

**POWER AND WATER'S
ELECTRICITY
SERVICE PERFORMANCE:
2007-08**

DECEMBER 2008



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CHAPTER**1****BACKGROUND****Purpose of this paper**

1.1 This paper constitutes the Commission's annual compliance report regarding Power and Water's service performance in 2007-08 against certain minimum standards of reliability, quality and customer service established under the *Electricity Standards of Service Code* ("the Code").

1.2 These annual compliance reports are intended to assist stakeholders in assessing the level of performance by Power and Water compared to the minimum standards of service. It is hoped they can also play a role in facilitating informed discussion between consumers and Power and Water on local or generalised standards of service improvements.

1.3 Accompanying this paper is Power and Water's own report on its service performance in 2007-08, prepared in accordance with the provisions of the Code. Power and Water's report can be downloaded from the Commission's website.

1.4 Once again, the Commission has opted to let the service performance data published by Power and Water largely speak for itself. The paper concentrates instead on providing a general overview of performance, and takes a closer look only at any performance indicator that involves a second successive year breaching the minimum standard set for that indicator.

1.5 This paper does not cover the series of power outages that occurred in the vicinity of the Casuarina Zone Substation, subsequent to the end of the 2007-08 reporting period in September and October 2008. These outages will be incorporated in the 2008-09 Standards of Service Report.¹

Standards of Service Code

1.6 The Code took effect from 1 January 2006.²

¹ Separately, the Commission has provided advice to the NT Government on the issue of 'compensation' payments to customers affected by the Casuarina outages. The Commission will also be considering whether these outages give rise to any broader implications for the system of regulation in its next Annual Power System Review, timed for release in March 2009.

² The Commission developed and published the 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:

- section 92(1) of the *Electricity Reform Act 2000*;
- section 10 of the *Electricity Networks (Third Party Access) Act* and clause 9A and Part 3 of the Network Access Code; and
- section 6 of the *Utilities Commission Act*.

1.7 The Code applies only to the Power and Water Corporation for the foreseeable future.

1.8 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.

Establishment of minimum standards

1.9 The Code establishes a process by which certain minimum standards of service benchmarks are set.

1.10 Pursuant to clause 5 of the Code, the Commission approved the initial minimum standards on 19 July 2006, subject to the following conditions:

- the minimum standards are approved for use until 30 June 2009;
- reporting of actual performance against the approved standards is to include the available time series for each indicator back to 1999-00;
- 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;
- Power and Water, in consultation with the Commission, is to review the effectiveness of the minimum standards prior to 30 June 2009; and
- the minimum standards must be resubmitted for approval following any changes to the Code affecting the Procedures.

1.11 The approved minimum standards can be found on the Commission's website.

Annual reporting requirements

1.12 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 performance achieved each year against each of the minimum standards. For the immediate future, reporting is restricted to the Territory's regulated networks.

1.13 While Power and Water has been required (as a condition of approval of the minimum standards) to provide historical data for each performance indicator, such data was not originally collected and collated for this specific purpose. Accordingly, while the Commission acknowledges that Power and Water has used its best endeavours to prepare the required historical data, the Commission remains concerned about the robustness of some of that data.

CHAPTER**2****COMMISSION'S ANALYSIS OF
2007-08 PERFORMANCE****Overview**

2.1 Overall, while there remain some areas where Power and Water is having difficulty in meeting the set minimum standards, Power and Water's performance in 2007-08 is an improvement over the previous year. After adjusting for the severe interruption effect of Cyclone Helen, Power and Water only displayed consecutive breaches in 3 of the 49 minimum standards.

2.2 The Commission continues to be concerned that in a number of areas Power and Water only just manages to achieve the minimum standard, leaving little room for the normal year-to-year variations in performance.

2.3 Power and Water has also shown some improvement in the level of detail provided in Power and Water's reporting on actual performance, with slightly more detail on the causes and plans to correct the causes of the breaches of the standards. The Commission considers that there is still some room for further improvement.

2.4 Finally, the Commission acknowledges that there is also a need to review the appropriateness of some of the minimum standards set, a task which it will be undertaking in 2009. With the benefit of three years' reporting, this will be an opportunity to better define standards, particularly in instances where there is little room for normal year-to-year variations in performance and where current standards are well below actual performance.

Performance measures

2.5 The Code sets minimum standards for performance in three key areas:

- Reliability of supply – how often electricity supply is interrupted and for how long;
- Quality of supply – for example, whether electricity is supplied at a constant voltage; and
- Customer service – for example responding promptly to customer calls, ensuring connections are undertaken within reasonable timeframes and handling complaints properly.

2.6 The minimum standards do not constitute standards which are enforceable against Power and Water by individual customers, and so do not constitute 'guaranteed' standards.

Reliability of supply

2.7 Reliability is measured by how often and for how long consumers are subject to interruption of their electricity supply during a given period.

2.8 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).

2.9 The Code requires Power and Water to report on the following key indicators of system-wide reliability:

- the average minutes of off-supply per customer ("interruption duration" or SAIDI);
- the average number of interruptions per customer ("interruption frequency" or SAIFI); and
- the average interruption duration per customer (CAIDI).

2.10 Interruptions are to be reported as having occurred under one of the following categories:

- distribution and transmission system – interruptions within the network; and
- generation – interruptions due to generation deficiency normally resulting in load shedding.

2.11 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.

Networks

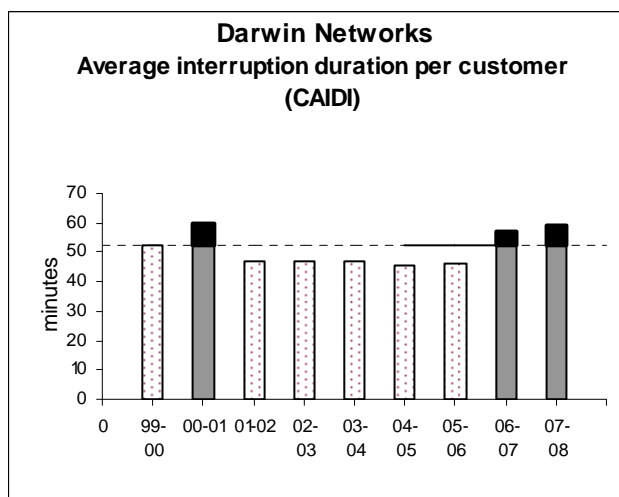
2.12 In January 2008, the top end of the Northern Territory was impacted by Cyclone Helen. As provided for in clause 1.6 of Schedule 1 of the Code, Power and Water may remove the effect of severe interruptions to supply on its key reliability indicators, based on the "2.5 beta method", in order to determine the underlying network-related reliability performance.

2.13 For Darwin and Katherine, data has been provided on an unadjusted (i.e., all outages) and adjusted (i.e., with those outages related to Cyclone Helen removed) basis.

2.14 In Darwin, the average minutes of off-supply per customer due to network problems were 611 minutes. However, after adjusting for the effects of Cyclone Helen, the average minutes of off-supply per customer was 217 minutes, just within the minimum standard of 220 minutes.

2.15 The average number of interruptions per customer in Darwin in 2007-08 was 4.3. After adjusting for the effects of Cyclone Helen, the average was 3.7 interruptions per customer which is within the minimum standard of 4.2.

2.16 However the average duration of each network-related interruption exceeded the minimum standard in 2007-08 for a second year in succession, even after allowing for Cyclone Helen, at an adjusted 59 minutes versus a minimum standard of 52 minutes. (The unadjusted average duration per customer was 142 minutes).



2.17 Performance in Katherine was also affected by Cyclone Helen, although only the minimum standard for the average interruption duration was exceeded (47 minutes against a minimum standard of 42 minutes).

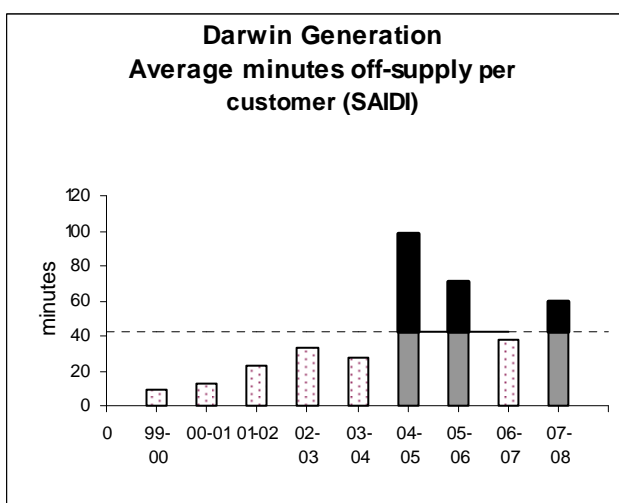
2.18 In Tennant Creek, Power and Water met all the minimum standards for network reliability.

2.19 In Alice Springs, the average minutes of off-supply of 90 minutes was within the minimum standard of 108 minutes, and the number of interruptions per customer of 1.9 was within the minimum standard of 2.9. However, the average duration for each interruption in Alice Springs of 47.0 minutes exceeded the minimum standard of 37.2 minutes.

Generation

2.20 Generation reliability in Darwin and Katherine exceeded the minimum standards across a number of performance indicators in 2007-08.

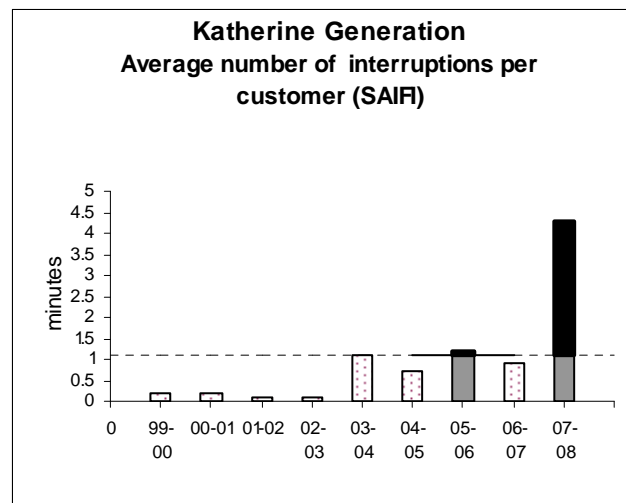
2.21 In Darwin, the average minutes of off-supply per customer due to generation problems was 59.8 minutes (exceeding the minimum standard of 42.7 minutes) and the average duration for each interruption was 17.7 minutes (exceeding the minimum standard of 10.9 minutes).



2.22 Power and Water provided details of a number of events that contributed to the poor performance: an outage due to fire protection testing in the second quarter, a recurring problem with Channel Island set 7 tripping in the third quarter, and outages as a result of commissioning activities associated with Weddell Power Station in the fourth quarter.

2.23 As Katherine is interconnected with the Darwin network via the Darwin-Katherine Transmission Line (DKTL), the Katherine region was also affected by these outages.

2.24 In Katherine, the average minutes of off-supply per customer due to generation problems were 93.4 minutes (exceeding the minimum standard of 25.7 minutes) and the average number of interruptions per customer was 4.3 (exceeding the minimum standard of 1.1).



2.25 In Alice Springs and Tennant Creek, Power and Water met all the minimum standards for generation reliability.

Poorly performing segments

2.26 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.

2.27 Even if a large proportion of customers are satisfied with their current level of service, there is still a role to be played by focusing on the worst served consumers to identify areas with exceptionally poor reliability (which are the areas that affected customers may be critically concerned about).

2.28 Accordingly, the Code requires that Power and Water also report on the standards being achieved for poorly-performing feeders.

2.29 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.

2.30 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.

2.31 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 will 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.

Feeder performance

2.32 For the interconnected networks in the Darwin Urban area and Alice Springs, Power and Water met the minimum standards for feeder performance.

2.33 For the radial networks in the Darwin Rural area, Katherine and Tennant Creek, Power and Water also met the minimum standards for feeder performance, with the single exception that 10 feeders in the Darwin Rural area experienced more than 2,500 minutes of interruption during 2007-08. This just breaches the minimum standard of 9 feeders.

2.34 Full details of actual performance figures are set out in Power and Water's report to the Commission, available on the Commission's website.

2.35 Power and Water's reporting regarding poorly performing feeders only began in earnest in 2006-07. Reporting of which feeders were poorly performing in 2005-06 was incomplete and not available at all for earlier years (with Power and Water only being required to provide historic data on a 'best endeavours' basis).

2.36 Data provided for 2006-07 and 2007-08 indicate that some feeders have been reported as poorly performing in both years. In some instances, Power and Water has advised of specific initiatives to improve the performance of a feeder (for example, undergrounding in Millner). In addition, Power and Water advised of feeder reliability initiatives as part of its feeder upgrade program, including more active monitoring of feeder performance with additional staffing resources.

2.37 Power and Water Networks has advised the Commission that some feeders do not perform as well as others each year because they are in areas that are prone to outages or they are a long feeder; that is, a reflection of the nature and scale of network' assets, rather than being indicative of underlying operational problems.

Quality of supply

2.38 Quality of supply refers to the electrical specification of supply, and involves measures such as voltage levels, frequency, and harmonic content.

2.39 The Code requires that the key indicator of quality to be used is the number of complaints received in relation to voltage events such as voltage dips, swells, spikes etc.

2.40 Power and Water reported on this measure for the first time in the 2006-07 financial year, with the number of complaints relating to voltage events being 1,029 for that year. The number of complaints relating to voltage events for 2008-07 was 1,117.

2.41 Historic comparisons cannot be made as Power and Water has not previously had systems in place to collect detailed voltage complaint data and accordingly, no minimum standard has been set for this performance measure. However, Power and Water has also provided a breakdown by region for the first time in 2007-08, which will allow comparisons and further development of this performance indicator in future years.

Customer service

2.42 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.

2.43 The Code requires that the key indicators of customer service to be used are:

- the percentage of new connections not provided within the required time limit;
- the number and percentage of telephone calls responded to within 20 seconds from when the customer selects to speak to a human operator; and
- the number of customer complaints.

2.44 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).

2.45 Power and Water met the required minimum standard for connections to existing properties and for connections requiring system augmentation.

2.46 However, Power and Water failed to meet the minimum standard for connections to new subdivisions, with 16% of connections not being made within the prescribed period of 5 days (against a minimum standard of 10%). Power and Water reports that this was due to a sustained increase in the number of connections requested and a shortage of contractor availability.

2.47 Power and Water did not meet the minimum standard for the time taken to respond to customer telephone calls, with only 58% of calls being responded to within 20 seconds from when the customer selects to speak to a human operator (against a minimum standard of 63%). Power and Water reported that this was due to a high staff turnover during the year.

2.48 Power and Water also met the minimum standard for the number of customer complaints, although the number of complaints was up slightly from 1,917 in 2006-07 to 2,332 in 2007-08 (against a minimum standard of 5,146).