Stantons International

ABN 41 103 088 697

WESTERN POWER

Review of Network Quality and Reliability of Supply Performance Reporting

September 2007

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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 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 involved in the production of statistical information for the reporting requirements of the "Division 3 Performance Reporting" of the "Electricity Industry (Network Quality and Reliability of Supply) Code 2005" ("the code") 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 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 of 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 ▪ Review of the IT control environment in relation to all applications that are used in system operations ▪ Confirmation of the validity and accuracy of reliability statistics ▪ Confirmation of 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 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 will 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
- Implementation of previous review recommendations.

DOCUMENT RELEASE INFORMATION

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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 Network Performance and Network Operations
- Review of 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 various interviews, review of documentation and analysis identify any issues in relation to compliance with the monitoring and reporting requirements of the code
- Report on outcomes of review.

There are a number of applications and processes that are used in the reporting process which were involved in the review process including TCMS (Trouble Call Management System), RDV (Reliability Data Validator), DQM (Distribution Quotation Management System), EOPS (Extended Outage Payment Scheme), Cus Rems (Customer Reimbursements), various spreadsheets and Microsoft Access/TOAD (Oracle Database Tool). The following is an overview of the applications and processes which are used in the reporting process:

1.2.1 TCMS

The TCMS application is driven by a high level SCADA (Supervisory Control and Data Acquisition) system generating automated fault data and a customer driven complaint process. This is the central application driving all statistics for the Network Quality and Reliability of Supply Reporting process.

1.2.2 RDV

RDV is a validation tool that is used exclusively to identify and analyse the data within TCMS. System generated faults can produce faults within the system at a feeder level where the power supply can change status very frequently. TCMS can generate several fault jobs as a result of these faults. As part of an active validation process RDV can identify and allow amalgamation of fault jobs within TCMS that relate to the same event to increase the integrity of the system.

Additionally the same investigative process is undertaken when the EOPS system cannot validate an outage for a customer automatically and is forwarded to RDV2 to be checked manually.

1.2.3 DQM

DQM is a job tracking and job estimation tool. Only a minor part of the application is directly involved in the reporting process. When a customer rings the Call Centre and if Western Power determines the customer's complaint is related to power quality, then it is forwarded to the DQM system. It is then reviewed and either forwarded to crews who are physically dispatched using the information passed through from TCMS or the complaint is referred to another area of Western Power for further analysis.

DQM allows the crews to update the complaint record with comments after physical inspection and repairs.

1.2.4 EOPS

EOPS is a Lotus Notes based system 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.

1.2.5 Cus Rems

Cus Rems is a Lotus Notes based system which provides a validation and tracking mechanism for payments of $20 in relation to failure by Western Power to give adequate notice of planned outages. 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.

1.2.6 Microsoft Access and TOAD

Microsoft Access and TOAD queries were performed to extract data from various systems for the purposes of the reporting process for network quality and reliability of supply performance reporting. This data is then exported to a spreadsheet as part of the reporting process.

1.2.7 Spreadsheets

Microsoft Excel based spreadsheets are used on an ad-hoc basis for the reporting process as a mechanism to bring queries (database searches selecting information based on specific criteria) from various systems into a graphical format for the Report and the performance of calculations to produce relevant information not feasible through the individual output of the various systems.

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. Monitoring mechanisms since the previous reporting period have increased to allow a more proactive approach for power quality management. In conclusion appropriate monitoring mechanisms are in place to satisfy the requirements of the Code.

Review of the Report and the supporting processes in line with section 27 of the Code outlined that appropriate distribution channels are available within the organisation to satisfy the applicable requirements.

- *Report Availability*
  - Mechanisms have now been established to ensure that copies of the report are available to the public in places where Western Power conducts business

- *Reporting Date*
  - Planning processes are now in place to 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. Minor issues in relation to the reporting process identified in the previous review conducted by Stantons International have been addressed and the increased reporting requirements have been adequately incorporated into the Report. A summary of the improvements in relation to Schedule 1 within Western Power are detailed below:

- *Isolated Systems*
  - Based on the review all isolated systems have now been linked to Western Power's SWIS (South West Interconnected System) network and are included in the reporting process

- *Small Use Customer Outage Reporting*
  - There is now an Appendix to the Report which identifies the length of interruptions to customers of greater than 12 hours and the number of customers affected

- *Reporting of Breaches of the Code*
  - There is now appropriate recording of information in relation to breaches of the Code. Western Power has developed appropriate mechanisms within the Power Quality areas to highlight breaches for reporting purposes and established appropriate monitoring mechanisms to the network

- *Published Information*
  - Published information has now been updated to include the mandated thee years preceding the current year for Sections 12 and 13 of Schedule 1 of the Code

- *Terminology*
  - Terminology now contains a 'key' which allows easy cross reference of differing terms between Western Power and the requirements of the Code.

In conclusion review of the information published in the Report demonstrates that information contained in the Report was compliant 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 monitoring processes since the previous review have progressed through the advancement of a proactive monitoring regime within the Western Power network.

Review of the processes in place within the Power Quality division of Western Power outlined that appropriate mechanisms are available to assess voltage fluctuations resulting from customer complaints and harmonics within the network.

The review outlined that the duty to disconnect, which is the responsibility of the individual service team, is based on the 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

As this is the second year that Western Power is required to report under the Code, there is now a greater understanding of the requirements of the Code within Western Power.

Appropriate quality assurance processes are now established to ensure the Report contains complete, reliable and relevant information before distribution.

For the current reporting period all previous audit recommendations have been addressed and mechanisms established within the organisation to ensure compliance with the Code. See "Attachment A - Previous Audit Recommendations Progress Report" for details.

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 2007 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.

ATTACHMENT A
PREVIOUS AUDIT RECOMMENDATIONS PROGRESS REPORT

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REC NO	ISSUE	RISK RANK*	TARGET DATE	RESPONSIBLE OFFICER	ACTION PLAN STATUS	ACTION TAKEN / MANAGEMENT COMMENT
Audit: Audit Summary On The Electricity Industry (Network Quality And Reliability Of Supply) Code 2005 Annual Report				Audit Completion Date: November 2006		
3.1	Quality Assurance Process	M	Next Report	Western Power	Completed	Review was conducted over the formal processes and planning documentation developed since the previous review and appropriate quality assurance processes internally have been established.
3.2	Isolated Systems	M	Next Report	Western Power	Completed	Since the previous reporting process all applicable isolated systems have been connected to the Western Power's network to allow appropriate reporting and data collection.
3.3	Small Use Customer Outage Reporting	M	Next Report	Western Power	Completed	Appropriate information is now contained in the published Report reviewed.
3.4	Reporting of Breaches of the Code	M	Next Report	Western Power	Completed	a) Improved processes within the Power Quality Division such as improved reporting techniques and proactive monitoring mechanisms has increased report capacity to include reporting of breaches within the organisation b) Western Power has deployed a trial based monitoring system for proactive monitoring areas such as harmonics and voltage fluctuations within the network.
3.5	Reporting Date	L	Next Report	Western Power	Completed	Review of internal planning processes outlined that there is clear identification of reporting deadlines and the requirements to ensure compliance with applicable sections of the Code.

Rec No	Issue	Risk Rank*	Target Date	Responsible Officer	Action Plan Status	Action Taken / Management Comment
Audit: Audit Summary On The Electricity Industry (Network Quality And Reliability Of Supply) Code 2005 Annual Report				Audit Completion Date: November 2006		
3.6	Published Information	L	Next Report	Western Power	Completed	Review of the draft report concluded that Information published included the mandated three years preceding the current year for Sections 12 and 13 for Schedule 1 of the Code.
3.7	Report Availability	L	Next Report	Western Power	Completed	Processes have now been established to ensure that copies of the report are available to the public in places where Western Power conducts business. A central contact point which is responsible for the dissemination of the report on an ad-hoc basis has been established in addition to instructional emails for all places where Western Power conducts business with the public.
3.8	Terminology	L	Next Report	Western Power	Completed	The Report includes appropriate definitions and explanations in the form of a 'key' to ensure consistency and 'map' various terminology to that of the Code.

**Previous Risk Ranking Key:*

E	Extreme exposure with corrective action to generally be taken within one month from the conclusion of the audit.
H	High exposure with corrective action to generally be taken within three months from the conclusion of the audit.
M	Medium exposure with correction action to generally be taken within six months from the conclusion of the audit.
L	Low exposure with correction action to generally be taken within one year from the conclusion of the audit.