAIDI excludes momentary interruptions of one minute or less
SAIFI (System Average Interruption Frequency Index)	The total number of <i>unplanned network interruptions</i> divided by the total number of distribution <i>customers</i> . <i>SAIFI</i> excludes momentary <i>interruptions</i> of one minute or less. <i>SAIFI</i> is expressed per 0.01 <i>interruptions</i>
Small customer	In relation to a <i>premises</i> that is <i>connected</i> or proposed to be connected to a <i>regulated network</i> , refers to a <i>customer</i> that is taking or is likely to take less than 160 megawatt <i>hours</i> of electricity in a <i>financial year</i> at that <i>premises</i>
Small business customer	A small customer who is not a residential customer.
Supply	Has the meaning given in the <i>ERA</i>
System Control Technical Code	The code of that name authorised by the <i>Commission</i>
System Controller	Has the meaning given under the <i>ERA</i>
Target standard	A standard of performance that is approved by the <i>Commission</i> from time to time in accordance with clause 3 of this <i>Code</i>
Transformer	A facility or device that reduces or increases the voltage of alternating current

Term	Definition
Transmission assets	<ul> <li>transmission lines;</li> <li>switchgear (circuit breakers and isolators) on transmission lines and transformers which form part of the transmission network;</li> <li>transformers which transform voltage between transmission levels;</li> <li>any dynamic reactive plant and associated switchgear and transformation regardless of voltage level;</li> <li>all existing static reactive plant and associated switchgear; and</li> <li>all system controls required for monitoring and control of the integrated transmission system – this includes remote monitoring and associated communications, load shedding and special control schemes and voltage regulating plan required for operation of the system</li> </ul>
Transmission customer	A customer having a connection point with the transmission network
Transmission network	That part of the <i>regulated network</i> that operates at a high voltage level suitable for the transmission network to convey electricity from the relevant entry point to the <i>bulk supply point</i> and to <i>supply transmission customers</i> , and includes the <i>bulk supply points</i> , <i>transmission assets</i> and <i>transmission network connection assets</i> owned or operated by the relevant <i>network entity</i>
Transmission network connection assets	Assets used to <i>supply transmission customers</i> at the interface between the <i>transmission customer's</i> facility and the <i>transmission network</i> (including transmission lines connecting a <i>generating unit</i> to <i>transmission assets</i> )
Unadjusted	Includes all <i>network outages</i> that would normally be excluded if <i>adjusted</i>
<u>Unit derating</u>	For a <i>generating unit</i> occurs when the <i>generating unit</i> is partially operational and its <i>operating capacity</i> is reduced to less than its <i>gross maximum capacity</i> by the <i>unit derating value</i>
Unit derating value	For a <i>generating unit</i> is equal to the difference (expressed in MW) between the <i>gross maximum capacity</i> and the <i>operating capacity</i> of the <i>generating unit</i> when operating considerations necessitate a <i>unit derating</i>

Term	Definition
Unit derating for a generating unit	When the <i>generating unit</i> is partially operational and its output is the <i>unit derating</i> value
Unit derating value for a generating unit	The 'unit derating' expressed in MWs and calculated in accordance with US Institute of Electrical and Electronics Engineers (IEEE) Standard 762-2006
Unplanned network interruption	A <i>network interruption</i> that is not a <i>planned network interruption</i>
Unplanned outage	A generation outage that is not a planned outage
Written	Any electronic communication capable of being reduced to paper form by being printed