Electricity Industry Act 2004

Electricity Distribution Licence Performance Reporting Handbook

April 2018

Economic Regulation Authority
WESTERN AUSTRALIA

This document is available from the Economic Regulation Authority's website at www.erawa.com.au. For further information, contact:

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Contents

1 Background

The Economic Regulation Authority (**ERA**) is responsible for administering the electricity licensing scheme under Part 2 of the *Electricity Industry Act 2004* (**Act**). A business licensed by the ERA is required to comply with obligations prescribed by the Act and its associated regulations and codes.

Under section 11 and Schedule 1 of the Act, the ERA may determine licence terms and conditions, including requiring a licensee to provide to the ERA specified information in relation to the licence. Clause 16.1 of electricity distribution licences and electricity integrated regional licences states:

> The licensee must provide to the Authority, in the manner and form prescribed by the Authority, specified information on any matter relevant to the operation or enforcement of the licence, the operation of the licensing scheme provided for in Part 2 of the Act, or the performance of the Authority's functions under that Part

The obligation to provide performance data only applies to the holders of electricity distribution licences and electricity integrated regional licences who supply electricity to small use customers (customers who consume less than 160 MWh of electricity per year).

2 Purpose of this Handbook

This Handbook sets out the non-financial performance data licensees must provide to the ERA for the year ending 30 June 2018.

It is important that there is a shared understanding amongst all stakeholders of the information that must be reported by electricity distribution licensees, including the definitions that apply to the performance indicators and the ERA's expectations as to how the information should be presented. Consistent with this objective, this Handbook informs electricity distribution licensees about:

- the performance indicators that distributors are required to provide data for;
- the definitions that apply to the performance indicators;
- how to calculate the performance data (where applicable); and
- how and when the data must be provided to the ERA.

The ERA recommends that licensees familiarise themselves with the *Code of Conduct for the Supply of Electricity to Small Use Customers 2016* (**Code of Conduct**) and the *Electricity Industry (Network Quality and Reliability of Supply) Code 2005* (**NQ&R Code**) to obtain a fuller understanding of the reporting framework.

3 Performance Reporting Tools

The ERA has issued two Microsoft Excel workbooks: '2018 Electricity Reporting Datasheets – Distribution' and '2018 Electricity Reporting Datasheets - Network Quality & Reliability Code' (together referred to as **Distribution Datasheets**). The first workbook covers obligations arising from the Code of Conduct, while the second workbook covers obligations arising from the NQ&R Code. The latest version of the Distribution Datasheets can be found on the ERA website.[1]

The Electricity Reporting Datasheets – Distribution have five worksheets:

- Customer Connections;
- Complaints;
- Compensation Payments;
- Timely Repair of Faulty Streetlights; and
- Call Centre Performance.

The Electricity Reporting Datasheets - Network Quality & Reliability Code have four worksheets:

- Network Reliability;
- Complaints;
- Compensation Payments; and
- Network and Asset Information.

4 Completing the Distribution Datasheets

The Distribution Datasheets contain tables in the format shown in Table 1 below.[2]

Table 1: Example datasheet format

Indicator No.	Description	Basis of Reporting		Comments
		Number	Percentage	
CCD1	Total number of connections provided			

When completing the tables in the Distribution Datasheets it is important that the structure of the data entry cells is not modified by inserting, deleting or re-ordering rows / columns. A number of cells contain values that are calculated from data that has been entered into other cells. These cells have been shaded yellow for identification purposes.

Only enter data into the cells that are not shaded grey or yellow.

If it is necessary to add a comment in relation to an indicator, add the comment in the 'Comments' column.

[1] https://www.erawa.com.au/electricity/electricity-licensing/regulatory-guidelines

[2] Note that the Complaints and Compensation Payments sections of the NQ&R Code worksheet include an additional data column, Value ($), to report dollar amounts paid.

Referring to the example in Table 1:

- The No. column contains the unique reference number for the indicator. In this example the indicator is in the Customer Connections worksheet.
- The 'Description' column provides a short explanation of what the indicator is intended to measure.
- The 'Basis of reporting' column offers two or three options (depending on the category):
  - Number (this is used to enter any numerical value other than a percentage or dollar value).
  - Percentage (in most cases, this is automatically generated from numerical data).
  - Value ($).
- The data entry cells have been formatted to align with the required degree of accuracy (i.e. the number of decimal places) appropriate for each indicator.

If it is not possible to provide the required data for an indicator then the cell should be left blank and a comment added in the 'Comments' cell to explain why the data cannot be provided.

The 'Comments' cell should also be used to add explanatory notes where there has been significant change in values from previous reporting periods, or where the licensee feels that additional context to the data provided is necessary.

This Handbook uses the term 'distribution system' and 'network' to reflect that the *Electricity Industry (Metering) Code 2012* (**Metering Code**) uses the term 'distribution system' and the NQ&R Code uses the term 'network'.

5 Submission of Completed Distribution Datasheets to the ERA

It is mandatory for the following electricity distribution licensees to lodge completed Distribution Datasheets:

- Electricity Networks Corporation (t/a Western Power)
- Regional Power Corporation (t/a Horizon Power)
- Rottnest Island Authority

Completed Distribution Datasheets for the year ending 30 June 2018 are to be lodged with the ERA by 1 October 2018. They should be sent by email to: records@erawa.com.au

The Distribution Datasheets can also be submitted on a USB memory stick or CD-ROM:

- by post to: PO Box 8469, PERTH BC WA 6849; or
- by hand to: Level 4, Albert Facey House, 469 Wellington Street, PERTH WA 6000

It is important to note that compliance with clause 16.1 of the licence will not be achieved until an electronic copy of the completed Distribution Datasheets has been received by the ERA.

After the ERA has reviewed a licensee's Distribution Datasheets and the licensee has addressed any comments the ERA may have, the ERA will instruct the licensee to publish the Datasheets on the licensee's website by a date specified by the ERA, in accordance with clause 13.3 of the Code of Conduct.

6 Customer Connections

Purpose

To report on the:

- total number of small use customer[3] connections supplied by each electricity distribution network;
- number of new customer connections that were not provided on time; and
- number of reconnections that were not provided on time.

Reported Indicators

No.	Indicator
CCD 1	Total number of distribution connections provided
CCD 2	Total number of distribution connections not provided on or before the agreed date
CCD 3	Percentage of distribution connections not provided on or before the agreed date
CCD 4	Total number of reconnections provided
CCD 5	Total number of reconnections that were not provided within the prescribed timeframe
CCD 6	Percentage of reconnections that were not provided within the prescribed timeframe
CCD 7	Total number of distribution connections on the distribution system(s)[4]

Definitions

Attach has the same meaning as in the *Electricity Industry (Obligation to Connect) Regulations 2005*.[5]

Distribution connection means a customer premises that is attached to the distribution system and energised.

De-energise means the removal of the supply voltage from the meter at the customer's premises, while leaving the premises connected to the distribution system. In the case of pre-payment meters this definition is modified to cover the removal of supply voltage from the output of the pre-payment meter.

Disconnection means to de-energise a customer's supply address for failure to pay a bill.

Distribution connection has the same meaning as in the Metering Code.[6]

Distribution connection provided means the establishment of a new distribution connection on the distribution system during the year ending 30 June 2018.

[3] A small use customer consumes not more than 160 MWh of electricity per year.

[4] If a distributor operates more than one distribution system, indicator D7 should record the total number of connections on the systems.

[5] The definition is: "*attach*" means to do all that is needed to connect premises to a distribution system except energise the premises.

[6] The definition is: "*distribution connection"* means a point at which *electricity* is transferred to or from the *distribution system*.

Distribution system has the same meaning as in the Metering Code, which takes its definition from the Act.[7]

Energise has the same meaning as in the *Electricity Industry (Obligation to Connect) Regulations 2005*.[8]

Not provided on or before the agreed date means connections or reconnections not provided within any regulated time limit, or by the date agreed with the customer.

Pre-payment meter has the same meaning as in the Code of Conduct.[9]

Reconnection means to re-energise a customer premises following disconnection.

Note: The total number of customers connected has been amended to refer to distribution connections rather than customer connections, but what is being measured (connection points on the distribution system) should remain unchanged in practice.

In previous years the number of customer connections was an average measured over the year. This measure has now been changed to a year end value. If distributors have been using the averaging method in previous years then they have the option to continue doing so, subject to including a comment to this effect in the datasheet.

[7] The definition is: "*distribution system*" means any apparatus, equipment, plant or buildings used, or to be used, for, or in connection with, the transportation of *electricity* at nominal voltages of less than 66 kV.

[8] The definition is: "*energise*" means to complete a connection by establishing, at the meter through which electricity is to be supplied to a customer's premises, a voltage that is capable of being sustained under the expected load conditions.

[9] The definition is: "*pre-payment meter*" means a *meter* that requires a *customer* to pay for the supply of electricity prior to *consumption*.

7 Network Reliability

Purpose

To report on the frequency and duration of interruptions to supply experienced by customers on the distribution network during the reporting year.

Reported Indicators

No.	Indicator
NQR 1	The number of premises of small use customers to which the supply of electricity has been interrupted for more than 12 hours continuously
NQR 2	The number of premises of small use customers to which the supply of electricity has been interrupted more than the permitted number of times, as is defined in section 12(1) {of the NQ&R Code}
NQR 3	For each discrete area, the average length of interruption of supply to customer premises expressed in minutes
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NQR 15	Overall CAIDI by Total Network, CBD, Urban, Short Rural and Long Rural
NQR 16	Distribution Network (Planned) CAIDI by Total Network, CBD, Urban, Short Rural and Long Rural
NQR 17	Distribution Network (Unplanned) CAIDI by Total Network, CBD, Urban, Short Rural and Long Rural
NQR 18	Normalised distribution network CAIDI by Total Network, CBD, Urban, Short Rural and Long Rural

Definitions

CAIDI (Customer Average Interruption Duration Index) is the average time to restore supply to a customer when a sustained interruption has occurred.

Directed load shedding means load shedding that has been directed by the Australian Energy Market Operator (AEMO) system management.

Discrete area means the areas defined in Schedule 1, item 2 of the NQ&R Code.

Outage means a state on the network where it is not able to perform its intended function due to an event associated with a network component (Note: an outage may not always result in an interruption of supply to a supply address).

Major Event Day is as defined in the Institute of Electrical and Electronics Engineers (IEEE) standard *1366-2003, IEEE Guide for Electric Power Distribution Reliability Indices*. Distributors are required to apply the "2.5-beta method" described in this standard to calculate the major event day boundary (T_{MED}). If four years of interruption data is not available to calculate T_{MED}, then distributors are required to calculate T_{MED} using the maximum available period of time for which interruption data is available.

Planned interruption means a sustained interruption of supply to a supply address that has been caused by scheduled works, for example, preventative maintenance, repairs, network augmentation and mains replacement. Customers are notified in advance of planned interruptions. Planned meter replacements are excluded.

SAIDI (System Average Interruption Duration Index) is the total duration of interruption (minutes off supply) for the average customer as a result of sustained interruptions.

SAIFI (System Average Interruption Frequency Index) is the number of supply interruptions for the average customer as a result of sustained interruptions.

SCADA (Supervisory Control and Data Acquisition) is an industrial computer system that monitors and controls a process. In the case of the transmission and distribution elements of electrical utilities, SCADA will monitor substations, transformers and other electrical assets.

Sustained interruption means a loss of electricity associated with an outage on any part of the network of more than one minute in duration. The interruption starts when it is recorded by equipment (such as a SCADA system) or, where such equipment does not exist, at the time that the first customer call relating to the network outage is received. The interruption ends when supply has been restored to that part of the distribution network affected by the outage, or when the supply is reasonably assumed to have been restored if there is no equipment available to record the time of restoration.

Unplanned interruption means a sustained interruption that is not a planned interruption, or a planned interruption where the required advance notice of the interruption has not been given to the customer.

Calculations

SAIDI is calculated as:

$$(\sum \text{Customer interruption durations}) / \text{Total number of customers served}$$

SAIFI is calculated as:

$$(\sum \text{Number of customers interrupted}) / \text{Total number of customers served}$$

CAIDI[10] is calculated as:

$$(\sum \text{Customer interruption durations}) / \text{Total number of customers interrupted}$$

[10] CAIDI is also calculated as the ratio SAIDI / SAIFI.

When calculating SAIDI, SAIFI and CAIDI the data set definitions in Table 2 should be applied.

Table 2: Reliability data sets for sustained interruptions

Label	Data Set
Overall interruptions	All sustained planned and unplanned interruptions including those caused by generation outages, transmission outages and directed load shedding
Unplanned and Planned	Excludes generation outages, transmission outages[11] and directed load shedding
Normalised	All unplanned sustained interruptions with the exclusion of interruptions: • that are caused by generation outages • that are caused by transmission outages[12] • that are caused by directed load shedding • where the daily unplanned SAIDI exceeds the Major Event Day boundary[13]

[11] The calculation of unplanned interruptions must include interruptions caused by the failure of transmission connection assets due to inadequate planning of transmission connections where the responsibility for transmission connection planning lies with the distributor.

[12] See the above footnote.

[13] The SAIFI and CAIDI associated with the interruption should also be excluded from the calculation of normalised SAIFI and normalised CAIDI.

8 Complaints

Purpose

To report on the level of satisfaction with the distributor's service and to provide information about the level of customer complaints in relation to specified complaint categories.

Reported Indicators

No.	Indicator
CCD 8	Total number of complaints (excluding complaints under indicator NQR 19) received
CCD 9	Total number of administrative processes or customer service complaints
CCD 10	Total number of other complaints
CCD 11	Number of customer complaints {received in relation to CCD 8} concluded within 15 business days
CCD 12	Percentage of customer complaints {received in relation to CCD 8} concluded within 15 business days
CCD 13	Number of customer complaints {received in relation to CCD 8} concluded within 20 business days
CCD 14	Percentage of customer complaints {received in relation to CCD 8} concluded within 20 business days
CCD 15	Total number of customer complaints {received in relation to CCD 8 and NQR 19 combined} concluded within 15 business days
CCD 16	Percentage of customer complaints {received in relation to CCD 8 and NQR 19 combined} concluded within 15 business days
CCD 17	NOT USED
CCD 18	NOT USED
CCD 19	Total number of complaints relating to the installation and operation of a pre-payment meter at a pre-payment meter customer's supply address
CCD 20	Total number of complaints relating to the installation and operation of a pre-payment meter at a pre-payment meter customer's supply address concluded within 15 business days
CCD 21	Percentage of complaints relating to the installation and operation of a pre-payment meter at a pre-payment meter customer's supply address concluded within 15 business days
NQR 19	Total number of complaints received {that Part 2 or an instrument made under section 14(3) of the NQ&R Code has not been, or is not being, complied with}
NQR 19A	Total number of complaints received {that Part 2 or an instrument made under section 14(3) of the NQ&R Code has not been, or is not being, complied with} that were concluded within 15 business days
NQR 20	Total number of complaints received from customers in each of the discrete areas {that Part 2 or an instrument made under section 14(3) of the NQ&R Code has not been, or is not being, complied with}
NQR 21	Total amount spent in addressing complaints {that Part 2 or an instrument made under section 14(3) of the NQ&R Code has not been, or is not being, complied with} other than by way of payment under sections 18 and 19 {of the NQ&R Code}
NQR 22	Total number of technical QoS complaints
NQR 23	Total number of technical QoS complaints that are low supply voltage complaints
NQR 24	Percentage of technical QoS complaints that are low supply voltage complaints
NQR 25	Total number of technical QoS complaints that are voltage dip complaints
NQR 26	Percentage of technical QoS complaints that are voltage dip complaints

NQR 27	Total number of technical QoS complaints that are voltage swell complaints
NQR 28	Percentage of technical QoS complaints that are voltage swell complaints
NQR 29	Total number of technical QoS complaints that are voltage spike complaints
NQR 30	Percentage of technical QoS complaints that are voltage spike complaints
NQR 31	Total number of technical QoS complaints that are waveform distortion complaints
NQR 32	Percentage of technical QoS complaints that are waveform distortion complaints
NQR 33	Total number of technical QoS complaints that are TV or radio interference complaints
NQR 34	Percentage of technical QoS complaints that are TV or radio interference complaints
NQR 35	Total number of technical QoS complaints that are noise from appliances complaints
NQR 36	Percentage of technical QoS complaints that are noise from appliances complaints
NQR 37	Total number of technical QoS complaints that are other complaints
NQR 38	Percentage of technical QoS complaints that are other complaints
NQR 39	Breakdown of technical QoS complaints into the likely cause of the problem that caused the complaint {by percentage}, separated into: • Network equipment faulty; • Network interference by NSP equipment; • Network interference by another customer; • Network limitation; • Customer internal problem; • No problem identified; • Environmental; and • Other

Definitions

Administrative processes or customer service complaints includes complaints in relation to meter reading, timeliness of correspondence and other customer communications, the complaints handling process, timeliness of response to complaints and any other process of a general administrative nature.

Complaint means an expression of dissatisfaction made to or about an organisation, related to its products, services, staff or the handling of a complaint, where a response or resolution is explicitly or implicitly expected or legally required.[14]

Notes:

- *Complaints may be received via a variety of media, including telephone, mail, facsimile, email or in person.*

- *More than one complaint can be made per customer contact. If a customer makes a complaint about a billing matter and a transfer matter in the same communication, then two complaints should be recorded.*

[14] The reader is referred to the detailed discussion of complaints, with examples, in Appendix 1 of the *National Energy Retail Performance Indicators, Utility Regulators Forum, Steering Committee on National Regulatory Reporting Requirements – Retail Working Group, May 2007*. This document draws on the guidelines for complaints handling in Standard *AS ISO 10002-2006 Customer satisfaction – Guidelines for complaints handling in organisations* (which has been replaced by Standard *ISO 10002:2014 – Quality management – Customer satisfaction – Guidelines for handling complaints in organisations*).

- *For reporting purposes, complaints do not include complaints made internally by the distributor's staff about the matters specified in the complaint categories.*

Discrete area means the areas defined in Schedule 1, item 2 of the NQ&R Code.

Other complaints include poor service, privacy considerations, failure to respond to complaints, health and safety issues, and any other matter that is not covered by the NQ&R Code.

Technical QoS complaints includes complaints in relation to electricity supply quality.

Calculations

CCD 12 = 100 x CCD 11/CCD 8

CCD 16 = 100 x (CCD 11 + NQR 19A)/(CCD 8 + NQR 19)

9 Compensation Payments

Purpose

To report on the number of payments and the amounts paid by distributors for failing to meet specified standards of service to customers.

Reported Indicators

No.	Indicator
CCD 22	Total number of payments made, and the total amount paid under clause 14.4 of the Code of Conduct
CCD 23	Total number of payments made, and the total amount paid under clause 14.5 of the Code of Conduct
NQR 40	The number of payments made, and the total amount paid under section 18 of the NQ&R Code
NQR 41	The number of payments made, and the total amount paid under section 19 of the NQ&R Code

Definitions

Note: the distributor should only include the payment of the statutory amount required by each section of the NQ&R Code, or the Code of Conduct, as applicable. The payment of ex-gratia sums over and above these amounts should be included in indicator NQR 21.

Payments that have been claimed by customers during the 2017/18 reporting year, but have not been paid as at 30 June 2018, should be excluded.

10 Timely Repair of Faulty Street lights

Purpose

To report on the timeliness of repairs to faulty street lights.

Reported Indicators

No.	Indicator
CCD 24	Total number of street lights reported faulty in the metropolitan area
CCD 25	Total number of street lights reported faulty in the regional area
CCD 26	Total number of street lights not repaired within five (5) days in the metropolitan area
CCD 27	Percentage of street lights not repaired within five (5) days in the metropolitan area
CCD 28	Total number of street lights not repaired within nine (9) days in the regional area
CCD 29	Percentage of street lights not repaired within nine (9) days in the regional area
CCD 30	Total number of street lights in the metropolitan area
CCD 31	Total number of street lights in the regional area
CCD 32	Average number of days to repair faulty street lights in the metropolitan area
CCD 33	Average number of days to repair faulty street lights in the regional area

Definitions

Metropolitan area means the areas of the State defined in Part 1.5 of the Code of Conduct.

Number of street lights reported faulty each month includes all fault reports that have been recorded during each calendar month.

(Note that if a faulty street light is the subject of more than one fault report for the same fault, then only one fault is recorded)

Regional area means all areas in the State other than the metropolitan area.

Calculations

The “average number of days to repair faulty street lights” is calculated by:

$\sum$(number of days to repair each faulty streetlight) / total number of faulty streetlights

11 Call Centre Performance

Purpose

To report on the level of service provided to customers who contact the distributor by telephone.[15]

Reported Indicators

No.	Indicator
CCD 34	Total number of telephone calls to a call centre of the distributor
CCD 35	Total number of telephone calls to a call centre answered by a call centre operator within 30 seconds
CCD 36	Percentage of telephone calls to a call centre answered by a call centre operator within 30 seconds
CCD 37	Average duration (in seconds) before a is call answered by a call centre operator
CCD 38	Number of the calls that are unanswered
CCD 39	Percentage of the calls that are unanswered

Definitions

Call centre means a dedicated facility that has the purpose of receiving and transmitting telephone calls in relation to customer service operations of the distributor, consisting of call centre staff (operators) and one or more information technology and communications systems that are designed to handle customer service calls and record call centre performance information.

Call that is unanswered means where the customer has terminated the call before it was answered by a call centre operator (in the case of IVR system calls that are terminated by the customer prior to selecting an option indicating they wish to speak with a call centre operator are not included).

Telephone calls to a call centre answered by a call centre operator within 30 seconds means the number of calls to call centre operators that were answered within 30 seconds (in the case of an IVR[16] system the measurement period commences at the time that the customer selects an option indicating they wish to speak with a call centre operator).

Total number of telephone calls to a call centre means the total number of calls received by the call centre operators (in the case of an IVR system the measurement only includes the calls where the customer has selected an option indicating they wish to speak with a call centre operator).[17] [18]

[15] Reporting against these indicators is mandatory for distributors who operate a call centre that is capable of automatically recording some or all of the responsiveness indicators. Distributors who have other systems to handle customer calls may report on a voluntary basis those responsiveness indicators that they record.

[16] Interactive Voice Response – equipment that allows a call centre telephone system to detect voice and keypad tone signals and then respond with pre-recorded or dynamically generated audio to further direct callers to the service they require.

[17] This indicator excludes all calls that do not require operator attention, including IVR calls where the customer does not select an option indicating they wish to speak with a call centre operator, and calls that were terminated **before** an option to speak with a call centre operator was selected.

[18] Calls to third parties, such as contractors acting on behalf of the distributor, are not to be included. However, calls received by a contractor that is providing all or part of the distributor's customer service operations, i.e., an outsourced call centre, are to be included.

Calculations

The “average duration before call answered by operator” is calculated as:

∑(answer wait times) / total number of calls answered by an operator

Note:

- *This measure only includes calls that are answered by call centre staff.*
- *For IVR systems, the measurement period commences at the time that the customer selects an option indicating they wish to speak to a call centre operator.*
- *For non-IVR systems, the measurement period commences when the call is received by the switchboard.*
- *Calls that are unanswered are excluded from the calculation of this indicator.*

Worked example

Distributor A operates a single call centre with integrated IVR technology with a single 13 number for customers to call. During the reporting year the following call data was recorded:

Total calls to the 13 number = 467,450

Number of calls to the call centre = 265,328

Number of calls answered within 30 seconds = 221,846

Number of calls that were unanswered = 4,921

Sum of wait times for answered calls = 217,006 minutes

Calculation of indicators:

- CCD 34 = 265,328
- CCD 35 = 221,846
- CCD 36 = 100x221,846/265,328 = 83.6%
- CCD 37 = 60x217,006/(265,328-4,921) seconds = 50 seconds
- CCD 38 = 4,921
- CCD 39 = 100x4,921/265,328 = 1.9%

12 Network and Asset Information

Purpose

To report on the assets employed by the distributor to provide the distribution service, and the amount of energy supplied at the time of peak demand.

Reported Indicators

No.	Indicator
NQR 42	Number of metered supply points by feeder category (CBD, urban, short rural and long rural), reported against the categories of residential and non-residential customers and sub-transmission, high voltage and low voltage
NQR 43	Number of unmetered supply points, by type of feeder (CBD, urban, long rural and short rural)
NQR 44	Energy delivered (GWh) by type of feeder (CBD, urban, long rural and short rural) reported against the categories of residential and non-residential customers and sub-transmission, high voltage and low voltage
NQR 45	Line lengths by type of feeder (CBD, urban, long rural and short rural) reported against the categories of underground and overhead line categories and sub-transmission, high voltage and low voltage
NQR 46	Number and total capacity of transformers, separated into sub-transmission and distribution
NQR 47	Total distribution losses (%)
NQR 48	Size of network service area (sq km)
NQR 49	Number of poles
NQR 50	Peak demand (MW)

Definitions

Feeders

CBD feeder means the area supplied with electricity by:

- the Milligan Street Zone Substation; or
- the Hay Street Zone Substation,

operated by Western Power.[19]

Short rural feeder means a feeder which is not a CBD or urban feeder with a total feeder route length less than 200 km. Rural short feeders may include feeders in urban areas with low load densities.

Long rural feeder means a feeder which is not a CBD or urban feeder with a total feeder route length greater than 200 km.

Urban feeder means:

- a feeder, which is not a CBD feeder, with actual maximum demand greater than 0.3MVA/km over the reporting period; and

[19] See clause 3(1) of the NQ&R Code. These feeders are now operated by Electricity Networks Corporation (trading as Western Power).

- the feeder is located in the areas of the State defined under “metropolitan area” in Part 1.5 of the Code of Conduct.

Note: Back-up feeders should be given the same classification as the normal supply feeder they are providing back up for.

Network and Lines

High voltage (HV) line means a line used to distribute electricity from a (zone) substation, generally operating at a nominal voltage between 1 kV and 33 kV.

Line Length means the route length in kilometres of lines in service, including overhead lines, underground cables or a combination of the two. Line length does not include low voltage service connections.

Note: a double-circuit line counts as two lines, and each three-phase line, single-phase line or single-wire earth return (SWER) line counts as one line.

Low voltage (LV) line means a line that operates at a nominal voltage of 1 kV or below.

Network means distribution works, that are used to convey electricity under a distribution licence but does not include a line, pole, switch, transformer or apparatus that is on, or a part of premises to which electricity is supplied by a distributor and situated beyond the point at which electricity is supplied to that premises.

Sub-transmission (ST) line means a line generally 22 kV or above, used to distribute electricity from a transmission connection point to one or more (zone) substations.

Total capacity of transformers means the total rated MVA capacity of the transformers installed in the distribution network.

General

Energy delivered means the electricity consumed by end-customers of the distribution network. This includes energy produced by embedded generators and consumed within the distribution area through the distribution network, unread meters and un-metered consumption (including estimated theft).

Network service area means the area in square kilometres covered by the licensee’s distribution network. Areas within the network service area that are not provided with a service by the distributor (e.g. national parks, inset areas) are included in the service area.

Non-residential customer means a customer who is not a residential customer.

Residential customer means a customer who receives a domestic / residential tariff for the electricity that is supplied to them, or who is otherwise identified as consuming electricity for domestic / residential purposes.

Calculations

Distribution losses (%) is calculated as:

100 x (electricity supplied – electricity delivered)/electricity supplied

Peak demand is calculated as the maximum coincident demand on each network type at the terminal stations feeding the sub-transmission network, and at the zone substations feeding the high voltage network. The total peak demand is the maximum coincident demand in each of the network types. The total network peak demand is the maximum coincident demand of the distributor's network.

Note: The peak demand should be stated in MW at the time of maximum MVA demand. A distributor's network peak demand does not necessarily coincide with system maximum demand.