Stantons International

ABN 41 103 088 697

WESTERN POWER

Review of Network Quality and Reliability of Supply Performance Reporting

September 2010

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Inherent Limitations

Because of the inherent limitations of any internal control structure it is possible that fraud, error, or non-compliance with laws and regulations may occur and not be detected.

An Audit or review is not designed to detect all weaknesses in control procedures as it is not performed continuously throughout the period and the tests performed are on a sample basis.

Any projection of the evaluation of control procedures to future periods is subject to the risk that the procedures may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate

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1.0 MANAGEMENT SUMMARY

1.1 OVERVIEW

Audit Scope:	▪ For each specific application, review that there are policies or guidelines, documented processes and procedures and that adequate resources have been allocated to ensure that Western Power has adequate monitoring to ensure it can ascertain whether it is complying with the requirements of "Part 2 – Quality and reliability standards" of the Code ▪ In relation to "Part 2 – Quality and reliability standards", ascertain whether there is adequate data collection and monitoring to ensure Western Power is able to report on its status in relation to "Division 1 – Quality Standards", "Division 2 – Standards for the interruption of supply to individual customers" and "Division 3 – Standards for the duration of interruption of supply in particular areas" ▪ Map information flows from the operation of systems and ascertain whether there is a rigorous process to validate data across these systems that directly contribute to the information that is provided in the report.
Scope Exclusions:	▪ An assessment whether the steps taken by Western Power are reasonably practicable in relation to minimising the occurrence and duration of interruptions ▪ Validating the accuracy of data provided to generate the report ▪ Assessing the reliability and integrity of data within all applications that are used in system operations for monitoring and directly contribute to the report ▪ Reviewing the IT control environment in relation to all applications that are used in system operations ▪ Confirming the validity and accuracy of reliability statistics ▪ Confirming the accuracy of interfaces or any data manipulation or translation processes.
Audit Objectives:	▪ Perform a high level review of the processes that result in the generation of Western Power's report in accordance with the requirements of "Division 3 Performance Reporting" of the "Electricity Industry (Network Quality and Reliability of Supply) Code 2005" ("the Code") ▪ Report on the operation of systems that directly contribute to the information published in the report as required by "Schedule 1 – Information to be published" as contained in the Code ▪ Assess whether Western Power has adequate policies or guidelines, processes, procedures and resources to ensure compliance with the requirements of "Part 2 – Quality and reliability standards" but not make any assessment of reasonableness in relation to Clause 9 of the Code that "a transmitter or distributor must, so far as is reasonably practical, ensure that the supply of electricity to a customer is maintained and the occurrence and duration of interruption is kept to a minimum".

Quality of Management Control:	☐	Excellent	**Overall Risk Exposure** (considering controls in place)	Low	☑
	☑	Very Good		Medium	☐
	☐	Satisfactory		High	☐
	☐	Needs Improvement			
	☐	Unsatisfactory			

Key Comments: Refer to Summary of Observations

Trends in Quality of Management Controls ☐ N/A ☐ Better ☑ Unchanged ☐ Worse

Key Factors ▪ No material changes noted throughout the period

DOCUMENT RELEASE INFORMATION

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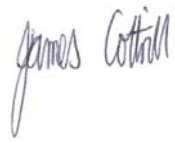

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Dated 20 September 2010

1.2 SUMMARY OF OBSERVATIONS

In accordance with the requirements of the Electricity Industry (Network Quality and Reliability of Supply) Code 2005 (**the Code**) Stantons International were engaged to provide an independent audit and to report on the operation of the systems at Western Power in place for monitoring compliance with the reporting obligations under the Code.

The approach used in relation to the review was as follows:

- ➔ Obtain documentation to gain an understanding of background information for network quality and reliability of supply
- ➔ Conduct entry meetings with key areas of the organisation involved in the generation of reporting against the Code
- ➔ Identify and review key changes in relation to systems, processes and staff since the previous review undertaken
- ➔ Review changes and impacts in relation to relevant Acts / Regulations / Codes
- ➔ For each application in relation to system operations that directly contribute to the report, review that there are adequate policies, guidelines, procedures and resources to satisfy the monitoring and reporting requirements of the Code
- ➔ Through interviews with key staff members, review of documentation and determine if there are any potential areas of concern in relation to compliance with the monitoring and reporting requirements of the Code
- ➔ Report on outcomes of review.

There are a number of software applications and tools that are used in the Code reporting process including:

Software Application	Description
Trouble Call System (TCS)	TCS is the replacement system for the TCMS (Trouble Call Management System). The TCS includes both an automated SCADA (Supervisory Control and Data Acquisition) system and customer complaint initiated processes for recording of fault data of Western Power's network.
Data Warehouse	Organisational data is collected and stored in a single repository for reporting, the relevant data sources include: TCS, TCMS and RDV (historical).
Reliability Data Valuator (RDV)	RDV is a reporting tool for reliability analysis and reporting, TCS data is extracted from the data warehouse or directly from TCS for the purposes of reporting.
Distribution Quotation Management System (DQM)	Data is collected through workflows from TCS to DQM in relation to power quality complaints and is used for monthly and annual reporting of power quality.
Electronic Design and Manufacturing International Devices (EDMI's)	Devices which have been statically implemented within the network for the purposes of monitoring and reporting on power quality.
Extended Outage Payment System (EOPS)	▪ Data collected by either manually completed or electronically completed EOPS claim forms by customers who have experienced an outage of 12 hours or greater.

Software Application	Description
	▪ Data is only inclusive of those payments where Western Power was able to validate the claim.
Customer Reimbursement (Cus Rems)	Data collected through completion of a manual customer reimbursement form submitted to Western Power.
Microsoft Access and Excel Spreadsheets	Data collected from TCS / RDV / DQM, reporting database is used for monthly and annual reporting processes using both Microsoft Access and spreadsheets in Excel.

The following is an overview of the applications and processes which are used in the reporting process:

1.2.1 TCS

This is the central system that maintains the network fault database from which most of the statistics for the Network Quality and Reliability of Supply reporting process is referenced.

The TCS includes both an automated SCADA (Supervisory Control and Data Acquisition) system and customer initiated data in relation to fault records.

1.2.2 RDV

The role of RDV has changed from a tool to enhance reliability of fault information within TCMS to a reporting tool in relation to network reliability. RDV is used for monthly reporting in relation to reliability compliance and for annual regulatory reporting. RDV for the purposes of reporting is currently based on production TCS data and scripts are run to obtain data for the reporting processes.

RDV generates reports and exports a sub set of the TCS data maintained within the Data Warehouse (detailed below) to a Microsoft Excel spreadsheet which is used to identify potential areas where fault information may require changes to enhance accuracy. This is then directly updated within TCS.

1.2.3 DATA WAREHOUSE

There is increased reliance on the TCS data maintained within the Data Warehouse since the previous review. Monthly internal reporting processes and annual regulatory reporting are based on data from the Data Warehouse. Of note, key interfaces into the system such as those from TCS have been further automated and increased rigor to maintain data integrity.

The Data Warehouse currently maintains the following datasets for monitoring historical data and provides reporting of compliance against the Code:

- *TCS Production Data*
  - A full set of production TCS data
- *TCMS Historical Data*
  - A full set of TCMS Historical Data as at the go-live date for TCS
- *RDV Historical Data*
  - Record of changes from when RDV was used actively to update TCMS Production data.

1.2.4 DQM

DQM is a job tracking and job estimation tool in relation to power quality. Only a minor part of the application is directly involved in the reporting process.

When a customer contacts the Western Power Call Centre with a power quality related fault or complaint and is identified as a power quality fault complaint within TCS, the record is forwarded through work flow to the DQM system. It is then reviewed within DQM and fault crews are dispatched based on the information passed through from TCS or the complaint may be referred to another area of Western Power for further analysis.

Direct communications with fault crews is undertaken through mobile devices which allow immediate update of the complaint record with fault information and comments per the on-site physical inspection and repairs.

Supporting DQM are logger devices that can be installed at customer premises upon a power quality investigation being undertaken in response to a customer complaint. The loggers are used to obtain power quality data within the network which is used in the investigation process. Since the previous review use of the loggers for regulatory reporting processes has ceased and full reliance placed on the EDMI devices which are considered to improve the quality of data reported by Western Power.

1.2.5 EDMI Devices

EDMI devices have been further increased within Western Power's network with an additional 28 devices deployed during the 09/10 financial year to a total of 84. At the time of the report, an additional 18 devices had been commissioned but did not contain sufficient data to be included in statistics.

Due to the fixed nature and low number of EDMI devices they are not used for proactive monitoring of Western Power's network and statistics are compiled for regulatory reporting purposes only.

There is no linkage between the EDMI devices and either TCS or DQM to raise a fault in the event of non compliant power quality conditions occurring in the network. This must be reviewed manually to determine non compliance.

1.2.6 EOPS

EOPS is a Lotus Notes integrated application developed to facilitate a payment of $80 to customers affected by an outage greater than 12 hours. Customers may apply for this payment either by mail or via the Internet; this is then either electronically processed (Internet) or manually entered (mail). EOPS is primarily a complaint driven process.

Once a claim is entered into EOPS the software application automatically performs a direct comparison of the details submitted by a customer's claim two weeks after submission against TCS outage information as per the Data Warehouse. This period gives adequate time for the interface between TCS and the Data warehouse to synchronise and give an accurate reflection of outages for the period of the claim.

There is capacity for a customer to initiate further review of the claim if payment is not awarded. Standard processes exist to ensure that issues are addressed in a formalised and consistent manner.

1.2.7 CUS REMS

Cus Rems is a validation and tracking mechanism for payments of $50 in relation to failure by Western Power to give adequate notice of planned outages. Upon Western Power performing an investigation and the customer is considered eligible the payment is recorded within the register. Cus Rems is maintained within a Microsoft Excel based register.

Like EOPS this is a customer complaint or enquiry initiated process; the customer must go through the complaint process to be notified of the eligibility of payment under this scheme.

1.2.8 MICROSOFT ACCESS / SPREADSHEETS

Microsoft Excel based spreadsheets are used in conjunction with the various systems to enhance the presentation of information for internal and external reporting processes which is not feasible through the individual output of the various systems.

Review of the spreadsheets used in generation of reporting identified that this process remains standardised and is very closely aligned with the internal quality and reliability of supply reporting processes.

1.3 CONCLUSION

Each of the objectives is detailed below with conclusions made by Stantons International in relation to the levels of compliance with the Code.

High level review of processes that result in the generation of Western Power's Report in accordance with the requirements of "Division 3 - Performance Reporting" of the Code

Section 26 of the Code requires processes to be in place for monitoring of the systems of the organisation.

Since the previous review there has been enhanced usage of key system data maintained in the Data Warehouse for monitoring and reporting of Western Power's performance against the Code.

There has been enhanced compliance education within the key areas by the Manager Risk & Compliance who is progressively interacting with the business to enhance awareness of the compliance functions across the organisation. There is enhanced internal reporting in relation to compliance which also includes breaches.

Review of the reporting processes in relation to Section 27 of the Code outlined that appropriate distribution channels are available within the organisation to satisfy the applicable requirements:

- *Report Availability*
  - Mechanisms have been maintained to ensure that copies of the report are available to the public in places where Western Power conducts business. Additionally a copy is available on Western Power's website and, if requested, can also be mailed out. Enhanced access to reports online via the Western Power website exists.

- *Reporting Date*
  - The previous report was published on 30 September 2009, which was within the required timeframe of 1 October. Additionally processes are maintained and provide reasonable assurance that the reporting deadline is met for the Code.

In conclusion, Western Power is compliant with Division 3 – Performance Report of the Code.

Operation of systems that directly contribute to the information published in the report as required by "Schedule 1 – Information to be Published" as contained in the Code

Schedule 1 of the Code states the publication requirements of Western Power in relation to Network Quality and Reliability of Supply reporting.

In conclusion, review of processes within Western Power and the information published in the report demonstrates compliance with Schedule 1 of the Code.

Adequacy of policies, processes, procedures and resources to ensure compliance with "Part 2 – Quality and Reliability Standards" excluding Clause 9 of the Code

The power quality recording processes since the previous review have progressed through a total of 84 fixed EDMI devices implemented across the Western Power network. Reliance remains on the loggers which are customer complaint driven in relation to monitoring of power quality.

It is considered that processes in place within the Power Quality division of Western Power are appropriate mechanisms for the recording of voltage fluctuations and harmonics resulting from customer complaints and annual analysis within the network.

The review reinforced that the duty to disconnect, which is the responsibility of the individual service team, is based on the ongoing strong 'safety' message being conveyed throughout Western Power to ensure safety of customers and personnel.

In conclusion, Western Power is compliant with Part 2 – Quality and Reliability Standards, with no opinion given in relation to Clause 9.

Western Power's compliance with the Code obligations

This is the fifth year that Western Power is required to report under the Code and improvements have been made in relation to compliance management, ongoing reporting, power quality measurement and data management.

Appropriate processes are established to ensure that reporting against the Code includes complete, reliable and relevant information before distribution.

Based on the scope of the review Stantons International concludes that the processes within Western Power for the generation of the annual Network Quality and Reliability of Supply Performance Report for the Financial Year Ending June 2010 satisfies the obligations of the Code in relation to Part 2 – Quality and Reliability Standards of the Code, Division 3 – Performance Reporting, and Schedule 1 – Information to be Published.