power to you

HORIZON POWER

Electricity Industry (Network Quality & Reliability of Supply) Code 2005

Audit Report

20 August 2007

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1 Executive Summary

LogicaCMG has been appointed by Horizon Power to conduct an audit of the July 2006 to June 2007 performance report in accordance with Division 3 Part 26(2) of the Electricity Industry (Network Quality and Reliability of Supply) Code 2005 ("the Code"). The audit provides an independent assessment on the operation of systems and processes that are in place for monitoring compliance with the quality and reliability standards defined in the Code. Our audit has been conducted to provide reasonable assurance whether the regulatory report is free of material misstatement.

LogicaCMG have adopted the following approach in conducting the audit:

- Reviewed the report published by Horizon Power in order to analyse the reported results.
- Reviewed the adequacy of systems and procedures to assess whether adequate quality controls are in place.
- Interview key personnel to assess the use of systems.

In summary, LogicaCMG found that

- Overall, Horizon Power complies with the requirements of the Code.
- A minor issue has been found in the new procedure implemented for collection of power quality breaches. The procedure relies on manual data entry into systems. Horizon Power has provided informal training for field personnel on data collection and has identified the need for documenting the procedure.

LogicaCMG recommends Horizon Power develop formal documentation of the procedure and implement an internal quality control process to check the process is being followed and to identify whether there are any ongoing improvements.

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2 Introduction

In accordance with Division 3 Part 26(2) of the Code, Horizon Power has reported on the isolated networks outside the South West Interconnected Network. This area of jurisdiction is pictured in the map below.

2.1 Audit Objectives

The objectives of the audit are to review the Network Quality and Reliability of Supply Annual Report for 2006/2007 in order to:

- Assess whether it documents a true indication of quality and reliability performance of regional networks;
- Assess the adequacy of systems; and
- Assess the processes for using those systems.

The audit has been conducted in accordance with LogicaCMG's Audit Procedures.

2.2 Response to Recommendations of 2006 Audit

Horizon Power has implemented a new system and procedure to address the ability to record data pertaining to a breach in voltage fluctuation and harmonics. Continuous monitoring equipment has been implemented at the bus bar to identify voltage fluctuations or the presence of harmonics. Data is reported and reviewed as part of ongoing operational tasks.

In the event of a power quality complaint, a customer may notify Horizon Power resulting in an investigation into the event. Horizon Power field crew(s) will inspect and advise of the nature of the complaint. Equipment is installed at the customer connection point to monitor whether the issue is voltage or harmonics related. Data is captured and entered into systems to record the results.

The existing procedures have been improved to ensure that breaches are accurately and comprehensively captured and reported as planned.

3 Assessment

LogicaCMG have assessed compliance using the ratings listed below. A rating has been allocated based on the degree of compliance for each of the requirements. Unless otherwise indicated, the rating applied indicates compliance has been achieved with a high level of confidence.

Ratings are as follows:

Rating	Description
L	Compliant - no further action required.
M	Compliant - revision of some systems and processes required to improve strength of internal controls.
H	Non Compliant - does not meet minimum requirements, action required.
E	Non Compliant - significant deficiencies identified, immediate action required.

3.1 Analysis and Record Checks

Refer to the sections below for details regarding each requirement of the annual report and an assessed compliance rating of the specifications set out in Schedule 1 of the Code.

It is noted that owing to the limitation of the Horizon SCADA telemetry, the report data is calculated using customer numbers assigned against an electricity distribution feeder where available.

3.1.1 Breaches of the code

This requirement relates to a failure of the transmitter or distributor to comply with the quality standards set for voltage fluctuations and harmonics in the Code. The obligation is to observe the standards and record the:

a) Total number of breaches of each provision.

b) Remedial action taken in each case.

Audit matter	Procedure/Process/System	Observation
Applicable procedure (s)	New procedure.	New procedures have been put in place. Formal documentation to follow.
Record checks	Cross reference data checks with reporting to Energy Safety – quarterly report	Initial year of data capture. Data to continuously monitor is captured at the substation busbar. Data to monitor specific problems is installed on the network at a connection point.
Compliance rating	M	Ongoing improvement to include quality controls at the point of data capture. See assessment summary.

3.1.2 Significant interruptions to small use customers

This requirement relates to the number (and duration for item *a.*) of premises of small use customers where the supply of electricity has been interrupted for:

a) More than 12 hours continuously; or

b) More than the permitted number of times (16).

Audit matter	Procedure/Process/System	Observation
Applicable procedure (s)	Minimum Service Levels for Outage Frequency and Duration	In accordance with procedure
Record checks	Data checked for number of interruptions greater than 12 hours.	Data variation against historical figures has been verified with the reported results.
Compliance rating	L	

3.1.3 Customer Complaints

This requirement relates to the:

a) Total number of complaints received.

b) Number of complaints received for each of the discrete areas

c) Total cost of addressing complaints.

Audit matter	Procedure/Process/System	Observation
Applicable procedure (s)	Monitoring Record Keeping and Investigations and Complaints (Power Quality) Complaints Handling and Annual Customer Notifications	In accordance with procedure In accordance with procedure
Record checks	Data for 2006/07 checked.	Data verified with the reported results. Historical data unavailable for additional isolated systems now within Horizon Power jurisdiction.
Compliance rating	L	

3.1.4 Payments made to customers for failure to meet certain standards

This requirement relates to the:

a) Number and total payments made to customers for failure to give required notice of planned interruption

b) Number and total payments to customers for supply interruptions exceeding 12 hours.

Audit matter	Procedure/Process/System	Observation
Applicable procedure (s)	Payments to customers for failure to meet standards, planned interruptions	In accordance with procedure
Record checks	Data checked where available.	Data verified with the reported results. Historical data unavailable for additional isolated systems now within Horizon Power jurisdiction.
Compliance rating	L	

3.1.5 Length, average number, average percent of time of interruption of supply

This requirement relates to the:

a) Average length of interruption of supply to customer premises expressed in minutes.

b) Average number of interruptions of supply to customer premises.

c) Average percentage of time that electricity has been supplied to customers premises.

d) Average total length of all interruptions of supply to customer premises expressed in minutes.

Also the provision of an estimate of the 25th, 50th, 75th, 90th, 95th, 98th, 100th percentile values and graphs of these estimates for the:

a) Average length of interruptions.

b) Number of interruptions.

c) Total length of interruptions.

Audit matter	Procedure/Process/System	Observation
Applicable procedure (s)	SAIDI, SAIFI, CAIDI and SAF Reporting	In accordance with procedure.
Record checks	Sample data inspected.	Data variation against historical figures has been verified with the reported results. An adjustment has been made to calculation of average to account for additional isolated systems being included for part of the reporting period.
Compliance rating	L	

3.2 Assessment summary

The following general observations have been made:

- The data generated and report compilation was carried out in accordance with procedures that include adequate quality controls.
- The annual report contains data that accurately reflects the data from source systems that record the quality and reliability performance of regional networks.
- The report was published within the required timeframe.
- The report was published on the Horizon Power website. Physical copies have been placed at all Horizon Power offices that are accessible to the public.
- Personnel responsible have a good understanding of the procedures and the use of systems.

One area of improvement has been identified. This relates to the data collection procedure for recording a breach in voltage fluctuation and harmonics. In, the event of a power quality complaint, a customer may notify Horizon Power resulting in an investigation into the event. In order to assess whether Horizon Power is in breach of the requirement, monitoring equipment is installed. Data is then collected manually and entered into systems. Horizon Power has identified the need to formally document the work procedures for this task. LogicaCMG recommends that Horizon Power:

- Implements an internal quality control process to ensure data capture continues to be adequate and appropriate.
- Implements a communication and training event to educate field based personnel on the work procedure changes.