ELECTRICITY STANDARDS OF SERVICE: 2005-06

DECEMBER 2006



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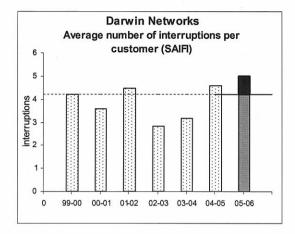
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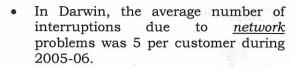
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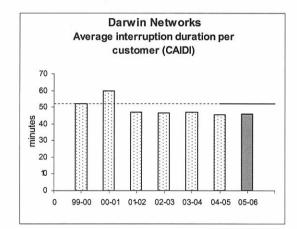
COMMISSION'S OVERVIEW

- 1.1 The Commission has released its first annual report of Power and Water's standards of service performance in the regulated regions of Darwin, Katherine and Alice Springs. The Tennant Creek regulated network has not been included in this first report because of data concerns, with improved data expected from 2006-07.
- 1.2 The Commission's report:
 - provides information for all regions (except Tennant Creek) on performance achieved in 2005-06;
 - provides an explanation of the main performance indicators used; and
 - includes the minimum standards set, and the historical performance achieved in the five years prior to 2005-06.
- 1.3 The report can be viewed on the Commission's website at www.nt.gov.au/ntt/utilicom/electricity/standards_of_service.shtml
- 1.4 The service performance indicators published distinguish between performance in the following four respects:
 - whole-of-system network reliability;
 - poorly-performing (network) feeders;
 - whole-of-system generation reliability; and
 - retail service performance.
- 1.5 The Commission has not yet introduced any incentive or penalty mechanisms, such as:
 - price control adjustments in response to service performance; or
 - customer compensation (or guaranteed service level) schemes.
- 1.6 Before such mechanisms are appropriate, it is necessary to ensure that reporting mechanisms are effective and the minimum standards used are valid.
- 1.7 The Commission will consider the scope for such mechanisms in the context of its next network's regulatory reset, due to take effect from July 2009.
- 1.8 With this being the first report, the Commission has opted to let Power and Water's service performance data largely speak for itself. In doing so, the Commission acknowledges that there is some scope for improvement in the quality of the data, as well as a need to review the appropriateness of some of the minimum standards set. It expects to make progress in both regards in time for the second report, due for publication in December 2007.

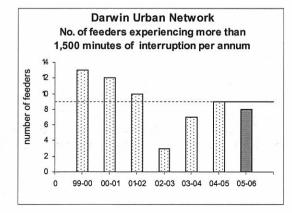




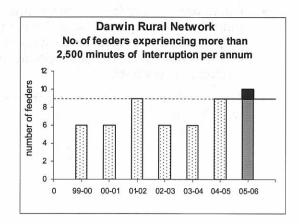
- This breaches the minimum standard of just 4.2 interruptions per customer, which was the standard achieved before regulatory change in 1999-00.
- The average number of networkrelated interruptions has trended up over recent years.
- The performance in Katherine and Alice Springs is charted in Appendix A of this report.

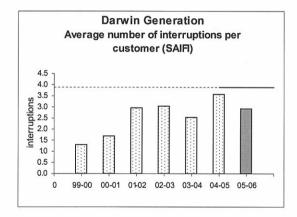


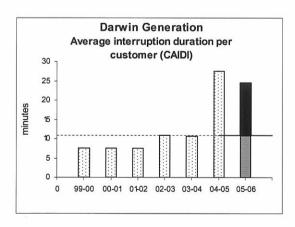
- In Darwin, the average duration of each network-related interruption was 46.2 minutes during 2005-06.
- This betters the minimum standard of 52 minutes.
- The average duration of interruptions has been relatively constant over the last few years.
- The performance in Katherine and Alice Springs is charted in Appendix A of this report.
- When the average number of interruptions and their average duration are combined, in Darwin the average off-supply per customer ("SAIDI") due to network problems was 231 minutes in 2005-06. This breaches the minimum standard of 220 minutes.



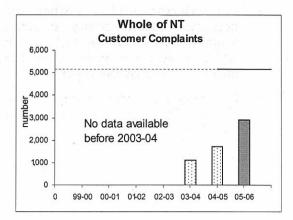
- In the Darwin urban area (where interconnecting networks apply), poorly performing feeders have been defined as those which experience more than 1,500 minutes of interruption per year.
- In 2005-06, there were 8 such feeders. This betters the minimum standard.
- As apparent in Appendix A of this report, there were 6 feeders that experienced more than 15 interruptions in 2005-06.



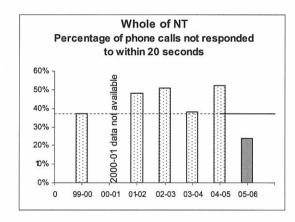




- In the Darwin rural area (where radial networks apply), poorly performing feeders have been defined as those which experience more than 2,500 minutes of interruption per year.
- In 2005-06, there were 10 such feeders. This breaches the minimum standard.
- As apparent in Appendix A of this report, there were 9 feeders that experienced more than 27 interruptions in 2005-06.
- The performance in Katherine and Alice Springs is also charted in Appendix A.
- In Darwin, the average number of interruptions due to *generation* problems was 2.9 per customer during 2005-06.
- This betters the minimum standard of 3.9 interruptions per customer.
- The average number of generationrelated interruptions in recent years has been generally higher than before regulatory change in 1999-00.
- The performance in Katherine and Alice Springs is charted in Appendix A of this report.
 - In Darwin, the average duration of each generation-related interruption was 24.5 minutes during 2005-06.
 - The breaches the minimum standard of 10.9 minutes.
 - The average duration of interruptions has risen sharply over the last couple of years.
 - The performance in Katherine and Alice Springs is charted in Appendix A of this report.
 - When the average number of interruptions and their average duration are combined, in Darwin the average off-supply per customer ("SAIDI") due to generation problems was just over 71 minutes in 2005-06. This breaches the minimum standard of 42.7 minutes.



- Customer service performance indicators are reported on a Territorywide basis. Power and Water does not collect this data on a regional or customer class basis.
- The number of customer complaints was around 3,000 in 2005-06. This betters the minimum standard.
- While the number of complaints has been rising in the Territory over recent years, increased customer awareness of improved customer complaint channels following introduction of the facility could be playing a role. Nevertheless, on a percustomer basis, the number of complaints is generally higher than observed in other jurisdictions.



- The percentage of telephone calls not responded to within 20 seconds from when a customer selects to speak to a human operator was 24%. This betters the minimum standard.
- The service performance achieved with respect to other indicators of customer service is charted in Appendix A of this report.

CHAPTER

2

BACKGROUND

Standards of Service Code

- 2.1 In December 2005, the Commission published an Electricity Standards of Service Code, pursuant to section 24 of the *Utilities Commission Act 2000*, in accordance with the authority granted to the Commission by, and as necessary or convenient to be done for or in connection with or incidental to the performance of its functions under:
 - (i) section 92(1) of the Electricity Reform Act 2000;
 - (ii) section 10 of the *Network Access Act* and clause 9A and Part 3 of the Network Access Code; and
 - (iii) section 6 of the Act.
- 2.2 The Code took effect from 1 January 2006.
- 2.3 The Code applies only to the Power and Water Corporation for the foreseeable future.
- 2.4 The objectives of the Code are to:
 - establish minimum standards of reliability, quality and customer service in the NT electricity supply industry;
 - develop, monitor and enforce compliance with and promote improvement in standards and conditions of service and supply by Power and Water; and
 - require that Power and Water has in place arrangements which regularly report actual service performance against the key service performance indicators in terms of reliability, quality and customer service.
- 2.5 The Code does not yet include any incentive or penalty mechanisms, such as:
 - price control adjustments in response to service performance; or
 - customer compensation (or guaranteed service level) schemes.
- 2.6 The scope for such mechanisms will be considered in the context of the next network's regulatory reset, due to take effect from July 2009.

Establishment of minimum standards

2.7 The Code established a process by which certain minimum standards of service benchmarks are set.

- 2.8 Specifically, the Code requires that:
 - "A Regulated Electricity Entity must within:
 - (a) 3 months (in the case of Reliability Standards); and
 - (b) 6 months (in the case of the Quality Standards and Customer Service Standards)
 - of the Commencement Date submit to the Commission for approval final draft Minimum Standards developed in accordance with clause 5.2."
- 2.9 The Code further requires that:

"The final draft Minimum Standards submitted by a Regulated Electricity Entity under clause 5.1 must:

- (a) be designed to ensure compliance with the Regulated Electricity Entity's obligations under clause 4;
- (b) encompass the key service performance indicators nominated in Schedule 1 to this Code;
- (c) be otherwise consistent with the requirements set out in Schedule 2 to this Code for each type of Minimum Standard; and
- (d) be developed in conjunction with the Commission so as to ensure that the final draft Minimum Standards when submitted can be approved by the Commission without the need for substantial amendment."
- 2.10 Pursuant to clause 5 of the Code, on 19 July 2006 the Commission approved the initial minimum standards for reliability, quality and customer service submitted by Power and Water on 24 May 2006 and 1 August 2006 respectively, being satisfied that these Minimum Standards give effect to the principles set out in Schedules 1 and 2 of the Code.
- 2.11 The Commission's approval of the Minimum Standards is subject to the following conditions:
- a) the Minimum Standards are approved for use until 30 June 2009;
- b) reporting of actual performance against the approved standards is to include the available time series for each indicator back to 1999-00;
- c) reporting of actual performance against the approved standards is to be undertaken on a disaggregated basis as and when such disaggregated information becomes available to the Corporation;
- d) the Corporation, in consultation with the Commission, is to review the effectiveness of the Minimum Standards prior to 30 June 2009; and
- e) the Minimum Standards must be resubmitted for approval following any changes to the Code affecting the Procedures.
- 2.12 The approved Minimum Standards are reproduced at Appendix B.

Annual reporting requirements

- 2.13 The Code also requires that commencing after the end of each financial year from 2005-06 Power and Water report to the Commission as to the actual standards achieved each year against each of the benchmarks. For the immediate future, reporting is restricted to the Territory's regulated networks.
- 2.14 To supplement the Code, the Commission promulgated Procedural Guidelines which sets out the processes the Commission is to follow in making public the results of Power and Water's performance against the minimum standards each year. Specifically, once Power and Water has reported to the Commission on actual standards of service attained during the year, the Commission will publish a compliance report.

2.15 The Commission's annual compliance report is intended to assist customers, media and other stakeholders in critically assessing and making a judgment on the level of performance by Power and Water compared to the minimum standards of service benchmarks as well as similar service providers elsewhere in Australia. It will also play a role in facilitating informed discussion between consumers and Power and Water on local or generalised standards of service improvements.

Purpose of this paper

- 2.16 This paper constitutes the Commission's first annual report of Power and Water's performance against the Minimum Standards of reliability, quality and customer service established under the Code.
- 2.17 While Power and Water has been required (as a condition of approval of the Minimum Standards) to provide historical data for each performance indicator, data has not previously been collected and collated for this specific purpose or in this format. Accordingly, while the Commission acknowledges that Power and Water has done its best to provide historical data, Power and Water has advised that there are concerns regarding the robustness of the data.
- 2.18 In particular, data for the Tennant Creek regulated network is not included in this initial report, since meaningful data is not available. Performance data for Tennant Creek is expected to be available commencing from the 2006-07 financial year.
- 2.19 Power and Water has provided the Commission with data, where available, for the historical period from 1999-00 to 2004-05, as well as for the 2005-06 year.
- 2.20 With this being the first report, the Commission has opted to let Power and Water's service performance data largely speak for itself. In doing so, the Commission acknowledges that there is some scope for improvement in the quality of the data, as well as a need to review the appropriateness of some of the minimum standards set.
- 2.21 The Commission expects that the structure and content of this report will evolve over time as data collection protocols improve and more robust service performance information accumulates over time.

CHAPTER

3

RELIABILITY STANDARDS: WHOLE OF SYSTEM

Reporting requirements

- 3.1 Reliability is measured by how often and for how long consumers are subject to interruption of their electricity supply during a given period.
- 3.2 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).
- 3.3 The Code requires Power and Water to report on the following key indicators of system-wide reliability:
 - a) the average minutes of off-supply per customer ("interruption duration" or SAIDI);
 - b) the average number of interruptions per customer ("interruption frequency" or SAIFI); and
 - c) the average interruption duration per customer (CAIDI).
- 3.4 Interruptions are to be reported as having occurred under one of the following categories:
 - a) distribution and transmission system interruptions within the network; and
 - b) generation interruptions due to generation deficiency normally resulting in load shedding.
- 3.5 The Code allows for the effect of severe interruptions to supply on its key reliability indicators, based on the "2.5 beta method", to be removed in order to determine the underlying reliability performance. Such severe interruptions are referred to as "exclusion events" (Power and Water also uses the term 'Major Event Day' or "MED"). The values of the relevant system-wide reliability indicators must nevertheless be reported in both unadjusted and adjusted terms.

System Average Interruption Duration Index (SAIDI)

3.6 SAIDI measures the average minutes of off-supply per customer. It is the total minutes, on average, that a customer could expect to be without electricity in a year, and comprises both planned and unplanned outages. It is calculated as the sum of the duration of each interruption (in minutes), divided by the total number of connected customers averaged over the year.

interruption [Interruption duration (minutes) × No. of customers affected]

Total no. of customers

(expressed in minutes per period)

3.7 Details of Power and Water's performance for the 2005-06 year, and the recent historical performance for each of the Darwin, Katherine and Alice Springs regulated networks, are shown at Appendix A.

Networks

- 3.8 In Darwin, the average minutes of off-supply per customer due to network problems was 231 minutes in 2005-06. This breaches the minimum standard of 219.9 minutes. Historically, Power and Water had a couple of years of exceptionally good performance in 2002-03 and 2003-04, but has slipped back in recent years to the levels prevailing before regulatory change in 1999-00.
- 3.9 In Katherine, the average minutes of off-supply per customer due to network problems was 271 minutes in 2005-06. This betters the minimum standard of 401 minutes. However, this included two major event days for which allowable adjustment may be made. The adjusted performance for Katherine networks was 178 minutes. Performance has trended up slightly in recent years on an unadjusted basis, but has returned to close to historical lows once the effect of major event days is removed.
- 3.10 In Alice Springs, the average minutes of off-supply per customer due to network problems was 107 minutes in 2005-06. This just betters the minimum standard of 108 minutes. As with the Darwin network, Alice Springs performed well in terms of duration of interruptions in the middle of the historic reporting period, but has slipped back in recent years.

Generation

- 3.11 In Darwin, the average interruption duration due to generation problems in 2005-06 was 71.4 minutes. This breached the minimum standard of 42.7 minutes. Power and Water has advised the Commission that the poor performance in 2004-05 and 2005-06 was:
 - "...effected by the on-going vibration problems associated with Set 7 at Channel Island Power Station. At about 15 MW vibrations occur to a level that result in Under Frequency Load Shed (UFLS). Vibration data has been sent to GE for analysis with a view to solving the issue in the near future."
- 3.12 In Katherine, the average interruption duration due to generation problems in 2005-06 was 39.4 minutes. This breached the minimum standard of 25.7 minutes. Due to the interconnectivity of the two systems, the generation problems at Channel Island Power Station also affected performance in Katherine in 2005-06 and the later years of the historic reporting period.
- 3.13 In Alice Springs, the average interruption duration due to generation problems in 2005-06 was 17.5 minutes. This was well within the minimum standard of 125 minutes. Power and Water noted that:

"During 2006 upgrades to the generation at Ron Goodin Power Station were completed. As this has increased reliability from previous years. The Agreed Minimum Standard is based on 1999-00 actual performance. A review of SAIDI for Alice Springs generation maybe necessary to provide an indicator of reliability given the upgrades."

System Average Interruption Frequency Index (SAIFI)

3.14 SAIFI measures the average number of interruptions per customer. It is the number of occasions per year when each customer could, on average, expect to experience an unplanned interruption. It is calculated as the total number of customer interruptions, divided by the total number of connected customers averaged over the year. SAIFI usually excludes momentary interruptions (less than one minute duration).

Total no. of interruptions

Total no. of customers

(expressed in interruptions per customer)

3.15 Details of Power and Water's performance for the 2005-06 year, and the recent historical performance for each of the Darwin, Katherine and Alice Springs regulated networks, are shown at Appendix A.

Networks

- 3.16 In Darwin, the average number of interruptions due to network problems was 5 per customer during 2005-06. This breaches the minimum standard of just 4.2 interruptions per customer, which was the standard achieved before regulatory change in 1999-00. The average number of interruptions has trended up in recent years.
- 3.17 In Katherine, the average number of interruptions due to network problems was 5.9 per customer during 2005-06. Adjustment for major event days lowers this to 5.1 interruptions per customer. This betters the minimum standard of 9.6 interruptions per customer. Performance for this measure in Katherine has consistently bettered the minimum standard level in recent years.
- 3.18 In Alice Springs, the average number of interruptions due to network problems was 3 per customer during 2005-06. This just breaches the minimum standard of 2.9 interruptions per customer. The average number of interruptions has trended up in recent years.

Generation

- 3.19 In Darwin, the average number of interruptions due to generation problems was 2.9 per customer during 2005-06. This betters the minimum standard of 3.9 interruptions per customer. The average number of generation-related interruptions in recent years has generally been higher than before regulatory change in 1999-00.
- 3.20 In Katherine, the average number of interruptions due to generation problems was 1.2 per customer during 2005-06. This breaches the minimum standard of 1.1 interruptions per customer. Performance for this measure in Katherine has deteriorated considerably in recent years.
- 3.21 In Alice Springs, the average number of interruptions due to generation problems was 1.5 per customer during 2005-06. This betters the minimum standard of 3.6 interruptions per customer. Historically, performance against this measure has been consistently below the minimum standard level in Alice Springs, with the average number of interruptions fluctuating (roughly) between 1.5 and 2.5 per customer over the reporting period.

Customer Average Interruption Duration Index (CAIDI)

3.22 CAIDI measures the average interruption duration per customer. It is the average time taken for supply to be restored to a customer when an unplanned interruption has occurred. It is calculated as the sum of the duration of each customer interruption (in minutes) divided by the total number of customer interruptions. CAIDI usually excludes momentary interruptions (less than one minute duration).

Total no. of interruptions

(expressed in minutes per interruption)

3.23 Details of Power and Water's performance for the 2005-06 year, and the recent historical performance for each of the Darwin, Katherine and Alice Springs regulated networks, are shown at Appendix A.

Networks

- 3.24 In Darwin, the average duration of each network-related interruption was 46.2 minutes in 2005-06. This betters the minimum standard of 52 minutes per interruption. The average duration of interruptions has been relatively constant over the last few years.
- 3.25 In Katherine, the average duration of each network-related interruption was 45.9 minutes during 2005-06. Adjustment for major event days lowers this to 40 minutes per interruption. While the unadjusted performance breaches the minimum standard, following adjustment for major event days, Power and Water's performance in Katherine just betters the minimum standard of 42 minutes per interruption. Performance for this measure in Katherine has been relatively constant over recent years.
- 3.26 In Alice Springs, the average duration of each network-related interruption was 35.7 minutes in 2005-06. This betters the minimum standard of 37.2 minutes per interruption. The average duration of interruptions has been trending down from above minimum standard levels in recent years, falling below the minimum standard level in 2005-06 for the first time since 2001-02.

Generation

- 3.27 In Darwin, the average duration of each generation-related interruption was 24.5 minutes in 2005-06. This breaches the minimum standard of 10.9 minutes per interruption. As noted in the discussion on SAIDI above, Power and Water has reported that the major contributor to this poor performance was on-going vibration problems associated with Set 7 at Channel Island Power Station and that this is being addressed.
- 3.28 In Katherine, the average duration of each generation-related interruption was 32.5 minutes in 2005-06. This breaches the minimum standard of 24.5 minutes per interruption. Again, the interconnectivity of the Darwin and Katherine systems means that problems experienced at Channel Island affect both centres.

3.29 In Alice Springs, the average duration of each generation-related interruption was 11.8 minutes in 2005-06. This betters the minimum standard of 34.2 minutes per interruption. As noted in the discussion on SAIDI above, Power and Water has advised that upgrades to the generation plant at Ron Goodin Power Station has significantly increased generation reliability in Alice Springs.

CHAPTER

4

SYSTEM RELIABILITY STANDARDS: POORLY PERFORMING SEGMENTS

Reporting requirements

- 4.1 In addition to the standard industry average measures discussed above, measures are also required that indicate the standards being achieved for the worst served consumers.
- 4.2 Even if a large proportion of customers are satisfied with their current level of service, there is still a role to be played by focussing on the worst served consumers to identify areas with exceptionally poor reliability (which are the areas that effected customers may be critically concerned about).
- 4.3 Accordingly, the Code requires that Power and Water also report on the standards being achieved for poorly-performing feeders. The following measures are to be reported:
 - a) the number of feeders that experience more than x interruptions per year;
 - b) the percentage of consumers supplied by feeders that experience more than x interruptions per year; and
 - c) the number of feeders that experience more than y minutes of interruptions per year.
- 4.4 In approving minimum standards to monitor poorly performing feeders, the Commission accepted Power and Water's arguments that 'poorly performing' should be defined differently for different types of feeders.
- 4.5 Accordingly, for interconnected networks where supply can be maintained via a number of connections (i.e., the Darwin Urban network and the Alice Springs network), a poorly performing feeder is considered to be one which experiences more than 15 interruptions or more than 1,500 minutes of interruptions in the year.
- 4.6 For radial distribution networks where there is only a single supply path available (i.e., the Darwin Rural network, the Katherine network and the Tennant Creek network), a poorly performing feeder is considered to be one which experiences more than 27 interruptions or more than 2,500 minutes of interruptions in the year.
- 4.7 Minimum standards in relation to poorly performing network segments seek to identify the worst segments of the network so that improvement initiatives (e.g., additional maintenance) can be focused on these areas. In setting this minimum standard, the Commission does not expect that no feeder be designated poorly performing, but rather that the number of feeders identified as poorly performing not exceed a prescribed number and also that no specific feeder continues to be poorly performing on an on-going basis.

Interconnected networks

- 4.8 Details of Power and Water's performance for the 2005-06 year, and the recent historical performance for the Darwin urban area and Alice Springs, are shown at Appendix A.
- 4.9 Where interconnecting networks apply (i.e., in the Darwin urban area and Alice Springs), poorly performing feeders have been defined as those experiencing more than 15 interruptions per year or more than 1,500 minutes of interruption per year.
- 4.10 In the Darwin urban area, there were 6 feeders that experienced more than 15 interruptions in 2005-06. This betters the minimum standard of 10 feeders. 16% of customers were affected by this, again bettering the minimum standard of 27% of customers. Historically, the number of feeders defined as poorly performing in terms of the number of interruptions experienced has been lower in recent years.
- 4.11 When considering the duration of interruptions, there were 8 feeders that experienced more than 1,500 minutes of interruption during 2005-06. This just betters the minimum standard of 9 feeders. The number of feeders defined as poorly performing in terms of the duration of interruptions has been lower in the Darwin urban area in recent years than in the early years of the historic reporting period.
- 4.12 In Alice Springs, there was 1 feeder that experienced more than 15 interruptions in 2005-06. This betters the minimum standard of 4 feeders. 4% of customers were affected by this, again bettering the minimum standard of 10% of customers. Historically, the number of feeders defined as poorly performing in terms of the number of interruptions experienced has fluctuated during the reporting period, although it has been low in recent years.
- 4.13 When considering the duration of interruptions, there was 1 feeder that experienced more than 1,500 minutes of interruption during 2005-06. This betters the minimum standard of 4 feeders. Historically, the number of feeders defined as poorly performing in terms of the duration of interruptions has fluctuated during the reporting period.

Radial distribution networks

- 4.14 Details of Power and Water's performance for the 2005-06 year, and the recent historical performance for the Darwin rural area and Katherine, are shown at Appendix A.
- 4.15 Where radial networks apply (i.e., in the Darwin rural area and Katherine), poorly performing feeders have been defined as those experiencing more than 27 interruptions per year or more than 2,500 minutes of interruption per year.
- 4.16 In the Darwin rural area, there were 9 feeders that experienced more than 27 interruptions in 2005-06. This breaches the minimum standard of 8 feeders. 86% of customers were affected by this, again breaching the minimum standard of 50% of customers. Historically, the number of feeders defined as poorly performing in terms of the number of interruptions experienced has been increasing in recent years.

- 4.17 When considering the duration of interruptions, there were 10 feeders that experienced more than 2,500 minutes of interruption during 2005-06. This just breaches the minimum standard of 9 feeders. The number of feeders defined as poorly performing in terms of the duration of interruptions has also been increasing in recent years.
- 4.18 In Katherine, there were 3 feeders that experienced more than 27 interruptions in 2005-06. This betters the minimum standard of 7 feeders. 9% of customers were affected by this, again bettering the minimum standard of 50% of customers. Historically, the number of feeders defined as poorly performing in terms of the number of interruptions experienced has decreased significantly in recent years.
- 4.19 When considering the duration of interruptions, there were 4 feeders that experienced more than 2,500 minutes of interruption during 2005-06. This betters the minimum standard of 6 feeders.

CHAPTER

5

QUALITY AND CUSTOMER SERVICE STANDARDS

Reporting requirements

Quality of supply

- 5.1 Quality of supply refers to the electrical specification of supply, and involves measures such as voltage levels, frequency, and harmonic content.
- 5.2 The Code requires that the key indicator of quality to be used the number of complaints received in relation to voltage events such as voltage dips, swells, spikes etc.

Customer service

- 5.3 Customer service refers to a service provider's interaction with individual customers. It is generally monitored in terms of the service provider's responsiveness and dependability, and in relation to services provided and the level of complaints.
- The Code requires that the key indicators of customer service to be used are:
 - a) the percentage of new connections not provided within the required time limit;
 - b) the number and percentage of telephone calls responded to within 20 seconds from when the customer selects to speak to a human operator;
 - c) the number of customer complaints.

Quality standards

- 5.5 Power and Water as not previously had systems in place to collect detailed voltage complaint data.
- 5.6 Power and Water has now established systems that will collect this data and will report on this measure from the 2006-07 financial year.

Customer service standards

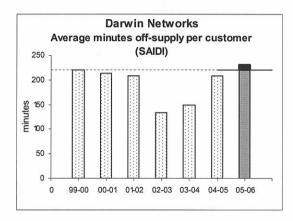
5.7 Details of Power and Water's performance for the 2005-06 year, and the recent historical performance, are shown at Appendix A.

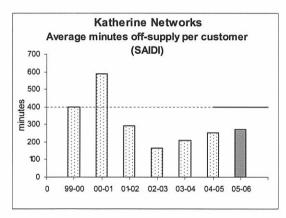
- 5.8 Customer service performance indicators are reported on a Territory-wide basis. Power and Water does not collect this data on a regional or customer class basis.
- 5.9 Power and Water has also advised the Commission that the 2003-04 financial year was the first year reliable data was collected. Accordingly, historical data from earlier years is not included.
- 5.10 The number of customer complaints was around 3,000 in 2005-06. This betters the minimum standard. The number of complaints has been rising in the Territory over recent years. However, Power and Water has advised the Commission that, rather than deteriorating service levels, this trend reflects:
 - "...increasing customer numbers, increased customers awareness to use our improved customer complaint channels and our recognition that any expression of dissatisfaction (whether valid or not) is recorded as a complaint, to be used as feedback to improve our service levels."
- 5.11 The percentage of telephone calls **not** responded to within 20 seconds from when the customer selects to speak to a human operator was 24%. This betters the minimum standard of 37%.
- 5.12 In setting required timeframes for new connections, Power and Water segments new connections into three different categories:
 - connections to existing properties (to be provided within 24 hours);
 - connections to new subdivisions (to be provided within 5 days); and
 - connections requiring system augmentation (to be provided within 10 days).
- 5.13 Accordingly, in establishing minimum standards, the Commission approved different levels for each of these three segments. For the initial minimum standards, these were in line with Power and Water's internal reporting benchmarks.
- 5.14 The percentage of new connections to existing properties not provided within 24 hours was zero. This betters the minimum standard of 2%.
- 5.15 The percentage of new connections to new subdivisions not provided within 5 days was 7%. This betters the minimum standard of 10%.
- 5.16 The percentage of new connections requiring system augmentation not provided within 10 days was 30%. This betters the minimum standard of 35%.
- 5.17 Historically, Power and Water has performed within required benchmarks in providing new connections to customers.

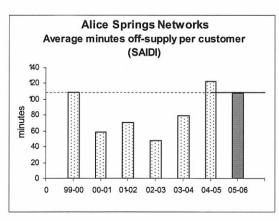


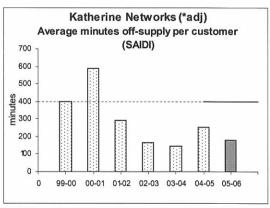
KEY PERFORMANCE INDICATORS

Network reliability - SAIDI



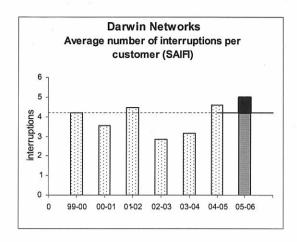


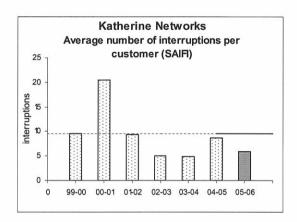


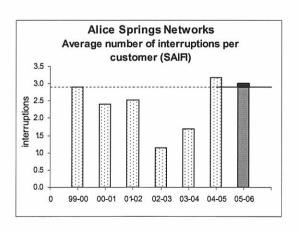


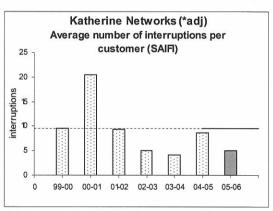
* Adjustment was made for major event days in 2003-04 and 2005-06.

Network reliability - SAIFI



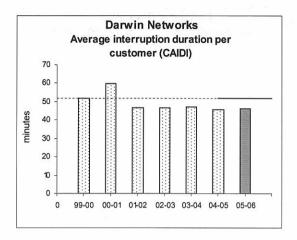


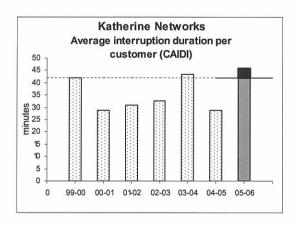


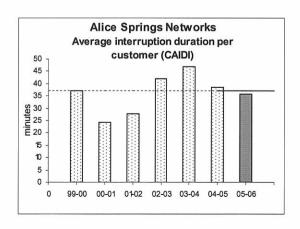


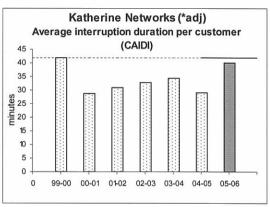
* Adjustment was made for major event days in 2003-04 and 2005-06.

Network reliability - CAIDI



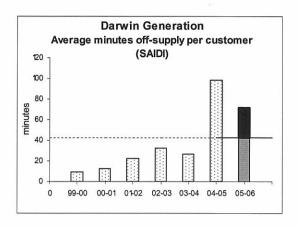


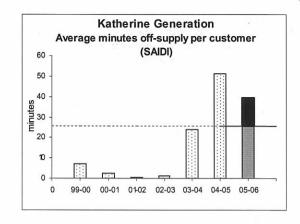


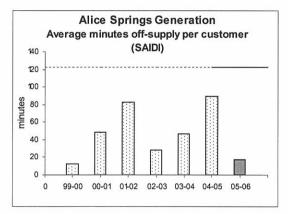


* Adjustment was made for major event days in 2003-04 and 2005-06.

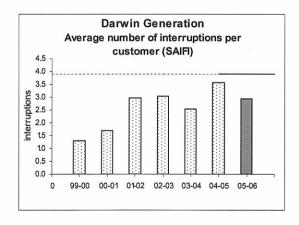
Generation reliability - SAIDI

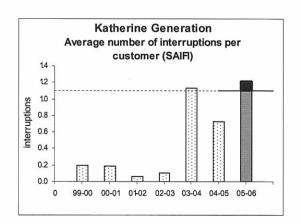


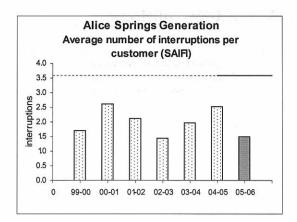




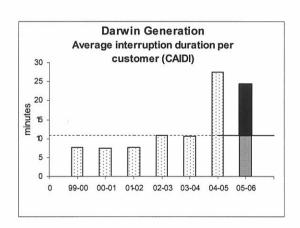
Generation reliability - SAIFI

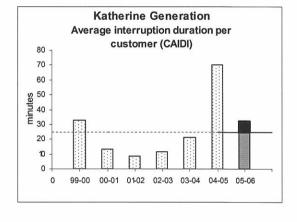


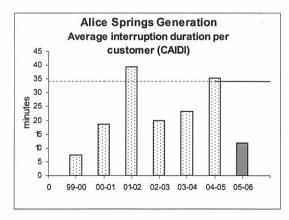




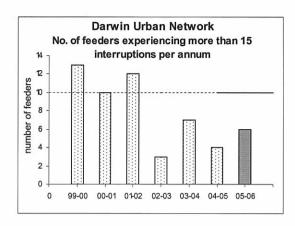
Generation reliability - CAIDI

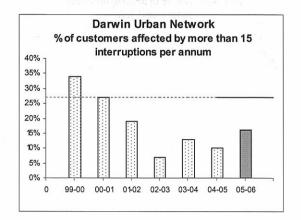


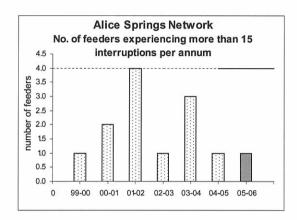


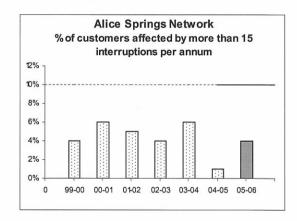


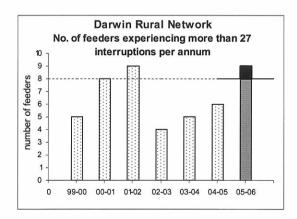
Poorly performing feeders based on number of interruptions

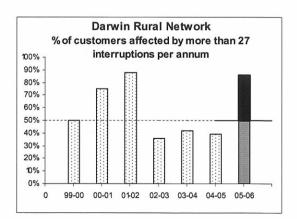


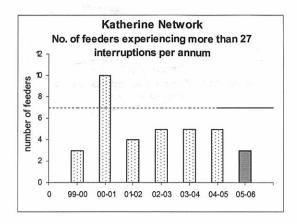


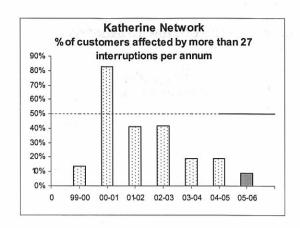




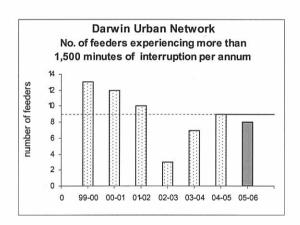


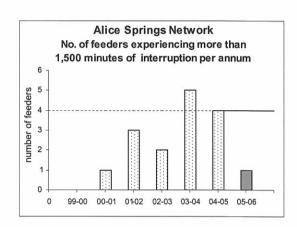


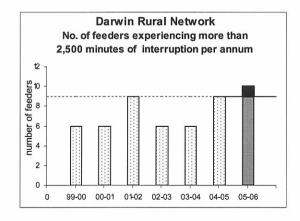


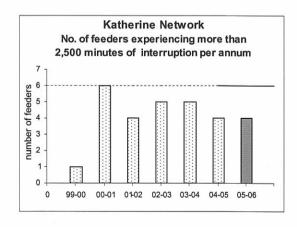


Poorly performing feeders based on duration of interruptions

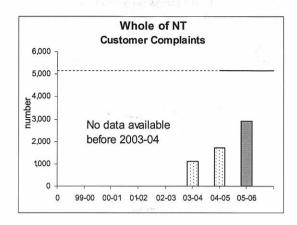


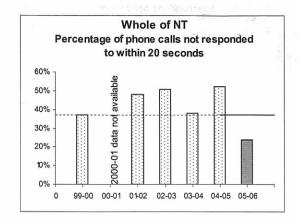


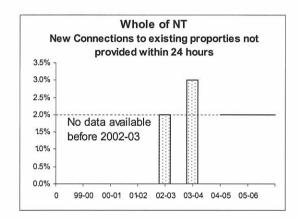


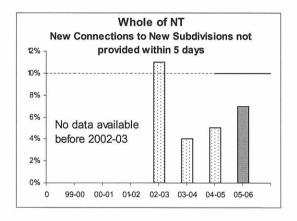


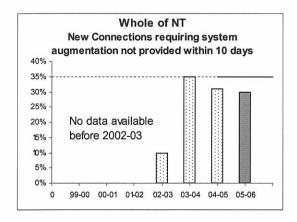
Customer service indicators













APPROVED MINIMUM STANDARDS

APPROVAL OF MINIMUM SERVICE STANDARDS

In accordance with clause 5 of the *Northern Territory Electricity Standards of Service Code* ("the Code"), the Commission hereby approves the initial minimum standards for reliability, quality and customer service ("the Minimum Standards") developed by the Power and Water Corporation in conjunction with the Commission.

The Commission is satisfied that the Minimum Standards give effect to the principles set out in Schedules 1 and 2 of the Code.

The Commission's approval of the Minimum Standards is subject to the following conditions:

- (a) the Minimum Standards are approved for use until 30 June 2009;
- (b) reporting of actual performance against the approved standards is to include the available time series for each indicator back to 1999-00;
- (c) reporting of actual performance against the approved standards is to be undertaken on a disaggregated basis as and when such disaggregated information becomes available to Power and Water;
- (d) Power and Water, in consultation with the Commission, is to review the effectiveness of the Minimum Standards prior to 30 June 2009; and
- (e) the Minimum Standards must be resubmitted for approval following any changes to the Code affecting the Procedures.

The Commission notes that, pursuant to clause 8.1 of the Code, Power and Water must as soon as is practicable after the end of each financial year (and no later than 4 months after that date) report to the Commission as to the actual standards achieved in that year with respect to each of the key service performance indicators nominated in Schedule 1 to the Code.

Alan Tregilgas Utilities Commissioner (for the Utilities Commission) 19 July 2006



Record No: D2006/79335 Container No: F2005/3685

Mr Alan Tregilgas Utilities Commissioner Utilities Commission 5th Floor, Cavenagh Street Darwin NT 0800

Dear Utilities Commissioner

Re: Standards of Service Code - Initial Minimum Standards for Reliability Standards Indicators

Please find attached the Power and Water Corporation's proposed Initial Minimum Standards for Reliability Standards Indicators in accordance with the Utilities Commission's NT Electricity Standards of Service Code (the Code).

As required by the Code, the Initial Minimum Standards proposed have been set in reference to Power and Water's actual performance in 1999/2000, where reliable data is available. Where Alternative Minimum Standards have been proposed, justification has been provided.

Please contact Mr Darren Nelson, Manager Economic Regulation and Services, on (08) 8985 8444 and/or at darren.nelson@powerwater.com.au if you have any further queries.

Yours sincerely

Kim Wood

Managing Director

24 May 2006

GPO Box 1921 Darwin NT 0801

Power and Water Corporation ABN 15.947 352 360 * Telephone 1800 245 092 * www.powerwater.com.au



PowerWater |

STANDARDS OF SERVICE INITIAL MINIMUM STANDARDS

RELIABILITY STANDARDS INDICATORS

MAY 2006

Power and Water Corporation GPO Box 1921, Darwin NT 0801

SYSTEM-WIDE RELIABILITY

Schedule 1 (1.5) of the Utilities Commission's Standards of Service Code requires the Power and Water Corporation (PWC) to report on system-wide reliability under the following categories:

- (a) distribution and transmission system (Network Reliability); and
- (b) generation (interruptions due to generation deficiency resulting in load shedding) (Generation Reliability)

1.1 NETWORK RELIABILITY

Schedule 1 (1.4) and Schedule 2 (1.2) of the Standards of Service Code requires PWC's Initial Minimum Standards to be set by reference to actual performance in 1999-2000 for the following network reliability indicators:

(a) the average minutes of off-supply per customer ("interruption duration")

AVERAGE MINUTES OF OFF-SUPPLY PER CUSTOMER (ie. NETWORK SAIDI ¹)	1999-2000 ACTUAL PERFORMANCE ²	PROPOSED MINIMUM STANDARD
Darwin	219.9	219.9
Katherine	401.0	401.0
Tennant Creek	411.0	411.0
Alice Springs	108.0	108.0

(b) the average number of interruptions per customer ("interruption frequency")

AVERAGE NUMBER OF INTERRUPTIONS PER CUSTOMER (ie. NETWORK SAIFI ³)	1999-2000 ACTUAL PERFORMANCE ²	PROPOSED MINIMUM STANDARD
Darwin	4.2	4.2
Katherine	9.6	9.6
Tennant Creek	9.8	9.8
Alice Springs	2.9	2.9

(c) the average interruption duration per customer

AVERAGE INTERRUPTION DURATION PER CUSTOMER (ie. NETWORK CAIDI ⁴)	1999-2000 ACTUAL PERFORMANCE ²	PROPOSED MINIMUM STANDARD
Darwin	52.0	52.0
Katherine	42.0	42.0
Tennant Creek	41.8	41.8
Alice Springs	37.2	37.2

¹ SAIDI = System Average Interruption Duration Index

1

² These figures exclude load sheds and momentary interruptions, and there was no abnormal event.

SAIFI = System Average Interruption Frequency Index
 CAIDI = Customer Average Interruption Duration Index

1.2 GENERATION RELIABILITY

Schedule 1 (1.4) and Schedule 2 (1.2) of the Standards of Service Code requires PWC's Initial Minimum Standards to be set by reference to actual performance in 1999-2000 for the following generation reliability indicators:

(a) the average minutes of off-supply per customer ("interruption duration")

AVERAGE MINUTES OF OFF-SUPPLY PER CUSTOMER (ie. GENERATION SAIDI ¹)	1999-2000 ACTUAL PERFORMANCE ²	PROPOSED MINIMUM STANDARD
Darwin	9.5	42.7
Katherine	7.0	25.7
Tennant Creek	125.0	125.0
Alice Springs	13.0	122.5

(b) the average number of interruptions per customer ("interruption frequency")

AVERAGE NUMBER OF INTERRUPTIONS PER CUSTOMER (ie. GENERATION SAIFI³)	1999-2000 ACTUAL PERFORMANCE ²	PROPOSED MINIMUM STANDARD
Darwin	1.3	3.9
Katherine	0.2	1.1
Tennant Creek	12.5	12.5
Alice Springs	1.7	3.6

(c) the average interruption duration per customer

AVERAGE INTERRUPTION DURATION PER CUSTOMER (ie. GENERATION CAIDI ⁴)	1999-2000 ACTUAL PERFORMANCE ²	PROPOSED MINIMUM STANDARD
Darwin	7.6	10.9
Katherine	32.8	24.5
Tennant Creek	10.0	10.0
Alice Springs	7.6	34.2

¹ SAIDI = System Average Interruption Duration Index

² These figures exclude momentary interruptions, and there was no abnormal event in that year.

SAIFI = System Average Interruption Frequency Index
 CAIDI = Customer Average Interruption Duration Index

1.3 JUSTIFICATION FOR PWC'S PROPOSED GENERATION RELIABILITY ALTERNATIVE MINIMUM STANDARDS

(as compared to PWC's 1999-2000 actual performance)

PWC have proposed Alternative Minimum Standards as PWC's generation reliability historic data (including 1999-2000) has never been audited. Additionally, the accuracy of PWC's historic generation reliability statistics is influenced by the role that System Control and Networks play in the re-connection of customers after load shedding.

Historic data shows a general decrease in reliability over the past six years. This is mainly due to aging plant. PWC have budgeted significant capital expenditure for Generation over the next four years to augment the aging plant and expect generation reliability to improve over this period.

PWC have taken a conservative approach, by proposing the Initial Minimum Standards for Generation reliability in reference to the standards of service for the worst performance year since 1999-2000 for each of the regions. PWC propose to monitor and audit this data over the next two years and may then propose revised standards. PWC will seek to achieve reliability improvements over this period.

A conservative approach is preferable because if the Initial Minimum Standards are set at levels that are too high, the cost of compliance will be considerable, involving major capital expenditure (above PWC's budgeted expenditure) and significant additional operating costs to increase plant reserve margins and spinning reserve.

POORLY PERFORMING FEEDERS

Schedule 1 (1.7) and Schedule 2 (1.2) of the Standards of Service Code requires the PWC Initial Minimum Standards to be set by reference to actual performance in 1999-2000 for the following indicators of poorly performing feeders:

- (a) the number of feeders that experience more than x interruptions per year;
- (b) the percentage of consumers supplied by feeders that experience more than x interruptions per year;
- (c) the number of feeders that experience more than y minutes of interruptions per year.

Data relating to poorly performing feeders was not measured accurately in 1999-00. It is therefore necessary for PWC to propose Alternative Minimum Standards. PWC's Alternative Minimum Standards for poorly performing feeders is based on past performance and the performance of Power and Water's closest peer, Ergon Energy.

2.1 "x" INTERRUPTIONS AND "y" MINUTES OF INTERRUPTIONS

Most jurisdictions set an annual SAIDI and SAIFI threshold by feeder type in order to identify the worst performing feeders, or target a set percentage of their worst performing feeders, and as such do not set a specific "x" or "y" value. Ergon Energy's Guaranteed Service Levels (GSL) scheme has been used as a basis in setting PWC's "x" interruptions and "y" minutes of interruptions. Ergon has been selected due to its similar network and operating environment as compared to PWC. Ergon and PWC operate in regional areas with similar climatic and weather conditions, and cover similar distances and networks characteristics.

Separate values for "x" and "y" have been selected for interconnected distribution networks (Darwin - Urban and Alice Springs) versus distribution networks which are radial in nature (Darwin - Rural, Katherine, Tennant Creek). This distinction is made to reflect the fact that radial distribution networks are mostly supplied from only one source, and there is little opportunity for interconnection with other circuits for security and continuation of supply when performing maintenance activities or in the event of unplanned outages. Feeders on these distribution networks therefore tend to have higher interruption frequencies and duration than feeders on interconnected networks.

"x" interruptions

Ergon's service levels for unplanned interruption frequency is:

- Urban = 13 or more interruptions
- · Rural = 21 or more interruptions

Based on these values and including a factor for planned outages, PWC propose the following values for "x":

- Interconnected networks: x = 15 interruptions
- Radial networks: x = 27 interruptions

"y" minutes of interruptions

Ergon's service level for a single unplanned interruption duration is:

- Urban = 1080 minutes
- Rural = 1440 minutes

Based on these values and including a factor for planned outages, PWC propose the following values for "y":

- Interconnected networks: y = 1500 minutes
- Radial networks: y = 2500 minutes

It should also be noted that PWC's target is an annual figure, whereas Ergon's applies to a single interruption.

SUKMMARY OF PROPOSED "x" AND "y" VALUES	"x" interruptions per year	"y" minutes of interruptions per year
Interconnected Distribution Networks (Darwin - Urban, Alice Springs)	15	1500
Radial Distribution Networks (Darwin - Rural, Katherine, Tennant Creek)	27	2500

2.2 POORLY PERFORMING FEEDERS MINIMUM STANDARDS - INTERCONNECTED DISTRIBUTION NETWORKS

PWC propose the following Minimum Standards for its interconnected distribution networks, given PWC's proposed "x" and "y" values. The Minimum Standards are based on PWC's historical performance, with minor adjustments made for data abnormalities (a justification follows). Data relating to poorly performing feeders was not measured accurately by PWC in 1999-00. Data from 2000-01 is the next available actual data.

(a) the number of feeders that experience more than 15 interruptions per year

NUMBER OF FEEDERS THAT EXPERIENCE MORE THAN 15 INTERRUPTIONS PER YEAR	2000-01 ACTUAL PERFORMANCE	PROPOSED MINIMUM STANDARD
Darwin – Urban	10	10
Alice Springs	2	4

(b) the percentage of consumers supplied by feeders that experience more than 15 interruptions per year

PERCENTAGE OF CONSUMERS SUPPLIED BY FEEDERS THAT EXPERIENCE MORE THAN 15 INTERRUPTIONS PER YEAR ¹	2000-01 ACTUAL PERFORMANCE	PROPOSED MINIMUM STANDARD
Darwin – Urban	27%	27%
Alice Springs	6%	10%

(c) number of feeders that experience more than 1500 minutes of interruptions per year

NUMBER OF FEEDERS THAT EXPERIENCE MORE THAN 1500 MINS OF INTERRUPTIONS PER YEAR	2000-01 ACTUAL PERFORMANCE	PROPOSED MINIMUM STANDARD
Darwin – Urban	12	9
Alice Springs	1	4

¹ This data is a function of the number of consumers on feeders that experience more than 15 interruptions per year *(a)* and the total number of consumers in each region.

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2.3 POORLY PERFORMING FEEDERS MINIMUM STANDARDS - RADIAL DISTRIBUTION NETWORKS

PWC propose the following Minimum Standards for its radial distribution networks, given PWC's proposed "x" and "y" values. The Minimum Standards are based on PWC's historical performance, with minor adjustments made for data abnormalities (a justification follows). Data relating to poorly performing feeders was not measured accurately by PWC in 1999-00. Data from 2000-01 is the next available actual data.

(a) the number of feeders that experience more than 27 interruptions per year

NUMBER OF FEEDERS THAT EXPERIENCE MORE THAN 27 INTERRUPTIONS PER YEAR	2000-01 ACTUAL PERFORMANCE	PROPOSED MINIMUM STANDARD
Darwin – Rural	8	8
Katherine	10	7
Tennant Creek	3	3

(b) the percentage of consumers supplied by feeders that experience more than 27 interruptions per year

PERCENTAGE OF CONSUMERS SUPPLIED BY FEEDERS THAT EXPERIENCE MORE THAN 27 INTERRUPTIONS PER YEAR ¹	2000-01 ACTUAL PERFORMANCE	PROPOSED MINIMUM STANDARD
Darwin – Rural	75%	50%
Katherine	83%	50%
Tennant Creek	32%	32%

(c) number of feeders that experience more than 2500 minutes of interruptions per year

NUMBER OF FEEDERS THAT EXPERIENCE MORE THAN 2500 MINS OF INTERRUPTIONS PER YEAR	2000-01 ACTUAL PERFORMANCE	PROPOSED MINIMUM STANDARD
Darwin – Rural	6	9
Katherine	6	6
Tennant Creek	3	3

¹ This data is a function of the number of consumers on feeders that experience more than 27 interruptions per year *(a)* and the total number of consumers in each region. Darwin - Rural and Katherine figures are higher due to the higher number of feeders experiencing more than x interruptions per year and the small number of consumers in the regions.

2.4 JUSTIFICATION FOR PROPOSED POORLY PERFORMING FEEDERS ALTERNATIVE MINIMUM STANDARDS

(as compared to PWC's 2000-01 actual performance)

Darwin Rural Region

In 2000-01, interruptions due to flying foxes were concentrated in the Humpty Doo area. This resulted in a below average number of feeders experiencing higher interruption frequency and duration (ie. poor performance). PWC's proposed minimum standards for poorly performing feeders reflect a more typical flying fox concentration for the Darwin Rural region.

Alice Springs Region

Alice Springs had a particularly high amount of rainfall in 2000-01 when compared to other years. This resulted in a significant reduction in the number of interruptions due to flocks of birds, as the birds were able to source alternate water supplies (normally they are drawn to Alice Springs urban areas as it is a constant source of water). PWC's proposed minimum standard for Alice Springs poorly performing feeders reflects this abnormality and takes into account the typical climate for the region.

2.5 EXPLANATION OF REGIONAL VARIANCES IN THE MINIMUM STANDARDS

Power and Water has two distinct climatic regions, Northern (Darwin - Urban, Darwin - Rural and Katherine) and Southern (Tennant Creek and Alice Springs). The Northern region has a high incidence of lightning, high rates of vegetation growth and is periodically affected by large numbers of flying foxes, resulting in more frequent interruptions as compared to the Southern region.

Record No: Container No:

Alan Tregilgas Utilities Commissioner Utilities Commission 5th Floor, 38 Cavenagh Street DARWIN NT 0800

Dear Utilities Commissioner

Re: Electricity Standards of Service Code – Proposed Minimum Quality & Customer Service Standards

The Corporation, in accordance with c 5 of the *Electricity Standards of Service Code*, seeks approval from the Utilities Commission of its **attached** proposed final draft Minimum Standards for Quality and Customer Service.

The Corporation believes that its proposed Minimum Standards:

- comply with its obligations under c 4 of the Code;
- encompass the *relevant* key service performance indicators nominated in Schedule 1 of the Code;
- are consistent with the requirements set out in Schedule 2 of the Code for each type of Minimum Standard; and
- were developed in conjunction with the Commission and are therefore capable of being approved without the need for substantial amendment.

Please note that the service standards in the Statement of Corporate Intent are not minimum standards set by, but are 'stretch' targets negotiated with, the NT Government.

Should you have any queries regarding this or any related matters please contact, at first instance, Mr Darren Nelson, Manager of Economic Regulation & Services (Economics), on 8985 8444 and/or at darren.nelson@powerwater.com.au.

Yours sincerely

Kim Wood

Managing Director

June 2006

PowerWater

Electricity Standards of Service Code – Proposed Minimum Quality & Customer Service Standards

Indicator	Measure	1999/2000	Proposed	Comments
		Actual	Minimum Standard	
Complaints ¹				
customer complaints Number	Number	AN	5146	This indicator is based on the 2003/04 financial year, which was the first year that reliable data was collected on a Corporation wide basis. This indicator includes customer complaints about network & generation reliability, and excludes voltage complaints.
complaints received in relation to voltage events	Number	AN AN	Ā	As stated in the Corporation's submission on the framework, over the year to November 2004, the Corporation received 170 voltage complaints, all were attended to and approximately 150 were actually attributable to voltage problems. Detailed voltage complaint data is still not collected within the Corporation, however systems could be established within a reasonable time frame if required.
Connections ²				
	Percentage	NA	2%	This indicator is based on the 2002/03 financial year, which was the first year that reliable data was collected,
new connections not provided to new subdivisions in urban areas within 5 working days	Percentage	NA	10%	This indicator is based on the 2002/03 financial year, which was the first year that reliable data was collected.

GPO Box 1921, Darwin NT 0801

ections not provided Per visibility subdivisions where minor extensions or ntation is required in eas within 10 weeks		-					
isions where steening or steeling or steel		Indicator	Measure	1999/2000 Actual	Proposed Minimum Standard	Comments	
esponded to Number 58,679 58,679 s from when esponded to Percentage 63% 63% cts to speak ran operator cts to speak	21	new connections not provided to new subdivisions where minor extensions or augmentation is required in urban areas within 10 weeks	Percentage	NA	35%	This indicator is based on the 2002/03 financial year, which was the first year that reliable data was collected.	
Number 58,679 58,679 Percentage 63% 63%	1-	Telephone Calls³					_
Percentage 63% 63%	7.17	telephone calls responded to within 20 seconds from when the customer selects to speak to a human operator	Number	58,679	58,679	Note that, in 1999/2000, the Corporation took part in a national benchmarking study by the ESAA of call centre performance. This data was provided to the ESAA at the time	- 12
	\$ \$ 4 to \$	telephone calls responded to within 20 seconds from when the customer selects to speak to a human operator	Percentage	63%	63%	Note that, in 1999/2000, the Corporation took part in a national benchmarking study by the ESAA of call centre performance. This data was provided to the ESAA at the time.	5.5.

Notes

- supportive of regional standards setting and/or reporting when automated reports are available, and is committed to providing regional complaint reports (together with available historical data) from the 3rd Quarter 2006-07, with a view to revisiting the centrally recorded and collated. At this stage, the Corporation is not proposing regional minimum standards due to the lack of time-Corporation is however 1. The minimum standard proposed is based on the actual number of electricity complaints during 2003-04 when data had been and the level of manual interrogation required of the reporting system. The series data availability minimum standards
- has proposed to use 35% not provided within 10 weeks as a reasonable measure of historical performance. It is important to note that meeting such as standard is largely dependent upon administrative approval processes – ie internally through the Business For new connections to existing supply properties, contractors are engaged to carry out this work throughout the Territory. Meeting the standard is largely dependent on contractor performance and contract management. For new connections within new subdivisions, the Corporation proposes that this standard apply to urban areas only (Darwin, Palmerston, Katherine, Tennant Creek, Alice Springs and Yulara), given the sparse nature of the Territory's electricity networks and the unavailability of rural 'standard setting' data. For new connections within new sub-divisions where minor extensions or augmentation is required, the Corporation 2. Three types of connection minimum standards have been proposed and are consistent with the Corporation's internal reporting. Review Committee and externally through the Procurement Review Board.

The Corporation has not actively reported/recorded historical regional data, but supports regional reporting of such information going forward from the 3rd Quarter 2006-07, with a view to revisiting the minimum standards.

3. The Corporation's call centre system is based on a '1800' number which, by its very nature, does not identify the geographical ocation of callers.