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**Electricity Distribution: Service  
Quality Reporting Guidelines**

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*Version 2.0  
August 2005*

## **1. INTRODUCTION**

The Authority's Service Quality Reporting Guidelines (Version 1.1) require the Queensland Distribution Network Service Providers (DNSPs) to provide data on specific service quality measures.

The Authority's Final Determination on the Regulation of Electricity Distribution (April 2005) noted that the Service Quality Reporting Guidelines would need to be revised to address weaknesses in the reporting arrangements and to facilitate nationally consistent reporting. These matters have been addressed in this revised version of the Service Quality Reporting Guidelines. The main changes to the Guidelines are to:

- require the DNSPs to provide the quarterly reports to the Authority within a shorter timeframe;
- change the excluded event definition (from the 5 per cent of affected customers method to the 2.5 beta method, which is an internationally accepted standard for excluding outages from reliability data);
- require reliability numbers to be reported on a quarterly basis and a 12 month rolling average basis;
- incorporate the Australian Standard definition for complaints;
- require the reporting of the number of calls to the interactive voice response (IVR) system when customers call the loss of supply phone number;
- require the reporting of the number of missed calls due to the call centre reaching capacity;
- require the provision of additional reliability data on an annual basis to support national reporting consistency; and
- require any changes in the reporting of service quality measures in these Guidelines to be approved by the Authority.

In addition to the service quality data requirements listed in these Guidelines, DNSPs may be required to provide service quality data to large customers who have negotiated specific service levels as part of their connection agreements. The DNSPs will be required to monitor and report to these customers at intervals specified in the agreement.

### **1.1 Timing**

DNSPs shall deliver the quarterly information specified in these Guidelines to the Authority within six weeks of the end of the quarter to which the information relates. The annual information specified in these Guidelines is to be delivered within two months of the end of the financial year to which the information relates.

### **1.2 Processes for Revision**

The Authority proposes to amend and expand the Guidelines from time to time to meet the needs of the Authority, DNSPs, customers and other interested parties. Revisions may be required to reflect (among other things):

- changing circumstances, including changes in the regulatory framework;
- developments at the national level and state level;
- the creation of new services and products by DNSPs; and
- changes to organisational structures by DNSPs.

In revising these Guidelines the Authority will have regard to the comments received on the Guidelines from interested parties. The Authority welcomes comments, discussion, or suggestions for amendments to these Guidelines, from any interested party. Any contribution in this regard should be addressed to:

The Queensland Competition Authority  
Level 19  
12 Creek Street  
Brisbane 4000  
Facsimile: (07) 3222 0599

## 2. SERVICE QUALITY REPORTING GUIDELINES

### 2.1 Reliability Indices Descriptions

#### *Average minutes off supply per customer*

- Definition: Total minutes, on average, that customers are without electricity (includes both planned and unplanned minutes off supply).
- Index: System Average Interruption Duration Index – SAIDI.
- Calculation: 
$$\frac{\sum_{\text{interruptions}} [\text{Interruption duration (minutes)} \times \text{Number of customers affected}]}{\text{Total number of customers}}$$
  
(mins/period)

#### *Average number of interruptions per customer*

- Definition: The average number of occasions each customer is interrupted.
- Index: System Average Interruption Frequency Index – SAIFI.
- Calculation: 
$$\frac{\text{Total number of interruptions}}{\text{Total number of customers}}$$
 (interruptions/customer/period)

#### *Average interruption duration*

- Definition: Average duration of each interruption (=SAIDI/SAIFI).
- Index: Customer Average Interruption Duration Index – CAIDI.
- Calculation: 
$$\frac{\sum_{\text{interruptions}} [\text{Interruption duration} \times \text{Number of customers affected}]}{\text{Total number of interruptions}}$$
  
(mins/interruption)

The values for the reliability indices must be reported for each quarter and on a quarterly 12 month rolling average basis. The values of the indices must also be reported in unadjusted and adjusted terms. For the appropriate method of adjustment, refer to Exclusion Events in section 2.2.

### 2.2 Definitions

#### *Interruption*

An interruption is any loss of electricity supply to a customer which is associated with an outage on any part of the electricity supply system up to, but not including, the service fuse, and which is of greater than one minute duration (a momentary interruption has a duration of one minute or less).

An interruption is reported as starting when remote monitoring equipment signals the loss of supply, or where monitoring equipment is not installed, when the customers first report the loss of supply.

### *Interruption categories*

Interruptions are reported to have occurred under the following categories:

- Distribution System – interruptions within the DNSP’s network;
- Exclusion Events – DNSPs are allowed to remove the effect of severe interruptions to supply on their reliability data, based on the 2.5 beta method, in order to determine the underlying distribution-related reliability performance. The 2.5 beta method removes the reliability data on days when the minutes off-supply exceeds a certain threshold, which is based on the distributor’s historical reliability data. The threshold is set such that, on average, 2.3 exclusion days could be expected to occur in any given year. When an interruption meets the definition of an excluded event, the DNSP must state the date the event occurred and provide a satisfactory description of the reasons for the excluded event;
- Transmission – interruptions within the Powerlink network; and
- Generation – interruptions due to generation deficiency normally resulting in load shedding.

### *Feeder geographic categories*

The following categories apply to the whole of a distribution feeder, and not sections of it:

- CBD – a feeder supplying predominantly commercial, high-rise buildings, supplied by a predominantly underground distribution system containing significant interconnection and redundancy when compared to urban areas;
- Urban – a feeder which is not a CBD feeder, with a maximum demand per total feeder route length greater than 0.3 MVA/km;
- Short Rural – a feeder which is not a CBD or urban feeder and has a total route length less than 200km; and
- Long Rural – a feeder which is not a CBD or urban feeder and has a total route length greater than 200km.

### *Complaints*

Complaints are to be reported in accordance with *Australian Standard 4269:1995*, which defines a complaint as ‘any expression of dissatisfaction with a product or service offered or provided’.

## **2.3 National Reporting Consistency**

In March 2002, the Utility Regulators’ Forum released service quality reporting templates in order to foster consistent reporting across jurisdictions. These templates set out measures for reliability, quality of supply, customer service and general measures dealing with the operating characteristics of the network. The data reported by Queensland DNSPs is generally consistent with the templates. However, to facilitate national performance comparisons, the Authority has committed to collect and report reliability data more closely aligned with the national templates.

The Utility Regulators' Forum templates require that SAIDI, SAIFI and CAIDI in respect of overall outage performance, distribution system planned outages, distribution system unplanned outages and the normalised distribution system outages (after removal of exclusion events) be broken down into geographical feeder categories. The Authority's Service Quality Reporting Guidelines previously only required the total for the distribution system to be broken down between geographical feeder categories. To support nationally consistent reporting, the Authority requires this additional disaggregated data to be reported annually by the distributors.

Another issue for the Authority regarding the national reporting templates is the different definition used by the Authority to classify exclusion events in the reported reliability data. As indicated above, the Authority's exclusion event definition is based on the 2.5 beta method, while nationally the three minute SAIDI method is used. To support nationally consistent reporting, the Authority requires the DNSPs to report reliability data that is adjusted using the three minute SAIDI method. However, to avoid confusion and minimise the distributors' reporting burden, this data will be supplied separately to the Authority on an annual basis, to be publicly reported in accordance with the Utility Regulators' Forum templates.

## 2.4 Transitional Issues

Any change to the method of reporting a particular measure in these Guidelines requires the Authority's prior approval.

Where the Authority approves a change to the method of reporting for a particular measure, the DNSP will be allowed to implement this new method at a time to be agreed with the Authority.

The Authority may require the DNSP to report the measure as per the previous method for a period of up to 6 months.

## 2.5 Reporting for Reliability Measures

Reporting Specification is made up of five sections:

1. Administrative Data;
2. Aggregate Data;
3. Reliability Data;
4. Quality of Supply Data; and
5. Customer Service Data.

Item No.	Data field	Definition	Reporting period
1	Administrative Data		
1.1	DNSP business	That is, Ergon Energy/Energex.	Quarterly/Annual
1.2	Start date	First day of reporting period.	Quarterly/Annual
1.3	End date	Last day of reporting period.	Quarterly/Annual

Item no.	Data field	Definition	Reporting period
2	Aggregate Data		
2.1	Total distribution customers	<p>The customer numbers on which minutes off supply and interruption figures are based (for the business, business centres, and feeders).</p> <p>A distribution customer is defined as a metered entity that is directly connected to the DNSP's network. Inactive accounts are excluded.</p> <p>All distribution customers in the DNSP's area are to be counted.</p> <p>Total customer numbers to be further separately reported as CBD, Urban, Short Rural and Long Rural.</p> <p>The number of customers at the end of the reporting period are to be reported.</p>	Quarterly
2.2	Length of distribution lines	<p>Route length in kilometres of lines in service (the total length of feeders including all spurs).</p> <p>Each single wired earth return line, single phase line, and three phase line counts as one line.</p> <p>A double circuit line counts as two lines.</p> <p>Total line length is to be disaggregated by:</p> <ul style="list-style-type: none"> <li>• Feeder classification – CBD, urban, short rural, long rural;</li> <li>• Line voltage – sub-transmission, high voltage, low voltage; and</li> <li>• Line type – overhead, underground.</li> </ul>	Annual
2.3	Number of poles	The number of poles in the DNSP's network distribution area.	Annual
2.4	Network service area	The area in square kilometres covered by the DNSP's distribution district. Areas within the distribution area to which a service is not provided by the DNSP (eg national parks, inset areas) are included in the service area.	Annual
2.5	Energy delivered (GWh)	<p>Total GWh of electricity consumed by end-users of the distribution system. This includes:</p> <ul style="list-style-type: none"> <li>• metered customers;</li> <li>• unread meters;</li> <li>• unmetered consumption (including theft); and</li> <li>• electricity produced by embedded generators and consumed within the distribution area.</li> </ul> <p>Total energy delivered to be split by CBD, Urban, Short Rural and Long Rural.</p>	Annual
2.6	Distribution losses (%)	Electrical energy losses (GWh) incurred in the conveyance of electricity over the DNSP's network. To be expressed as a percentage of the sum of energy delivered and distribution losses.	Annual
2.7	Number and capacity (MVA) of transformers	The number and total installed capacity (MVA) of transformers are to be reported by voltage level – sub-transmission (ST/HV) and distribution (HV/LV).	Annual
2.8	Electricity throughput asset utilisation (%)	Sub-transmission transformer utilisation factor. Electricity throughput (MWh) expressed as a percentage of sub-transformer capacity (MVA) multiplied by number of hours per year.	Annual
2.81	Electricity peak load asset utilisation (%)	Sum of maximum demand in MVA for each zone substation divided by sum of nameplate rating in MVA for each zone substation.	Annual
2.9	Maximum demand (MVA)	Coincident maximum demand for the DNSP's total network over the reporting period.	Annual

Item No.	Data field	Definition	Reporting period
3	Reliability Measure		
3.1	SAIDI	Separately reported as Distribution System, Exclusion Events, and Transmission and Generation.	Quarterly
	Whole of Network	The Distribution System SAIDI to be further separately reported as CBD, Urban, Short Rural and Long Rural. The Distribution System SAIDI to be further separately reported as Planned and Unplanned. Does not include momentary interruptions.	
3.2	SAIFI	Separately reported as Distribution System, Exclusion Events, and Transmission and Generation.	Quarterly
	Whole of Network	The Distribution System SAIFI to be further separately reported as CBD, Urban, Short Rural and Long Rural. The Distribution System SAIFI to be further separately reported as Planned and Unplanned. Does not include momentary interruptions.	
3.3	CAIDI	Separately reported as Distribution System, Exclusion Events, Transmission and Generation.	Quarterly
	Whole of Network	The Distribution System CAIDI to be further separately reported as CBD, Urban, Short Rural and Long Rural. The Distribution System CAIDI to be further separately reported as Planned and Unplanned. Does not include momentary interruptions.	
3.4	SAIDI	Applies to the distribution feeders falling outside low reliability thresholds. The 10 worst performing feeders for Urban, Short Rural and Long Rural must be reported.	Annual
	10 Worst Performing Feeders	Separately reported as Distribution System, Exclusion Events, and Transmission and Generation interruptions. Includes planned and unplanned interruptions. Does not include momentary interruptions.	
3.5	SAIFI	Applies to the distribution feeders falling outside low reliability thresholds. The 10 worst performing feeders for Urban, Short Rural and Long Rural must be reported.	Annual
	10 Worst Performing Feeders	Separately reported as Distribution System, Exclusion Events, and Transmission and Generation interruptions. Includes planned and unplanned interruptions. Does not include momentary interruptions.	
3.6	CAIDI	Applies to the distribution feeders falling outside low reliability thresholds. The 10 worst performing feeders for Urban, Short Rural and Long Rural must be reported.	Annual
	10 Worst Performing Feeders	Separately reported as Distribution System, Exclusion Events, and Transmission and Generation interruptions. Includes planned and unplanned interruptions. Does not include momentary interruptions.	
3.7	CBD Outages	Report all interruptions on CBD feeders and identify the cause.	Annual
3.8	Energy not supplied – unplanned (MWh)	To be based on DNSPs' best estimate of the amount of energy that may have been consumed in the period when supply was interrupted.	Annual
3.81	Energy not supplied – planned (MWh)	See Item 3.8.	Annual
3.9	Reliability Of Supply Complaints	Reported on a Total basis, not feeder by feeder. Should be inclusive of any complaints relating to momentary interruptions to supply, which must also be reported separately. Derived from the Distributor's electronic complaints recording system.	Quarterly
3.91	Average time taken to resolve reliability complaints	The average time taken to resolve reliability complaints listed in item 3.9.	Quarterly

Item No.	Data field	Definition	Reporting period
4	Quality of Supply Data		
	Quality of supply complaints – categorised according to symptoms		
4.1	Total quality of supply complaints	The total number of quality of supply complaints received (i.e. the total of 4.11 to 4.19).	Quarterly
4.11	Low supply voltage	Number of complaints attributed to low supply voltage based on symptoms such as dim lights and overheating motors.	Quarterly
4.12	Voltage dips – minor or nuisance	Number of complaints attributed to minor voltage dips based on symptoms such as flickering lights and resetting digital clocks.	Quarterly
4.13	Voltage dips – severe	Number of complaints attributed to severe voltage dips based on symptoms such as interrupted production, contactors dropping out, and direct financial loss.	Quarterly
4.14	Voltage swell	Number of complaints attributed to voltage swell based on symptoms such as blown lights, motor protection operates, and minor equipment damage, with no clear initiating event (likely to cause a spike).	Quarterly
4.15	Voltage spike	Number of complaints attributed to voltage spike based on symptoms such as obvious damage to appliances and wiring arising from a clear initiating event, such as lightning.	Quarterly
4.16	Waveform distortion or unbalance	Number of complaints attributed to waveform distortion or unbalance based on symptoms such as equipment performing erratically.	Quarterly
4.17	TV or radio interference	Number of complaints based on symptoms of TV or radio interference.	Quarterly
4.18	Noises from appliances or lights	Number of complaints based on symptoms of audible noise, other than that associated with the normal operation of the appliance, or audio-frequency interference on audio systems and telephones.	Quarterly
4.19	Other	Number of complaints based on any other symptoms.	Quarterly
	Quality of supply complaints – possible cause and response		
4.2	Network initiated quality of supply complaints	The number of quality of supply complaints which, after investigation, are found to be caused by network restrictions or events on the network which may or may not be under network control (ie the sum of 4.21 to 4.26).	Annual
4.21	Faulty network equipment	The number of quality of supply complaints which, after investigation, are found to be caused by the failure of a network element (including clamps, fuse carriers, insulators and attachments) and require action by the DNSP.	Annual
4.22	Network interference – standard breached by the DNSP	The number of quality of supply complaints which, after investigation, are found to be caused by the operation of DNSP plant or equipment and require action on the part of the DNSP to change the equipment or mode of operation.	Annual
4.23	Network interference caused by another customer	The number of quality of supply complaints which, after investigation, are found to be caused by the operation of customer equipment and require the DNSP to take action to ensure that the customer operates the equipment to required standards.	Annual
4.24	Network limitation	The number of quality of supply complaints which, after investigation, are found to be caused by limitations of the network such that the DNSP is required to carry out investment on their own network to improve performance and remove the limitation (for example, by increasing network capacity, upgrading plant or altering control settings).	Annual
4.25	Environment	The number of quality of supply complaints which, after investigation, are found to be caused by external influences outside the DNSP's control eg. Lightning, wildlife.	Annual
4.26	Other	The number of quality of supply complaints which, after	Annual

		investigation, are found to be caused by some factor other than those covered in 4.21 to 4.25.	
4.3	Quality of supply complaints initiated on the customer side of the meter	The number of quality of supply complaints which, after investigation are found to be caused by faulty customer equipment or customer's operation.	Annual
4.4	Quality of supply complaints for which no cause was found	The number of quality of supply complaints for which, after investigation, no cause was found.	Annual
4.5	Average time taken to fix a technical supply fault.	The average time taken to investigate and resolve a power quality complaint, including augmentation time. Power quality complaint events are defined in Section 4.	Quarterly

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Item no.	Data field	Definition	Reporting period
5	Customer Service Network Call Centre Performance		
5.1	Calls to the call centre	The total number of calls to the call centre including any answered by an automated response service even if terminated without being answered by an operator. Where a joint call centre exists, calls are to be identified as either distribution or retail.	Quarterly
5.11	Calls to the call centre answered by an operator	The number of calls answered by a human operator.	Quarterly
5.12	Calls to the call centre answered by the IVR system	The number of calls answered by the interactive voice response (IVR) system for calls to the loss of supply phone number.	Quarterly
5.13	Calls to the call centre not answered within 30 seconds	The total number of calls not answered by a human operator within 30 seconds. The time to answer begins when the call is diverted to an operator and includes any time spent in a queue.	Quarterly
5.14	Average time to speak to an operator	The average time spent waiting to speak to an operator. The time begins when the call is diverted to an operator.	Quarterly
5.15	Abandoned calls	The number and percentage of calls diverted to a human operator that are abandoned before being answered.	Quarterly
5.16	Number of overload events	The number of events which cause the phone numbers dealing specifically with loss of supply and emergency related calls to reach capacity due to storms or cyclones etc.  In determining whether or not the phone number reached capacity, it should be measured as an instance where a caller to this phone number received an engaged signal immediately after ringing the loss of supply or emergency number.  A DNSP would need to specify how particular events (a lengthy storm or a cluster of storms for example) have been reported (eg. counted as one or two events).	Quarterly
5.17	Number of missed calls	The number of calls attempted that were unable to get through to the loss of supply or emergency phone number because these phone numbers reached capacity.  In determining whether or not the phone number reached capacity it should be measured as an instance where a caller to this phone number received an engaged signal immediately after ringing the loss of supply or emergency number.	Quarterly
	Appointment Punctuality		
5.2	Customer arranged appointments	The number of appointments requested by the customer for a meeting with the DNSP's staff, at any location.	Quarterly
5.21	Appointments not met within 15 minutes of agreed time	The number of appointments where the DNSP was more than 15 minutes late.	Quarterly
	Timely Provision of Connections		
5.3	New connections made	The total number of new supply connections made to customers' premises.	Quarterly
5.31	New connections not made on agreed date	The number of new supply connections to customers' premises made after the date agreed with the customer. In the case of bundled contracts the agreed date is the date agreed between the retailer and the DNSP.	Quarterly
5.32	New connections with a one to four day delay	The number of new supply connections to customers' premises that are one to four business days after the date agreed with the customer. In the case of bundled contracts the agreed date is the date agreed between the retailer and the DNSP.	Quarterly
5.33	Average time taken for new connections	The average is to be calculated from receipt of the request.	Quarterly
5.34	Re-Connections made	The total number of re-connections made to a customers' premises.	Quarterly
5.35	Re-Connections not made on agreed date.	The number of re-connections to customers' premises made after the agreed date with the customer. In the case of bundled contracts the agreed date is the date agreed between the retailer and the DNSP.	Quarterly

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5.36	Re-Connections with a one to four day delay	The number of re-connections to customers' premises that are one to four business days after the agreed date with the customer. In the case of bundled contracts the agreed date is the date agreed between the retailer and the DNSP.	Quarterly
5.37	Average time taken for re-connections	The average is to be calculated from receipt of the request.	Quarterly
Street light Maintenance			
5.4	Street lights	The number of street lights in the distribution area.	Quarterly
5.41	Street lights out during period	The number of street lights reported by customers as not working.	Quarterly
5.42	Street lights not repaired by agreed date	The total number of street lights reported as not working which were not fixed by the date agreed with the customer.	Quarterly
5.43	Average time taken to repair faulty street lights	To be calculated from receipt of the notification of the fault.	Quarterly
Guaranteed Service Levels			
5.5	Number of GSL payments made	The total number of events that attracted a GSL payment.	Quarterly
5.51	Amount paid out in GSL payments	The total amount paid in GSL payments.	Quarterly
Interruptions			
5.6	Planned interruptions	The number and percentage of occasions on which the required notice of a planned interruption to supply was not given.	Quarterly
5.61	Planned interruption	The number and percentage of occasions on which the duration of a planned interruption exceeded the time specified in the notification.	Quarterly
Complaints			
5.7	Customer Service Complaints	The total number of complaints, the reason for the complaint and the service to which the complaint relates (the specific classifications used are at the discretion of the DNSPs).	Quarterly
5.71	Average time taken to resolve customer service complaints	The average time taken to investigate and resolve complaints both in aggregate and using the classifications used in item 5.7.	Quarterly

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<b>Item No.</b>	<b>Data field</b>	<b>Definition</b>	<b>Reporting period</b>
6	Complaints Management	The assessment of how DNSPs responded to customer requests	
6.1	Total complaints resolved within 20 days	The number and percentage of complaints (reliability, quality of supply and customer service) not investigated and responded to within 20 days.	Quarterly
6.2	Repeat complaints	The total number of complaints (reliability, quality of supply and customer service) with respect to previous complaints.	Quarterly
6.21	Average time taken to resolve repeat complaint	The average time taken to investigate and resolve repeat complaints.	Quarterly

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