Western Power Asset Management System Review Report

Report for:	Western Power
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Auditor	Lloyds Register

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1. Executive Summary

Section 14 of the Electricity Act 2004 prescribes it a requirement of every licensee to provide the Economic Regulation Authority ("Authority") with a report by an independent expert acceptable to the Authority as to the effectiveness of the asset management system not less than once in every 24 month period. Pursuant to a notice served by the Authority on Western Power in December 2008, Western Power is required to be audited against the effectiveness of the asset management system 19 months following the previous audit (period 30th March 2006 to 31st March 2008).

This was the second audit conducted on the Western Power asset management system under the requirements detailed in Distribution Licence EDL1 and Transmission Licence ETL2.

1.1 Assessment outcome for ETL2 and EDL1

The audit found that Western Power's asset management system had made considerable progress since the last audit. It noted that the various initiatives undertaken since the previous audit have further aligned their asset management system to PAS55-1 specification for the optimised management of physical assets.

The main improvements noted at this audit are:

- Increased communication and understanding between Customer Services and Service Delivery Divisions.
- Improved management information allowing better control of CAPEX and OPEX.
- Mapping of key processes.
- Introduction of the ProSight works planning process.
- Introduction of bundled pole inspection zones showing significant cost savings and efficiency gains.

Whilst Western Power should be congratulated on these initiatives improvement has not been noted in other areas, specifically the management of risk on the corporate database, CURA. Whilst there was some evidence that this database is being managed, it was evident that not all treatment plans are being regularly updated. Management attention should focus in this area.

In addition, due to the delay in agreeing AA2 allowances, financial predictions have not been able to be confirmed.

During the period of this audit Energy Safety produced the 2008 Distribution Wood Pole Audit which, whilst praising Western Power for the decrease in unassisted wood pole failures, criticised Western Power for not aligning their wood pole inspection requirements to Australian industry best practice standards. In assessing this finding, it is noted that Western Power do not have a process in place for identifying other areas of their business that do not align to industry best practice and a finding has been raised in this area. An assessment has also been completed on Western Power corrective action plan against the findings of the 2008 Distribution Wood Pole Audit.

Evidence provided indicates that Western Power is on target to meet this corrective action plan.

Throughout the audit Western Power staff engaged in open and honest discussion and provided evidence when requested. Overall the asset management system is found to be maturing and improving.

1.2 Areas for Management Attention

26 Findings were raised during the 2008 audit. Significant progress has been made in all but 2 of these findings. During this audit, based on evidence provided, 18 of these findings have been closed out. As stated, progress has been made in closing out a further 6 findings but there was insufficient evidence to totally close out these findings as corrective action plans were underway but not competed. It was noted that Western Power have ensured that the corrective action plans were engineered to ensure that delivery would close out the finding and prevent any future recurrence as well as delivering business benefit rather than a short term 'fix' purely to close the finding. This had meant that implementation of the corrective action plan was, in some cases, in the early stage of delivery.

There was no evidence of any action being taken against 2 findings:

- Update and review of risks on CURA.
- Testing of the evacuation plan for the System Operation Control Centre (SOCC).

In order to avoid confusion, findings that are outstanding or in progress from the 2008 audit are transferred to the 2009 Post Audit Implementation Plan shown in Section 7 of this report. A total of 8 audit findings from 2008 have been transferred to the 2009 Post Audit Implementation Plan.
22 Findings are raised in this audit, including those transferred from the 2008 audit. The key areas for management attention are:

- Management of the CURA risk database
- A formal documented process should be introduced to ensure that all CAPEX and OPEX plans are optimised to ensure any inefficiency is removed. Inputs to the process should include:
    - System Planning (for any capacity schemes)
    - Network Reliability (for any network improvement schemes)
    - Asset Replacement (for any condition based schemes)
    - System Management (for co-ordination of system outages and network access over the period of the plan)
    - Maintenance (for co-ordination of maintenance with projects)
    - Resource Management (for input on resource availability to deliver the plan)
- There is no formal process to capture where maintenance policies and procedures are not aligned with industry best practice

Management attention and improvement in these areas will significantly improve the efficiency of the Western Power asset management system.

Refer to Section 3 and 6 of this report for the summary of findings, recommendations and the post audit action plan covering the audit period

April 2008 to October 2009. The review of actions taken by Western Power in response to the previous audit covering the audit period 30th March 2006 to 31st March 2008 are detailed in Section 4 of this report.

2. Assessment Summary

2.1 Introduction

This audit was commissioned to provide to the licensee, an Asset Management System Review report (for licences EDL1 and ETL2), as required under Section 14 of the Electricity Industry Act 2004, reporting on the effectiveness of the asset management systems for both licences. This is the second audit following an initial audit in June 2008.

This audit covers the period April 2008 to October 2009 and was conducted over 7 days between 2nd – 10th November 2009 by the auditor, Peter Glaholm (68 hours) and supported by Derek Perkins (68 hours) both representing Lloyd's Register Asia, using a total of 136 hours. The previous audit covered the period 30th March 2006 to 31st March 2008 and was conducted between 26th May to 6th June 2008 by the auditor Peter Glaholm representing Lloyd's Register Asia, using a total of 80 hours.

In addition to auditing against the Economic Regulation Authority 12 point effectiveness criteria, (findings shown in Section 3), the auditors also assessed Western Power's progress against the findings from the previous report (details shown in Section 4).

The findings and recommendations from this audit, and any carried over from the previous report, are shown in Section 6. Full details of the evidence examined during this audit and the licensee's representatives interviewed are shown in Appendix 1.

2.2 Scope of Assessment

This audit was conducted on the asset management system applicable to the assets owned and operated by Western Power in relation to distribution licence EDL1 and Transmission Licence ETL2. The audit is focussed on the 12 point effectiveness criteria as detailed in the Authority's Audit Guidelines, Electricity, Gas and Water (Audit Guidelines) and specifically addresses the various requirements within those effectiveness criteria.

Consistent with section 5.3 'Risk based approach to auditing' of the 2006 Audit Guidelines, the risk assessment was undertaken by applying the Authority's preferred risk evaluation model based on the AS4360. In addition, PAS55-1 2008 specification for the optimised management of physical assets was used as a tool to aid in determining the consequence, likelihood and control ratings. The associated audit priority was calculated using the framework mandated by the Authority in Appendix 1 of the Audit Guidelines.

The audit was conducted using the methodology of AS4360, by identifying and assessing existing and new risks as well as following up on the findings from the previous audit conducted in 2008. The auditor has verified where appropriate, where timely and effective corrective action has been taken against those findings. As part of the audit, the auditor has also considered compliance issues identified in the 2008 Distribution Wood Pole Audit Review and the application of good industry practice.

2.3 Limitations of Assessment

Any assessment activity is based upon the use of sampling techniques and, as such, there is always the possibility that issues will remain unidentified during an assessment. Consequently the absence of comment on any area

or system element does not necessarily imply conformance with the relevant requirements.

2.4 Opening Meeting and Overview

An opening meeting was held with all interviewees to explain the audit protocol. Western Power presented an update on its progress with the 26 findings from the previous audit.

2.5 Confidentiality Statement

None of the information gathered by Lloyd's Register Asia, about the organisation, including the contents of reports, will be disclosed to any other party without Western Power's written consent. The Authority will be publishing the final report on its website.

3. ERA Criteria: Assessment Findings

Asset Management Effectiveness Summary

An outline of the key findings against the Authority's twelve point effectiveness criteria, including both transmission and distribution, is presented below: further details are provided in the following sections. Unless specifically stated all findings relate to both the Distribution (EDL1) and Transmission (ETL2) Licences.

Table 3.1 provides a description of the effectiveness ratings used in this report to evaluate Western Power's asset management system.

Table 3.2 and 3.3 were marked up at the conclusion of the 2008 Asset Management System Audit as the initial benchmark of the effectiveness of the Western Power asset management system. Following this audit the tables have been re-evaluated to show where Western Power's asset management system, as measured against the Authority Effectiveness Criteria, has improved, remained the same or deteriorated. The 2008 assessments are shown in black (**X**), the 2009 position is shown in red (**X**) where the position has deteriorated and green (**X**) where the position has improved. If there has been no movement from the 2008 position then black is the current situation.

Tables 3.4 and 3.5 provide the Asset Management Risk Control Summary used for comparison and benchmarking of audit outcomes.

Table 3.1

ASSET MANAGEMENT SYSTEM Effectiveness Ratings		
Effectiveness	Rating	Description
Continuously improving	5	Continuously improving organisation capability and process effectiveness
Quantitatively controlled	4	Measurable performance goals established and monitored
Well-defined	3	Standard processes documented, performed and coordinated
Planned and tracked	2	Performance is planned, supervised, verified and tracked
Performed informally	1	Base practices are performed
Not performed	0	Not performed (indicate if not applicable)

Changes to audit ratings (Applicable to both EDL1 and ETL2):

1) Asset Planning is better structured than witnessed in the 2008 audit. Discussions are now held across the various functions but these are informal at present and need improvement and documenting formally (see Action 09/01). Once this is completed then the auditor would consider the process to be "Quantitatively Controlled".

2) Asset Disposal process has improved significantly since the 2008 audit with more options being considered.

3) The Risk Management process has not improved since 2008 and, in some cases, Western Power has not followed its own documented procedures.

4) Evidence has shown that Western Power is, in some cases, not following its own documented procedures with regard to testing of contingency plans.

5) Since the previous audit Western Power has introduced a project planning tool, Prosight, based on Primavera P6 which has considerably improved the Capital Planning Process.

LICENCE EDL1

Table 3.2

ASSET MANAGEMENT SYSTEM	Not performed	Performed informally	Planned and tracked	Well defined	Quantitatively controlled	Continuously improving
Process Effectiveness rating	0	1	2	3	4	5
Asset planning			X	X		
Asset creation/ acquisition				X		
Asset disposal			X	X		
Environmental analysis				X		
Asset operations			X			
Asset maintenance			X			
Asset Management Information System			X			
Risk management			X	X		
Contingency planning			X	X		
Financial planning					X	
Capital expenditure planning			X	X		
Review of AMS			X			

LICENCE ETL2

Table 3.3

ASSET MANAGEMENT SYSTEM	Not performed	Performed informally	Planned and tracked	Well defined	Quantitatively controlled	Continuously improving
Process Effectiveness rating	0	1	2	3	4	5
Asset planning			X	X		
Asset creation/ acquisition				X		
Asset disposal			X	X		
Environmental analysis				X		
Asset operations				X		
Asset maintenance				X		
Asset Management Information System				X		
Risk management			X	X		
Contingency planning			X	X		
Financial planning					X	
Capital expenditure planning			X	X		
Review of AMS			X			

Asset Management Risk Control Summary

Distribution Licence EDL1

Table 3.4

ASSET MANAGEMENT SYSTEM	Consequence	Likelihood	Inherent risk rating	Adequacy of existing controls	Audit Priority
	Minor Moderate Major	Likely Probable Unlikely	Low Medium High	Strong Moderate Weak	1 - 5
Asset planning	Moderate	Probable	Medium	Moderate	4
Asset creation/ acquisition	Moderate	Unlikely	Medium	Strong	4
Asset disposal	Minor	Unlikely	Low	Strong	5
Environmental analysis	Moderate	Probable	Medium	Moderate	4
Asset operations	Major	Unlikely	High	Strong	2
Asset maintenance	Moderate	Probable	Medium	Moderate	4
Asset Management Information System	Minor	Unlikely	Low	Moderate	5
Risk management	Moderate	Probable	Medium	Weak	3
Contingency planning	Moderate	Probable	Medium	Moderate	4
Financial planning	Moderate	Probable	Medium	Strong	4
Capital expenditure planning	Major	Unlikely	High	Moderate	2

Review of AMS	Minor	Probable	Low	Moderate	5

Transmission Licence ETL2

Table 3.5

ASSET MANAGEMENT SYSTEM	Consequence	Likelihood	Inherent risk rating	Adequacy of existing controls	Audit Priority
	Minor Moderate Major	Likely Probable Unlikely	Low Medium High	Strong Moderate Weak	1 - 5
Asset planning	Moderate	Probable	Medium	Moderate	4
Asset creation/ acquisition	Moderate	Unlikely	Medium	Strong	4
Asset disposal	Minor	Unlikely	Low	Strong	5
Environmental analysis	Moderate	Probable	Medium	Moderate	4
Asset operations	Major	Unlikely	High	Strong	2
Asset maintenance	Major	Unlikely	High	Moderate	2
Asset Management Information System	Minor	Unlikely	Low	Moderate	5
Risk management	Moderate	Probable	Medium	Weak	3
Contingency planning	Major	Unlikely	High	Moderate	2
Financial planning	Moderate	Probable	Medium	Moderate	4
Capital expenditure planning	Major	Unlikely	High	Strong	2
Review of AMS	Minor	Probable	Low	Moderate	5

3.1 Asset Planning

Key Process

Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price). The outcomes listed below relates to both ETL2 and EDL1.

Outcome

Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings for ETL2 and EDL1	Recommendations	Risk Controls
Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	The asset planning process for both Transmission and Distribution considers the input from various stakeholders including the Regulator, the Treasury, the customer and the delivery business (for resource planning). It is evident since the previous audit that the level of communication between divisions and branches has improved significantly. The understanding of roles and responsibilities between Customer Services Division and Service Delivery Division has been better clarified and understood. It is widely recognised by all staff interviewed that the level of communication previously was inadequate. This has lead to inefficiencies in optimisation of projects such that it would be possible for assets to be changed under an asset condition replacement programme one year only to be replaced the following year under a capacity improvement scheme. Improved communication has now made this scenario very less likely. It was noted however that the majority of this communication is undertaken on an informal basis. It was also noted that the System Management division who control access to the	09/01: Western Power should introduce a formal documented process to ensure that all Capex and Opex plans are optimised to ensure any inefficiency is removed. Inputs to the process should include: • System Planning (for any capacity schemes) • Network Reliability (for any network improvement schemes) • Asset Replacement (for any condition based schemes) • System Management (for co-ordination of system outages and network access over the period of the plan) • Maintenance (for co-ordination of maintenance with projects) • Resource Management (for input on resource availability to deliver the plan) Meetings held should be formally documented and minuted	Adequate

Effectiveness criteria	Audit Findings for ETL2 and EDL1	Recommendations	Risk Controls
	network are often only aware of outage requirements for projects/maintenance at very short notice (15 days). It was stated that there is an initiative aimed at aligning maintenance with any network outage for projects. Good industry practice from transmission companies around the world, e.g. National Grid in the UK and the USA, would indicate that this planning process should be far more rigorous and formalised.		
Service levels are defined	Service levels are defined in the corporate strategy and customer charters.	None Identified	Good
Non-asset options (eg demand management) are considered	The evaluation of non-asset options for the Transmission system is in its infancy although Western Power has established a SmartGrid section with a remit to evaluate non asset solutions. For the Distribution system non asset options are considered for applicable projects. Evidence was made available for various non asset schemes including: Demand Side Management Solar panel Short term generation	None Identified	Good
Lifecycle costs of owning and operating assets are assessed	Lifecycle costing based on NPV is assessed in the Business Case process for each project. During the optioneering phase there was no evidence that Western Power considered the overall life cycle costs to determine the most cost effective option.	09/02: Western Power should ensure that, during the optioneering phase of projects, there is consideration given to the overall life cycle costs to ensure that the most cost effective option is selected. This should include a determination of how changing of one asset will impact on the life cycles of associated assets.	Adequate

Effectiveness criteria	Audit Findings for ETL2 and EDL1	Recommendations	Risk Controls
Funding options are evaluated Costs are justified and cost drivers identified	All projects undergo an optioneering process including a 'Do Nothing' scenario. The various options consider various cost drivers, the implications and cost justification. Options and costing are available in the business case proposals. Approved projects are costed into the various cost streams required by the Regulator	None Identified	Good
Likelihood and consequences of asset failure are predicted	The Business Asset Risk Tool, BART, is used to manage the risk of asset failures	None Identified	Adequate
Plans are regularly reviewed and updated	The Transmission Asset Management Plan (TAMP) and the Distribution Asset Management Plan (DAMP) are reviewed informally on an ongoing basis and formally on an annual basis. It was noted that there was a mismatch of average age information between the DAMP and the State of the Network report. For example the State of the Network report states the average age of wood poles is 17 years whereas the DAMP states 32 years for the same asset. It was explained that this was due to the DAMP being the most recent document (August 09) compared to the State of the Network report (Feb 09). The variance in the average age profile was explained in that Western Power have introduced new methodologies to more accurately establish age profiles for their assets. The Capex and Opex plans are reviewed monthly by section managers and quarterly by the Board. It was noted that, since the previous audit, the level of, and the confidence in, reporting performance against targets has increased significantly.	09/03: Western Power should align the production of the State of the Network report with the production of the DAMP such that information is consistent across the two reports. Western Power should also consider including a profile of asset age against mean time to failure rather than a simple average age profile.	Adequate

3.2 Asset Creation and Acquisition

Key Process

Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay.

Outcome

A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	Guidelines exist for the preparation of Business Cases, ensuring a consistent approach to the underpinning methodology. Excel based models are used to calculate lifecycle costings on a NPV basis. All projects have an optioneering phase including a 'Do Nothing' option and non asset solutions are also assessed where appropriate.	None Identified	Good
Evaluations include all life-cycle costs	As stated in 1 above, life cycle costing is currently based on NPV.	None Identified	Adequate
Projects reflect sound engineering and business decisions	Several projects were made available for inspection and found to reflect sound engineering and business decisions.	None Identified	Good

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Commissioning tests are documented and completed	Robust processes are available for commissioning of both Transmission and Distribution projects. Various project documentation was made available as evidence. Whilst commissioning test certificates are usually in paper form, they are also scanned and held on secure servers. Project folders are archived after 12 months using an off site secure data storage service provider. There is a documented process for the retrieval of archived project files with a 24 hour turnaround.	None Identified	Good
Ongoing legal/environmental / safety obligations of the asset owner are assigned and understood	Legal, statutory and regulatory obligations are monitored by the Compliance section using a compliance database. Environmental obligations are monitored by Environmental Land Management Services. Occupational Health and Safety obligations are monitored by the Occupational Health and Safety section. All relevant staff are trained in their obligations in this area.	None Identified	Good

3.3 Asset Disposal

Key Process

Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms.

Outcome

Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Under-utilised and under-performing assets are identified as part of a regular systematic review process	An annual review of substation and overhead line capacity is undertaken generally aimed at forecasting growth in order to allow planning for capacity projects; However any under utilised assets would also be identified. During the period of the audit Western Power stated that no assets were removed purely due to under utilisation. An example was examined where a mine had closed, Black Swan Nickel Mine, leading to under utilised assets. However before removal could take place another operator opened reusing the existing electrical infrastructure. Under performing assets are assessed by the Reliability Section on an ongoing basis and corrective action taken where required.	None Identified	Good
The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	The Planning Section is responsible for examining the utilisation of the network and will investigate both under and over utilised assets, taking corrective action where necessary As stated above, Western Power have not identified any under utilised assets during the audit period.	None Identified	Good

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	The Reliability Section is responsible for investigating any poor performance on the network, included voltage complaints, flicker, repeated trip etc. Where justified projects will be established to rectify the situation. Typical projects available include the 40 worst feeder refurbishment project and the automation project.		
Disposal alternatives are evaluated	Where assets are removed, either under a performance or condition project, various disposal options are considered dependent on the asset. Transformers are evaluated for condition and oil PCB content, and if satisfactory will be returned to stock. If unsatisfactory they will be sold as scrap. Similarly switchgear and other assets, eg VTs and CTs, are assessed and, if required, will be held as spares. This process is controlled. This process is controlled via a Primary Plant Return Form which details the various options and requires sign off by the appropriate Plant Engineer.	None Identified	Adequate
There is a replacement strategy for assets	Replacement strategies are available for all asset types in transmission and distribution. These are detailed in the Transmission Asset Management Plan, TAMP, and the Distribution Asset Management Plan, DAMP. Information on condition of transmission assets is held in the Transmission Investment Planning Database (TIPD) and for distribution assets in the Distribution Asset Management Planning database.	None Identified	Adequate

3.4 Environmental Analysis

Key Process

Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.

Outcome

The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Opportunities and threats in the system environment are assessed	Threats are identified from various sources including capacity forecasting, faults, asset condition and performance assessments, customer complaints, failure in customer service standards etc. Western Power has processes in place to assess each of these areas and take appropriate corrective action. Opportunities to improve the system environment are assessed and action taken where a viable business case is available. Examples of opportunities include the introduction of bundled zone overhead line inspections, 40 worst feeders and network automation.	None Identified	Adequate
Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	SAIDI/SAIFI targets are set under the service standard benchmark in the access arrangement. Furthermore there are "aspirational "targets defined in the Electricity Industry (Network Quality and Reliability of Supply) Code 2005. KPIs are in place and are all showing currently better than these set targets.	None Identified	Good

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	The Trouble Call System (TCS) has replaced the Trouble Call Management System (TCMS) and now higher levels of reporting automation is available thus removing the previous need for manual data manipulation. Reports are sent to relevant staff in Customer Services and Service Delivery divisions. Data validation rules have been set.		
Compliance with statutory and regulatory requirements	This process is unchanged since the previous audit whereby Western Power has developed a legal and regulatory compliance database in conjunction with Mallesons Stephen Jacques. The use and understanding of this database, and individual's responsibilities, has increased since the previous audit due to a programme of awareness training. General managers and relevant branch managers are required to provide compliance assurance certification.	None Identified	Good
Achievement of customer service levels	Reporting on the performance of the network against service level targets is carried out by the Network Reliability (section within Network Performance Branch). Since the previous audit the Trouble Call Management System (TCMS) has been replaced by the Trouble Call System (TCS). The TCS has removed much of the manual input required to produce customer service level reports and therefore is more reliable than that from the TCMS. An independent audit of this process had been conducted by Stantons which concluded that Western	None Identified	Good

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	Power management in this area is 'very good'. Failures in any Customer Service Standards are reported using the Compliance Database. There are currently 32 non compliance reports on this database.		

3.5 Asset Operations

Key Process

Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.

Outcome

Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved. Evidence seen to support the audit findings is shown Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Operational policies and procedures are documented and linked to service levels required	Key policies and procedures are documented and held on the Document management system (DM). Operational procedures have recently been reviewed and are due to be rolled out shortly. The Distribution Control Centre (NOCC) and Transmission Control Centre (SOCC) have detailed procedures to ensure the safety and integrity of the network. These are linked, where appropriate, to defined service levels. Calls to Western Power by customers reporting faults, network problems etc are received by the Customer Service Centre and logged on the TCS. Operational staff will then be allocated to resolve the problem by the Despatch Centre. Customer Service Centre staff have undergone training in order to reduce 'fuzzy calls', that is where the caller is unable to give an exact location of the problem. Monthly metrics show a reduction from over 5% to less than 1% has been achieved.	None Identified	Adequate

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Risk management is applied to prioritise operations tasks	The Despatch of staff to faults is determined by the level of risk, e.g. danger to life, number of customers affected, location of fault etc.	None Identified	Adequate
Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	For distribution assets, key asset data is held between the Distribution Facilities Management System (DFMS), and Distribution Facilities Information System (DFIS). DFIS is a Geographical Information System showing location information for both Transmission and Distribution assets. The transmission database, Transmission Investment Planning Database, downloads its information via the data warehouse from parent databases, Transmission Plant Management System (TPMS),Transmission Lines System (TLS), Transmission Protection Equipment System (TPES)and Transmission Ratings Information System (TRIS) Asset data includes information on asset type, location, components, recent inspections and defects. Remaining life, replacement costs data are held in Distribution and Transmission Asset Management Plan database.	None Identified	Adequate
Operational costs are measured and monitored	Monthly operational expenditure reports are produced and reviewed against budget. It was noted that, since the previous audit, the level of, and the confidence in, reporting operation cost performance against targets has increased significantly.	None Identified	Good

Staff receive training commensurate with their responsibilities	Western Power has an in house training provider, PTS, based at Jandakot. All operational and maintenance staff are required to achieve Cert 3 qualification. This applies to both directly employed staff and contractors. PTS have documented procedures for training staff to this level which involves both training school and on the job training. Competency assessments are undertaken to verify that staff are competent to undertake their allocated roles prior to being authorised for work activities. Training and competency assessments are logged onto the PTS training database 'Training Provider'. It is a requirement that certain tasks are assessed annually for competency, e.g. live jointing. It was noted that Training Provider is a reactive database only holding information on when staff have been trained. Staff/Supervisors are relied on to identify that refresher training /competency assessment is due. This introduces a risk that staff could be working on the system without having received the required refresher training or competency assessments. It was noted that system operators, i.e. those carrying out switching operations on the network are also due for reassessment every 2 years. This process is controlled proactively and authorised staff are listed on the ENMAC network control system, such that any staff who has not received the required refresher training/reassessment would not be issued with instructions by control centre staff.	09/04: The 'Training Provider' database is reactive, only monitoring courses held. There is no system monitoring that annual refresher training is due or has been completed on time. Therefore staff that have not completed the annual refresher training could be operating on the network outside of Western Power requirements. Western Power should introduce a proactive training database that identifies when refresher training is due.	Adequate but training database requires improvement

3.6 Asset Maintenance

Key Process

Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.

Outcome

Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Maintenance policies and procedures are documented and linked to service levels required	Maintenance policies and procedures are documented and, since the previous audit, have been reviewed. Maintenance regimes are time based dependent on the type and make of asset. The Distribution Asset Management Plan (DAMP) covers all run to failure and non run to failure asset classes. The DAMP also includes asset life and asset condition analysis. An audit had been conducted by Energy Safety on wood pole maintenance which indicated that Western Power was not undertaking wood pole inspections in line with Australian electricity industry best practice. This was demonstrated by Western Power's performance in unassisted wood pole failures being worst in class and had resulted in Energy Safety issuing an Order to Western Power. In investigating this, the Auditor noted that there is no formal process within Western Power to capture where maintenance policies and procedures are not aligned with industry	09/05: Western Power should introduce a process to capture where maintenance policies and procedures are not aligned with industry best practice.	Adequate

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	best practice.		
Regular inspections are undertaken of asset performance and condition	Inspections and maintenance frequencies are detailed in policies and procedures. These inspections are aimed at providing performance and condition information such that corrective action plans can be established. Sample evidence provided at the audit indicated that inspections are generally completed as per the documented procedures. Actions have been raised (09/06, 09/07) where evidence showed that inspections were not being completed as per policy and procedure.	None Identified	Adequate
Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Maintenance activities for the Distribution and Transmission assets are recorded and work orders created by MIMS Ellipse: an industry standard package that enables maintenance planning and review. Monthly management reports are produced showing progress against targets. A sample of maintenance plans and reports were reviewed. It was noted that no Type C maintenance routines (overhaul maintenance) had been completed on distribution switchgear. Western Power stated that, due to budgetary constraints, the money for this task had been transferred into the corrective maintenance budget. In making this decision the Change Control Process had	09/06: Western Power should ensure that the transfer of funding from preventative maintenance for distribution switchgear, and any other affected assets, to corrective maintenance budgets will not adversely affect the condition and performance of those assets over their life cycles and initiate a program to catch up on deferred maintenance activities when funds become available. 09/07: Western Power should maintain focus on reducing the backlog in pole inspections by agreeing, where possible, increased budgets for any additional inspection requirements.	Adequate

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	been used and a Board Paper prepared (subsequently approved) including a risk assessment. Whilst decisions like this are typical for budget constrained businesses, Western Power will need to ensure that the move from preventative to corrective maintenance is not adversely affecting the performance and condition of the assets on an ongoing basis. Since the previous audit, bundled zone wood pole inspections have been introduced. The management report for the North Country bundle inspections was examined. These inspections resulted in work involving pole replacements, long bay rectification and pole maintenance. All work had been completed to target. It was noted that, due to this work pole replacement costs had reduced from A$5700 per pole to A$5000 per pole, a saving of circa 12%. In addition, QA assessments indicated only 3% non compliant work was identified. At the end of the project a lessons learnt process was followed and this methodology has been rolled out into the Southern and Metro bundles. The output from this programme has been that wood poles and their associated assets will be in a condition to ensure continued performance requirements for the period to the next inspection cycle, currently 4 years without any further major corrective maintenance. Western Power should be congratulated for		

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	this initiative which has shown considerable efficiency and cost savings. Pole inspection backlog identified at the previous audit is now being managed via a specific work programme which includes introduction of the bundled inspection process described above. Management information provided indicated that the backlog is reducing and is scheduled to be completed by the end of the 2011 inspection period. It was however stated that this progress could be affected by any new requirements for inspection following the Energy Safety report on wood pole inspections.		
Failures are analysed and operational/maintenance plans adjusted where necessary	Throughout the audit period, failures in both the Transmission and Distribution systems were analysed by Network Performance and the Reliability Section and, where required, policies amended.	None Identified	Good
Risk management is applied to prioritise maintenance tasks	Risks to the network are being mitigated by the introduction of the bundled pole inspection process. Other initiatives include Bushfire mitigation preparedness, and pole top fire initiatives. All asset classes with defects found on the system are prioritised using a P1, P2 and P3 categorisation to determine speed of corrective action. Works packaging and	None Identified	Adequate

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	the NOCC use a priority matrix plan to prioritise preventative maintenance activities to incorporate high fire risk threats, network integrity and safety issues.. Similarly a risk based methodology has been developed to determine corrective action where long bays have been identified.		
Maintenance costs are measured and monitored	As stated previously operational expenditure costs are monitored and reported monthly	None Identified	Good

3.7 Asset Management Information System

Key Process

An asset management information system is a combination of processes, data and software that support the asset management functions.

Outcome

The asset management information system provides authorised, complete and accurate information for the day-to-date running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Adequate system documentation for users and IT operators	There is a suite of user guides available for users and IT operators which are managed by Data Services and available on DM. The Western Power training school, PTS, provide training to users via various courses.	None Identified	Good
Input controls include appropriate verification and validation of data entered into the system	Various controls exist for data verification and validation. These include an As Built Drawing requirements manual, DFIS and DFMS configurable validation (free text field only for comments), and verification of network connectivity in real time. In addition sample validation checks, currently running at circa 23%, are undertaken by Data Services staff.	None Identified	Good
Logical security access controls appear adequate, such as passwords	Access is controlled by login id and password which is profiled to requirements of the individual role. Access to systems is controlled by the IT section and documented procedures are available.	None Identified	Good
Physical security access controls appear adequate	Access is protected by industry standard controls eg firewalls etc	None Identified	Good

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Data backup procedures appear adequate	Disaster recovery plan available. Data is backed up to two independent off-site storage areas and tested annually	None Identified	Good
Key computations related to licensee performance reporting are materially accurate	During the period of the audit, inaccuracies have occurred due to information, e.g. number of wood poles, being obtained from various sources. It was stated that the Data Management Section will be owning this information in future via a new Data Warehouse to ensure consistent reporting however no evidence available that this is currently the case.	09/08: Western Power should ensure that data used in reporting media is consistent across reports by using information from the Data Warehouse.	Requires Improvement
Management reports appear adequate for the licensee to monitor licence obligations	A sample of the management reports available were reviewed and, as mentioned previously, this area has improved significantly since the previous audit. Western Power procedures require that records are received within 15 days. Recently introduced metrics indicate that only 32% of records are received within this timeframe.	09/09: Recently introduced metrics for data timeliness indicate poor performance (32% within target). Western Power should introduce processes to improve this performance.	Adequate

3.8 Risk Management

Key Process

Risk management involves the identification of risks and their management within an acceptable level of risk

Outcome

An effective risk management framework is applied to manage risks related to the maintenance of service standards. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	Western Power manages risk via a Risk Management Framework which is based on the methodology of ASNZS4360 Risk Management. The risk management policy and framework is available on the Document management system. The CURA risk database system is the corporate risk management database and additionally, asset risks are managed via the Business Asset Ranking Tool, BART. The processes for managing both CURA and BART are documented. Western Power undertakes annual reviews with each Division to capture new risks at the Division and Corporate level. Assessment of risks, both in CURA and BART, is based on an assessment of the consequence of the risk based on Safety, Supply Interruption, Legal, Reputation, Environment and Financial. The probability of the risk occurring is then assessed and based on a combination of consequence and probability, the risk is rated as Extreme, High, Medium or Low.	None Identified	Adequate

Risks are documented in a risk register and treatment plans are actioned and monitored	It was stated that the corporate risk management framework has been applied across all divisions. At the previous audit the following recommendation was raised *'It is recommended that review dates are made available on CURA. This will provide an audit trail that risks are being formally reviewed even if there is no update on actions etc.'* It is disappointing to note that no action has been taken against this recommendation. Western Power stated that a new version of CURA was due for release which would address this finding. There is an audit facility on CURA which was demonstrated however this only indicated where a change had been made to a risk, not that the risk had been reviewed with no changes. The CURA database was examined and it was noted that there appeared to be little control of the requirement for the regular review of risk treatment plans, e.g. one treatment plan, an action required to be completed by July 2008 and showing a comment 'In progress'. Western Power stated that all branches have input to CURA however this was difficult to evidence on examination of the CURA database. It is a requirement that the corporate risks (currently) detailed on CURA plus any others rated Extreme are reported to the Board quarterly. It was noted that the only additional Extreme risks were 4 transferred from the asset risk register, BART. It would be expected that other branches would also have Extreme risks e.g. the risk of	09/10: Western Power should ensure that adequate controls are in place to demonstrate that risk treatment plans in the Corporate Risk Database are regularly reviewed and updated, and that records of this review are available. 09/11: "Western Power should ensure that each division is aware of the requirement to review their risks on a quarterly basis including the update requirements. It is also recommended that each division develop a methodology for the recording and monitoring of divisional risks and associated treatment plans which align with the corporate risk management framework. This review should include consideration of what divisional risks should be included in the corporate risk register and the methodology for doing so. 09/12: Western Power should consider if a more frequent, formal review of asset risks would be appropriate to ensure adequate risk control.	Poor, requires improvement

	flu pandemic is currently high and has the potential to be a significant risk to utility companies. It was demonstrated that the asset risk register is managed more proactively with risks being formally reviewed on an annual basis via risk workshops. Evidence was made available of these reviews. Risks are also reviewed where required throughout the year but this is by exception.		
The probability and consequences of asset failure are regularly assessed	All asset risks are rated initially using the Risk Management Framework (RMF), and entered on BART. Risks assessed as Extreme are also entered onto CURA. As stated previously the RMF is based on AS/NZS 4360 and therefore includes the assessment of probability and consequences Consequence of asset failure is considered as part of the BART methodology and where necessary asset missions updated.	None Identified	Adequate

3.9 Contingency Planning

Key process

Contingency plans document the steps to deal with the unexpected failure of an asset.

Outcome

Contingency plans have been developed and tested to minimise any significant disruptions to service standards. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Western Power have a Crisis Management Plan covering all aspects of the business. A Business Impact Assessment is completed to determine if a contingency plan is required. The business continuity plan for the Customer Services Centre was examined including requirements for the quarterly testing of the plan. Records indicated that the tests had not been completed in accordance with this schedule. The two network control centres also have contingency plans for evacuation to back up control centres in the Head Office building. Evidence provided by the distribution control centre, NOCC, demonstrated that the required tests had been undertaken. No evidence was available that the transmission control centre, SOCC, back up facilities had been similarly tested since the back up control centre had been moved to Head Office although weekly IT checks had been undertaken. It was stated that the procedure was still in draft. The Business Impact Assessment for IT systems was viewed and detailed all IT systems, their criticality to the business and the required return to service timeframes to ensure business	09/13: Western Power should ensure that business continuity plan tests are completed in accordance with procedures. 09/14: The contingency plan for the SOCC detailing evacuation to the back up control centre at Head Office should be formally issued and evidence made available that it is regularly tested. 09/15: The Western Power business continuity plans are focussed on IT systems. Western Power should review their business continuity plans to ensure there is adequate focus on loss of facilities and personnel e.g pandemic plans for the control centres indicating minimum staffing levels to maintain safe operation of the system, total loss of the office facilities at Head Office etc.	Requires improvement

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	continuity. It is noted that most contingency plans are based around the recovery of IT systems and there is little evidence of people based or loss of facilities scenarios. For example the Control Centres did not have any contingency plans for the loss of staff through pandemic detailing minimum number of staff required, actions required etc to maintain safe operation of the system. There was no evidence of a business recovery plan for the total loss of the Head Office building. A Contingency Plan for the failure of critical transformers exists, with mobile 132kV and 66kV rapid response transformers. In addition Western Power has a supply of emergency generators for use in loss of supply situations.		

3.10 Financial Planning

Key Process

The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.

Outcome

A financial plan that is reliable and provides for the long-term financial viability of the services. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
The financial plan states the financial objectives and strategies and actions to achieve the objectives	The process for financial planning is now well established. Following desegregation the reporting process was inadequate but this has now been streamlined using the Mosaic system which automatically produces accurate management information. This process was examined and found to be effective.	None Identified	Good
The financial plan identifies the source of funds for capital expenditure and recurrent costs	The Financial Plan covers both capital and operational expenditure and identifies various sources of funding, although these are limited due to the financing arrangements.	None Identified	Good
The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	The Strategic Development Plan 2009/10 – 2013/14, the Statement of Corporate Intent 2009/10, the Budget Pack 2009/10 -2013/14 and Mid Year Review 2009/10 were all viewed and include, where appropriate operating	None Identified	Good

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	statement and statement of financial position.		
The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	The five year Strategic Development Plan and one year Statement of Corporate Intent are produced in December. 5 year proforma financial statements are done, plus 5 year predictions are detailed in the Asset Management Plan and Network Performance Report. The present Strategic Development Plan 2009/10 to 2013/14 has been based on AA1 level of income until AA2 levels have been agreed with the Regulator therefore can only be considered as predictive rather than firm. Western Power does not produce any financial plan predictions past the 5 year timeline of the Strategic Development Plan.	09/16: Western Power should introduce financial plan predictions past the 5 year timeline of the Strategic Development Plan	Adequate for up to 5 years. Requires Improvement for beyond 5 years
The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	The financial plan is based around inputs form the Capital (CAPEX) and Operational (OPEX) Expenditure Plans and includes administration costs. Assumptions are made including CPI inflation rate, Labour and Wage Costs, Foreign Exchange, Effective Tax Rate.	None Identified	Good
Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	Any variances are reported to the Board on a monthly basis and corrective action, where required was undertaken. Action was taken in accordance with the governance structure of the Program Performance Committee and Works Program Committee. An annual report is provided to the Minister.	None Identified	Good

3.11 Capital Expenditure Planning

Key Process

The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years.

Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates.

Outcome

A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	The capital expenditure process provides a 10 year forecast of expenditure for Board approval. Contributions to the plan are split between Transmission and Distribution assets. The Works Program sets the level of capital expenditure required for existing assets (Asset Management Plan) and network enhancement (Annual Planning Report). Specific projects all require a justified Business Case which takes cognisance of lifecycle costings based on NPV, benefits to be obtained from the capital expenditure, options and proposed actions and responsibilities. The process for compiling the Capital Works Programme is described in the Works Program Manual –issued in July 2007. Since the previous audit Western Power	None Identified	Adequate

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
	have introduced a project planning tool, Prosight, based on Primavera P6. There are two main governance committees which review the Works Program on a monthly basis, the Works Program Committee and the Program Performance Committee.		
The plan provide reasons for capital expenditure and timing of expenditure	The 08/09 Works Program was made available. It appeared to have a sufficient level of detail, including statements regarding the capability to deliver the required resources and historical trends on previous expenditure levels	None Identified	Adequate
The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Input to the Works Program includes the Asset Management Plans for Transmission (Transmission Asset Management Plan) and Distribution (Distribution Asset Management Plan) assets. These are themselves detailed plans regarding Western Power's asset condition and age. Condition information on the distribution assets has improved considerably since the last audit and Weilbull Curves are used to predict end of life rather than just age of asset.	None Identified	Adequate
There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	Monthly management reports are produced detailing the progress against the capex plan. Any variances are highlighted and corrective actions detailed.	None Identified	Good

3.12 Review of AMS

Key Process

The asset management system is regularly reviewed and updated.

Outcome

Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency. Evidence seen to support the audit findings is shown in Appendix 1.

Effectiveness criteria	Audit Findings	Recommendations	Risk Controls
A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	The two asset management plans, Transmission Asset Management Plan and Distribution Asset Management Plan, are formally reviewed and reissued on an annual basis. The information in the asset management plan supporting databases, Transmission Investment Plan Database and Distribution Asset Management Plan is updated on an ongoing basis. The asset management system which had been developed along the framework guidelines of PAS55-1 2004 has been reviewed and updated to align with the 2008 version of PAS55-1.	None Identified	Adequate
Independent reviews (eg internal audit) are performed of the asset management system	Western Power has an internal audit section which undertakes audits on various parts of the asset management system. Western Power stated that the asset management system will be updated as a result of the management actions undertaken as a result of the findings of this review.	None Identified	Adequate

4. Progress on findings from June 2008 Audit

Finding No:	**App Licence**	**Finding:**
1	EDL1 ETL2	There was no definition as to why the top ten risks from each branch were entered into the Corporate Risk Database, CURA. Western Power should consider why the top ten are used instead of, for instance, those rated Extreme, irrespective of the number
Western Power Management Action Stated in 2008 Report: All extreme risks will be entered into risk register		
Western Power Stated Position at 2009 Audit: All relevant corporate risks are entered in the Corporate Risk Register (CURA) regardless of the overall assessment		
Evidence Provided: Examination of CURA database Board Report		
Auditors Opinion: There are 13 corporate risks which are reviewed by the Board on a quarterly basis irrespective of risk rating. In addition any Extreme rated risks from the asset risk register are also reviewed. It was noted that 4 asset risks had been included in the Board report.		
Recommendation: **Finding closed out**		

Finding No:	App Licence	Finding:
2	EDL1 ETL2	It was noted that whilst the corporate Risk Management Framework is documented the Business Asset Ranking Tool process is not. It is recommended that the Business Asset Ranking Tool process is formally documented
Western Power Management Action Stated in 2008 Report: Business Asset Ranking Tool process documentation prepared		
Western Power Stated Position at 2009 Audit: The Asset Risk Management Framework process has been updated to reflect the current procedure. This has been approved by the Branch Manager and has been published in Western Power's document management system		
Evidence Provided: DM 6592701 Business Asset Ranking Tool Process		
Auditors Opinion: The BART process has now been documented and issued		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
3	EDL1 ETL2	It was stated that risk assessment training had been carried out for selected staff within Western Power although this had not been completed as a formal process. It is recommended that to ensure consistency of risk rating that all staff undertaking risk assessments are formally trained and that this training is noted on individual's training records
Western Power Management Action Stated in 2008 Report: A formal training program will be prepared and implemented		
Western Power Stated Position at 2009 Audit: Training is conducted during the Asset Risk workshops and a training log is updated with the name of the staff trained, position, and the date training was last completed. Asset risk workshops are facilitated by staff that have completed corporate risk training. Action 09/17 addresses corporate risk training and the corporate training database.		
Evidence Provided: Risk Assessment Training Spreadsheet		
Auditors Opinion: Staff receiving asset risk assessment training are now logged onto a spreadsheet.		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
4	EDL1 ETL2	For the work programmes for Access Arrangement 2, the IOPT will be used which will ensure that issues on the risk register are directly linked to the Works Programme. This should ensure that projects are only sanctioned when they are directly linked to addressing an issue on the risk register. It is recommended that the implementation of the IOPT is given priority

Western Power Management Action Stated in 2008 Report:
Investment Optimisation Planning Tool went into production June 7th 2008. Access Arrangement 2 program will be prioritised using Investment Optimisation Planning Tool

Western Power Stated Position at 2009 Audit:
Risk assessments completed for all AA2 projects using IOPT project risk assessment methodology enabling prioritisation of work. The asset risk management procedure requires existing/proposed projects to be linked to an issue in the asset risk register

Evidence Provided:
2008/9 Capital Plan

Auditors Opinion:
The IOPT is now used in the production of the Capital Expenditure Plan.

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
5	EDL1 ETL2	It was noted that the Project Optimisation Procedure is still in draft format with no Document Management System reference. This procedure should be finalised, issued and implemented
Western Power Management Action Stated in 2008 Report: Drafts to be finalised, issued, implemented and referenced in Western Power's document management system		
Western Power Stated Position at 2009 Audit: The Asset Risk Management Framework process includes consideration of project optimisation requirements using IOPT methodology. This has been approved by the Branch Manager and has been published in Western Power's document management system.		
Evidence Provided: DM 6592239 Project Optimisation Procedure		
Auditors Opinion: The Project Optimisation Procedure has now been finalised and issued		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
6	EDL1	It is recommended that the methodology for compiling the Distribution Asset Management Plan is amended to take account of asset mean time to failure information and to include accurate asset condition information

Western Power Management Action Stated in 2008 Report:

1) The distribution asset Management Plan will incorporate the mean time to failure work recently completed on a small set of asset types
2) The distribution asset management plan will include accurate asset condition information

Western Power Stated Position at 2009 Audit:

1) Weibull failures curves derived from historic condition information used to estimate the number of assets requiring replacement per annum over the next 10 years for all major distribution asset classes as opposed to the previous age based only approach
2) Inspection processes have been enhanced to improve condition information for substation assets, trial of wood pole testing methods completed aimed at improving identification of unserviceable conditions, asset condition information documented in the state of the network reports and referenced in the distribution asset management plan, improving the accuracy of condition information is ongoing with process improvements leading to a gradual improvement in the quality of condition information in the distribution asset management plan

Evidence Provided:

2009 Distribution Asset Management Plan

Auditors Opinion:

It has been demonstrated that new processes have been introduced, e.g. use of Weibull curves, to ensure that asset mean time to failure information is used in the DAMP.

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
7	EDL1 ETL2	The e-BC process requires the business case to be circulated around the various recipients with e-mails being generated informing the recipient that action was required. There was however no guidelines given on time frames for each recipient to respond and therefore this could lead to delays. It is recommended that the e-BC process is streamlined and that required timeframes for response are documented
Western Power Management Action Stated in 2008 Report: Roll out of the new streamlined electronic business case to be completed. The roll out will include training for initiators and approvers, administrative support to correct blockages, detailed performance standards and recipient time frames		
Western Power Stated Position at 2009 Audit: Streamlined electronic business case rollout completed as part of ProSight works management tool. Guidelines for recipients to respond have been included in the works program manual.		
Evidence Provided: A demonstration of the ProSight work management system was given.		
Auditors Opinion: The ProSight system based on the Primavera P6 gated methodology is currently being rolled out and addresses this finding.		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
8	EDL1 ETL2	The compliance database includes an area for staff to enter in any concerns regarding possible breaches; however this system is fairly new and was little used at present probably due to a lack of knowledge of the system. Briefing sessions have begun and it is recommended that these briefing sessions are accelerated in order to raise awareness of the compliance database within the business. In addition Western Power General and Branch Managers should ensure that their staff is aware of the database and that it is used to report any breaches

Western Power Management Action Stated in 2008 Report:

Compliance briefing sessions to branches that have been assigned significant legislative obligations (SLO) concluded in May 2008. Non-SLO branches will have compliance briefings delivered by the end of June 2009.New staff will be trained on an as needed basis at induction. Current staff will also be trained on an as needed basis. Due date: Jun-10.

Western Power Stated Position at 2009 Audit:

New Western Power staff are introduced to compliance principles at corporate induction sessions. Other staff trained on an as needed basis. Formal education sessions to non-SLO branches will be conducted during the 09/10 period

Evidence Provided:

Training presentation

Auditors Opinion:

Formal compliance education sessions have been completed for the branches with SLO however no evidence was kept of the individuals who attended. Compliance education for other staff is on schedule.

Recommendation:

09/17: Western Power should ensure that compliance education sessions are completed to schedule. Western Power should also ensure that records are kept of all training undertaken, e.g compliance and corporate risk training.

Finding No:	App Licence	Finding:
9	EDL1 ETL2	Systems investigations are logged onto a database and it was noted that whilst timeliness of investigations is tracked and reported via Key Performance Indicator, there is no Key Performance Indicator reporting the progress of the recommendations from the investigations. It is recommended that the progress of recommendations is reported via the Key Performance Indicator process
Western Power Management Action Stated in 2008 Report: A Key Performance Indicator has been developed to measure the progress of incident investigation recommendation and will be reported monthly		
Western Power Stated Position at 2009 Audit: Monthly KPI reporting the progress of the recommendations from investigations implemented. Progress of incident investigations being reported as a branch KPI on a monthly basis		
Evidence Provided: System investigation database		
Auditors Opinion: The system investigation database now includes a tracking mechanism for any recommendations. This was viewed and found appropriate		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
10	EDL1 ETL2	The process for establishing technical specifications was explained, but again due to resource constraints some of these specifications were overdue for review. It is recommended that all standards and specifications are reviewed on a regular basis to ensure that they remain valid

Western Power Management Action Stated in 2008 Report:

1) Work plans already exist for all transmission and distribution plant specifications. A work plan already exists for all distribution standards and one is under development for transmission standards. These plans will identify scheduled development dates. In addition, registers have been developed for both sets of standards, and these already capture scheduled review dates. Funding mechanism and resourcing model for ongoing development of standards established

2) Obtain and allocate sufficient resources to implement the plans referenced in 10(1).

▪

Western Power Stated Position at 2009 Audit:

1) Transmission & distribution standards work plans progressing with primary engineering committing additional resources

2) Resourcing has been identified as a continuing issue. This is being been mitigated through establishment of the technical and standards committee to assist in prioritising based on resource constraints, primary engineering committing additional resources, and standards identified as one of the 6 big rocks with black belt resources dedicated to address this.

Evidence Provided:

Interview and management information

Auditors Opinion:

15 engineers have been tasked (part time) with the review of the 26 Transmission Technical Standards. Resource has also been allocated to the review of Distribution standards. A programme is in place with a timeline to complete the review. Progress is monitored by the Technical and Standards Committee on a monthly basis. An Electricity Safety Case Standards Manager has been appointed.

Recommendation:

09/18: Western Power should ensure that the review of technical standards is completed within the timelines indicated on the programme.

Finding No:	App Licence	Finding:
11	EDL1	It is recommended that Western Power fully review their procurement process for letting of longer term contracts such that better manpower resource planning can be undertaken
Western Power Management Action Stated in 2008 Report: A delivery strategy encompassing all works for the next 4 years will be produced and approved. The implementation of the approved delivery strategy will be progressively implemented. The strategy will include the procurement process for the letting of longer term contracts. The first major contract strategy to be progressively implemented will be for Distribution, which is intended to be in place by March 2009		
Western Power Stated Position at 2009 Audit: Distribution works delivery strategy encompassing all works for the next 4 years has been produced, approved and is currently being implemented. Expressions of Interest have gone to market which has resulted in a short-list for Distribution Partnerships. Work Allocation System developed involving the centralisation of the work allocation into large bundles and uses a stair case unit pricing model to decrease prices as volumes increase		
Evidence Provided: Use of contractors for delivery of Northern Bundled Pole Inspections Distribution Works Delivery Strategy		
Auditors Opinion: Western Power has completed the review of the procurement process. The use of Alliances and partner contractors for the delivery of bundled zone inspections is well established		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
12	EDL1 ETL2	New processes have been introduced recently, e.g. change control process, however, due to the immaturity of these new processes, little evidence was available of their effectiveness and therefore these should be examined at future audits. Western Power should also ensure that, when key processes are modified or updated, a comprehensive briefing programme is undertaken to ensure that all relevant staff are aware of the new process

Western Power Management Action Stated in 2008 Report:
Western Power will adopt the PAS55-1 framework which will require effective deployment of new processes. Information will be shared across all relevant divisions via briefings, Intranet updates etc

Western Power Stated Position at 2009 Audit:
The new processes referred to in this finding have been superseded by ProSight covering the overall management of projects over their lifecycles. This system was recently deployed across the business through a series of training workshops. It is too early to test the effectiveness of the new processes. Further, a corporate wide business management system (Holocentric) is under development across the business and will allow visibility of all key business processes.

Evidence Provided:
DM6427453 Development of BPMS Processes
DM6108578 BPMS Issues and Risk Register
DM6427010 BPMS Project Traffic Light
DM6259466 BPMS Weekly Status Report

Auditors Opinion:
A significant amount of work has been completed by Western Power in documenting key processes. Completion of this project will close this finding. As at 31st August 2009, 881 processes have been identified, 537 (61%) approved, 98 completed but not approved, 139 commenced but not completed, 107 not started.
Project milestones indicate completion over the next 12 months.

Recommendation:

09/19: Western Power should ensure that the mapping of key processes in Holocentric is completed within project timescales.

Finding No:	App Licence	Finding:
13	EDL1 ETL2	It is recommended that all maintenance policies have a review period set (Western Power to determine reasonable timeframes).

Western Power Management Action Stated in 2008 Report:
All maintenance policies will have review periods set

Western Power Stated Position at 2009 Audit:
All transmission maintenance policies now have an agreed review date set with the dates added to the Network Performance branch document register. This ensures the update status of maintenance policies can be monitored and issues escalated to the branch manager Distribution asset maintenance policies are contained within the Asset Missions for each asset type. Review periods have been set in the document register to ensure regular review.

Evidence Provided:

DM1044946 Maintenance Responsibilities
DM1045243 Transmission Line/Cable Maintenance Criteria
DM1045858 Switchgear Maintenance Criteria
DM1045879 Power Transformers Maintenance Criteria
DM1045887 Instrument Transformers Maintenance Criteria
DM1045894 Disconnectors/Earth Switches Maintenance Criteria
DM1045916 Batteries/Battery Chargers Maintenance Criteria
DM1045927 Indoor Switchgear Maintenance Criteria
DM1045940 Surge Arresters Maintenance Criteria
DM1045948 Other Equipment Maintenance Criteria
DM709305 Asset Mission for Distribution Poles
DM 986610 Capacitor Banks
DM532462 Drop Out Fuses
DM5504354 Sectionalisers
DM 339523 Batteries and Battery Banks

Auditors Opinion:
Maintenance policies have been reviewed and review dates set

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
14	EDL1 ETL2	It is evident that there have been problems in the planning and delivery of programs, and it is recognised that significant effort is being put into overcoming these problems. It is therefore recommended that the introduction of these new processes, e.g. the 'Enhance the Planning Process' (Project Playstation) are given priority so that adequate program and resource management can be undertaken
Western Power Management Action Stated in 2008 Report: Project 'Play Station' being deployed as a proof of concept to ensure improved end to end planning and delivery of programs		
Western Power Stated Position at 2009 Audit: The proof of concept was completed. The project was renamed "Enhance Planning and Works Management" EPWM to reflect the new 6 gate work program model which is the high level business process of Project Initiation to Project Benefit Realisation end to end program delivery. The project is now in full production and training of initiators, project managers, approvers, etc completed. Stream 2 of the project has been given approval to allow integration of the new system to corporate Ellipse		
Evidence Provided: ProSight demonstration		
Auditors Opinion: Project Playstation has developed into the ProSight planning process which is being rolled out.		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
15	EDL1	It was noted that, following line inspections, a condition report is available listing defects and that these are then generally repaired. However in completing this work there is no expected extended life for that particular circuit and it may be that it has to be revisited year on year. This is a very reactive methodology and it may be preferable to undertake focussed line refurbishments following the condition assessment. These line refurbishments should be undertaken on a prioritised basis and, on completion, project reviews should be undertaken to measure the overall performance of the system so that any reduction in System Average Interruption Duration Index etc as a result on the work undertaken can be ascertained. It is recommended that Western Power consider either: 1) Continue with reactive condition repairs with a view to extending the overall life of the circuit. The extended lifetime should be defined, or 2) The introduction of focussed prioritised line refurbishments

Western Power Management Action Stated in 2008 Report:

1) Western Power with its recent introduction of a 'Maintenance Zone' inspect and repair methodology when fully implemented will extend the life of maintenance zones. This extended lifetime will also be defined

2) A cost benefit study of proactive prioritised line refurbishment will be undertaken

Western Power Stated Position at 2009 Audit:

1) Studies have looked at the impact of doing major line refurbishments and based on the present financial environment Western Power are not currently in a position to adopt this approach. Western Power will continue with the current maintenance zone methodology but does not propose this will extend the life of the feeder given replacement of individual components (such as crossarms, cable ties, insulators, etc) will not extend the overall life of the circuit

2) A cost benefit assessment process has been developed for proposed distribution line refurbishments.

Evidence Provided:

North Country Bundled Inspection management information

Auditors Opinion:

The introduction of the bundled zone inspection for overhead lines has introduced significant efficiencies into the maintenance process. It is expected that this methodology will ensure that overhead lines will reach their next inspection cycle, currently 4 years without any further major corrective maintenance. Due to this process only being introduced recently no evidence is currently available to confirm this.

Recommendation:

09/20: Western Power should monitor the delivery of the bundled zone overhead inspection regime to ensure that overhead lines reach their next inspection cycle without any further major corrective maintenance.

Finding No:	App Licence	Finding:
16	EDL1 ETL2	It is recommended that Western Power introduce metrics for the measurement and timeliness of rejected as constructed drawings. In addition field staff should be targeted with supplying as constructed drawings in a timely fashion following energisation of the network not from project closedown or any other measurement point.
Western Power Management Action Stated in 2008 Report: 1) A Key Performance Indicator will be developed to measure the total number and timeliness of distribution jobs awaiting more information (on rejected as constructed drawings) 2) Data Management will engage with key staff from Service Delivery to best determine a method to capture the energisation date against distribution construction jobs. The solution is likely to be the development of an energisation event in Distribution Quotation Management (as opposed to the construction complete event which is currently being use in field to office timeliness Key Performance Indicators)		
Western Power Stated Position at 2009 Audit: 1) Two measures are reported against this being: "Total jobs awaiting further information" and Average time to return jobs awaiting further information". This information is reported on a monthly basis as part of a branch KPI. 2) A detailed analysis was conducted on the asset construction and energisation process in consultation with key staff from Service Delivery Operations. It was determined that the construction complete date in the Distribution Quotation Management (DQM) system accurately reflects the energisation date and hence it is an appropriate date to use for the KPI reporting. The asset installation date is recorded in the asset information system (DFIS) from the as-constructed documentation. When an asset is energised it is also recorded in the distribution management system (ENMAC). Cross-check reports are used to confirm that the assets and switch-statuses between ENMAC and DFIS, are consistent.		
Evidence Provided: KPI report for timeliness of data submissions		
Auditors Opinion: KPIs are now available which measure the timeliness of records received and records received requiring further information.		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
17	EDL1 ETL2	It is recommended that review dates are made available on CURA. This will provide an audit trail that risks are being formally reviewed even if there is no update on actions etc

Western Power Management Action Stated in 2008 Report:
A project to implement formal review of risk status in CURA will be completed

Western Power Stated Position at 2009 Audit:
Rigorous governance and review of all risks from branch level through to divisional and corporate levels are conducted on a quarterly basis. Additionally, the next release of CURA containing the facility to track risk review dates and details will be available for use in the first quarter of 2010. This has been discussed and agreed to with the software provider.

Evidence Provided:
Review of CURA database

Auditors Opinion:
Whilst the 13 board level corporate risk and any other risks rated as Extreme are reviewed quarterly, there was no evidence that all other risks are similarly reviewed. As an example a risk on the CURA database was shown to have a treatment plan with one element due in July 2008 and stated as 'In Progress'. CURA does have an audit facility but this will only indicate when a change has been made to a risk and does not indicate whether the risk has been reviewed (even if there is no update).

Recommendation:

09/10: Western Power should ensure that adequate controls are in place to demonstrate that risk treatment plans in the Corporate Risk Database are regularly reviewed and updated, and that records of this review are available.

Finding No:	App Licence	Finding:
18	EDL1 ETL2	It is recommended that Western Power ensure that regular real time tests are carried out in the both the System Operation Control Centre and Network Operation Control Centre back up control centres. This should include actual system control from the back up and verification that communications, e.g. operational phones, are working satisfactorily

Western Power Management Action Stated in 2008 Report:

1) Transmission (System Operation Control Centre) back up control centre being relocated to head office and a regular real time testing program will be carried out including verification of communications

2) Distribution (Network Operation Control Centre) back up control real time testing is conducted and results of the testing will be documented in Western Power's Document Management System

Western Power Stated Position at 2009 Audit:

1) Weekly IT system checks are undertaken for both Back Up Control rooms (NOCC & SOCC)

2) Full scale test, including undertaking controls and checking communications, undertaken in December 2008 and results documented

Evidence Provided:

Report on testing of NOCC back control centre Dec 08, and June O9

Draft procedure for testing of SOCC back up control centre.

Auditors Opinion:

Evidence was made available of regular (6 monthly) testing of the NOCC back up control centre, however the procedure for the regular testing on the SOCC back up control centre was still in draft with no evidence that tests had been undertaken although weekly IT functionality checks had been undertaken.

Recommendation:

09/14: The contingency plan for the SOCC detailing evacuation to the back up control centre at Head Office should be formally issued and evidence made available that it is regularly tested

Finding No:	App Licence	Finding:
19	EDL1 ETL2	It is evident that there is a lack of understanding of key processes within Western Power. This has been evidenced in various areas such as issue of work programs, implementation of new requirement (e.g. bundled pole inspections) etc. Whilst it is recognised that work is ongoing to rectify this in some areas, priority should be given to mapping key processes. This mapping should include roles and responsibilities, inputs and outputs from the various stages of the process, reporting requirements etc." These should include: The development, handover, delivery and reporting of the Capital Expenditure works programme The development, handover, delivery and reporting of the OPEX/CAPEX Expenditure works programme, change control processes and risk management framework processes

Western Power Management Action Stated in 2008 Report:
Detailed process mapping has been undertaken by the Operational Excellence - Enhance the Planning Process Team. In parallel, work is underway to prepare new policy and procedures to close gaps identified during this mapping

Western Power Stated Position at 2009 Audit:
The EBC has been superseded by EPWM, and is fully integrated into Primavera, ProSight and P6. The gate processes and the change control process are fully documented and ProSight includes detailed help files. Sponsors, project managers and approvers have received full training in the use of ProSight. As noted earlier a corporate business management system (Holocentric) is currently under development and will provide visibility of key processes across the business. Further a number of business process improvements are under development across the business using Lean and Six Sigma principles.

Evidence Provided:
DM6427453 Development of BPMS Processes
DM6108578 BPMS Issues and Risk Register
DM6427010 BPMS Project Traffic Light
DM6259466 BPMS Weekly Status Report

Auditors Opinion:
A significant amount of work has been completed by Western Power in documenting key processes. Completion of this project will close this finding. As at 31st August 2009, 881 processes have been identified, 537 (61%) approved, 98 completed but not approved, 139 commenced but not completed, 107 not started.
Project milestones indicate completion over the next 12 months.

Recommendation:

09/19: Western Power should ensure that the mapping of key processes on Holocentric is completed within project timescales.

Finding No:	App Licence	Finding:
20	EDL1 ETL2	Following the recent changes many documents refer to the previous three divisional structures and in some cases the structure prior to desegregation. It is recommended that these documents should be reviewed and updated to the new structure but again this should be done on a prioritised basis with those documents associated with the key processes being reviewed first."

Western Power Management Action Stated in 2008 Report:

1) Produce a list of key asset management related documents from across the business referenced in a document register which includes the priority, area of responsibility and update status of each document
2) Engage with key stakeholders to ascertain timelines for updating of high priority asset management document
3) Complete update of high priority asset management related documentation
4) Finalise Review ensuring all high priority documentation is updated. Due date: **Oct-09**

Western Power Stated Position at 2009 Audit:

1) Produced a list of key asset management related documents referenced in a document register which includes the priority, area of responsibility and update status of each document. Engaged with relevant stakeholders across the business to provide reference to the Corporate document control policy outlining document control requirements.
2) This has been achieved for high priority asset management documents within Network Performance Branch and is considered complete. An action plan has been developed and agreed by stakeholders for high priority asset management documents
3) An agreed action plan has been established for updating key asset management documentation over the 09/10 financial period. A KPI has been established for monitoring and reporting progress against the agreed plan. High priority updates are currently tracking within expected targets
4) An audit of high priority documents will be completed in Early November 2009

Evidence Provided:

Document review spreadsheet

Auditors Opinion:

Evidence was provided that all relevant documents were being reviewed to ensure that the organisation of Western Power is correctly stated. Whilst this programme is still underway the timeframes set for completion are reasonable however completion of the programme should be confirmed at the next audit.

Recommendation:

09/21: Western Power should ensure that the document review process is completed within stated timeframes and that a process is available for the ongoing review of documents.

Finding No:	App Licence	Finding:
21	EDL1	Asset lives, in some cases, have been extended due to increased knowledge of the system indicating that assets are capable of lasting longer than theoretical mean time to failure. This methodology has the potential to cause resource/funding problems in the future as many assets will reach the extended end of life together. However it is likely that some assets will fail before this extended end of life as failures will generally occur around the mean time to failure. This could substantially increase Operational expenditure. Therefore, especially for Distribution assets, it is important that good condition information is also available to complement the age profile data such that more informed decisions can be made for feeding into the capital expenditure budgeting process. This will inevitably mean, to maintain an acceptable level of system reliability, an increase in capital expenditure budget will be required. Western Power should ensure that accurate condition information is being collected on its assets

Western Power Management Action Stated in 2008 Report:

1) A State of the network report stating the condition of network assets will be produced for both Transmission and Distribution
2) Capital expenditure increases commensurate with labour/materials resource availability and network outage availability is being requested as apart of the Access Arrangement 2 submission to the ERA

Western Power Stated Position at 2009 Audit:

1) A state of the network report stating the condition of network assets has been approved for both Transmission and Distribution.
2) Capital expenditure increases due to labour/materials and network outage availability taken into account as part of the Access Arrangement 2 submission.

Evidence Provided:

State of the Distribution Network Report 2009
2009 Distribution Asset Management Plan

Auditors Opinion:

Condition information is now being used in compiling the State of the Network Report. This information is held in the distribution asset information systems, DFMS and DFIS. Failure rate information is held in the DAMP database.

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
22	EDL1 ETL2	For the period of the audit, risk management processes are not evident in the prioritisation of maintenance tasks. Western Power has stated that maintenance tasks will be included in the risk management process for the 08/09 work programme. Western Power should ensure that the prioritisation of maintenance tasks is included in the risk management process as soon as possible

Western Power Management Action Stated in 2008 Report:

Investment Optimisation Planning Tool (IOPT) will be used for the prioritisation of the 08/09 maintenance program

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Western Power Stated Position at 2009 Audit:

Maintenance tasks are being prioritised by combining geographic factors such as high bushfire risk areas with the priority of the maintenance tasks. Within the Transmission area an OET project has been established to align maintenance frequencies upon a number of plant items within a substation, effectively maximising the amount of maintenance conducted for each individual isolation of the network. The distribution area has enhanced its prioritisation and efficiency by combining maintenance tasks across the network and grouping OPEX/CAPEX activities within the same geographic area into work packages. This improves resource utilisation and reduces costs

Evidence Provided:

Northern area bundled zone inspection management information

Auditors Opinion:

The introduction if the bundled zone inspection for overhead lines has introduced significant efficiencies into the maintenance process. Risks to the network are being mitigated by the introduction of the bundled pole inspection process detailed above and other similar initiatives. Defects found on the system are prioritised using a P1, P2 and P3 categorisation to determine speed of corrective action. Similarly a risk based methodology has been developed to determine corrective action where long bays have been identified.

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
23	EDL1 ETL2	The Asset Management System should be reviewed and updated as required regularly

Western Power Management Action Stated in 2008 Report:
As part of PAS55-1 methodology the Asset Management System will be formally reviewed annually and updated as required

Western Power Stated Position at 2009 Audit:
Annual review of asset management system completed in November 2008 and updated to reflect the PAS55-1 2008 specification. The 2009 review has been completed and approved by the Network Performance Branch Manager. The review periods are tracked through the Branch Document Register

Evidence Provided:
Annual Review of Asset Management System Nov 08

Auditors Opinion:
The two asset management plans, Transmission Asset Management Plan and Distribution Asset Management Plan, are formally reviewed and reissued on an annual basis. The information in the asset management plan supporting databases, Transmission Investment Plan Database and Distribution Asset Management Plan is updated on an ongoing basis. The asset management system which had been developed along the framework guidelines of PAS55-1 2004 has been reviewed and updated to align with the 2008 version of PAS55-1.

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
24	EDL1 ETL2	Backlog, specifically maintenance and pole inspections, associated with the last two years needs to be managed

Western Power Management Action Stated in 2008 Report:
1) A Backlog Management Plan will be created to identify the backlog of asset conditions and the strategy to optimally reduce the backlog
2) Backlog of work will be incorporated into the Access Arrangement 2 ensuring it is given the appropriate level of consideration
3) Appropriate resourcing strategies will be developed and selected which optimise available funding and resources
4) Subject to funding approval by ERA, the backlog reduction will be included in the routine 'Maintenance Zone' 4 yearly cycle so that over 4 years the highest priority backlog is progressively eliminated

Western Power Stated Position at 2009 Audit:
1) Distribution Backlog Management Plan completed and approved
2) Backlog of work taken into consideration in the Access Arrangement 2 submission.
3) The AA2 work program delivery strategy has been developed and includes any backlog and works carried forward from AA1 to AA2
4) Backlog considered in the AA2 submission and a prioritisation approach to reduce the backlog has been developed.

Evidence Provided:
DM6551715 Pole Inspection Backlog Management

Auditors Opinion:
Pole inspection backlog is being managed via a specific work programme which includes introduction of the bundled inspection process described elsewhere in this report. Management information provided indicated that the backlog is reducing and is scheduled to be completed by the end of the 2011 inspection period. It was however stated that this progress could be affected by any new requirements for inspection following the Energy Safety report on wood pole inspections. Action 09/07 is aimed at maintaining focus on the wood pole backlog The Operational Excellence End to End Pole Management project also includes pole backlog management.

Recommendation:

Finding Closed Out

Finding No:	App Licence	Finding:
25	EDL1 ETL2	The CURA database contains 12 corporate risks derived from the various divisional risk registers. Western Power should consider if this methodology of reporting only the top 12 risks is appropriate or whether all Extreme rated risks irrespective of number are included."
Western Power Management Action Stated in 2008 Report: Review the current corporate risk reporting methodology and consider reporting all risks rated as extreme		
Western Power Stated Position at 2009 Audit: CURA captures all key divisional and corporate business risks and captures all significant asset risks		
Evidence Provided: CURA Database Quarterly Board Report		
Auditors Opinion: All extreme risks are now reported at Board level.		
Recommendation: **Finding Closed Out**		

Finding No:	App Licence	Finding:
26	EDL1	It is recommended that Western Power introduce metrics to measure the progress of information gathering and investigations into bay length problems

Western Power Management Action Stated in 2008 Report:
Introduction of a metric to measure the progress of investigations into bay length problems and compare to a target value. This will include the implementation of processes to measure and record this metric

Western Power Stated Position at 2009 Audit:
Long Bay conditions are collected through an overhead line inspection process; a summary of information collected is reported through a Cognos database. This report provides details of identified LB conditions and the status of outstanding/completed work. Monthly meetings are held between the sponsor and project managers to discuss progress. A mitigation strategy (DM 6034312), long bay management process (DM 4848645) and long bay program (DM 6167271) has been developed. Funding for remediation has been included in the AA2 submission and is constrained only by resource deliverability
.

Evidence Provided:
DM6034312 Long bay mitigation strategy
DM4848645 Long bay management process
DM6167271 Long bay program
Cognos database

Auditors Opinion:
Metrics have been introduced to progress information regarding long bays. In addition a risk based process has been introduced to focus the priority for corrective action.

Recommendation:

Finding Closed Out

5. Conclusions

Generally it is felt that the Western Power asset management processes are effective and, in some areas, aligned with good industry practice. Since the previous audit there have been significant improvements to the asset management system namely:

- Increased communication and understanding between Customer Services and Service Delivery Divisions
- Improved management information allowing better control of CAPEX and OPEX
- Mapping of key processes
- Introduction of the Prosight planning process
- Introduction of bundled pole inspection zone showing significant cost savings and efficiency gains.

Whilst Western Power should be congratulated on these initiatives this improvement has not been noted in other areas, specifically the management of risk on the corporate database, CURA. Although there was some evidence that this database is being managed, it was evident that not all treatment plans are being regularly updated.

In addition, due to the delay in agreeing AA2 allowances, financial predictions have not been able to be confirmed.

During the period of this audit Energy Safety produced the 2008 Distribution Wood Pole Audit which, whilst praising Western Power for the decrease in unassisted wood pole failures, criticised Western Power for not aligning their wood pole inspection requirements to Australian industry best practice standards. In assessing this finding, it is noted that Western Power do not have a process in place for identifying other areas of their business that do not align to industry best practice and an action has been raised in this area.

Western Power has continued to align their asset management system with the requirements of PAS55-1 Specification for the optimized management of infrastructure assets. An Asset Management Policy is available detailing the high level requirements from the asset management system and that this policy was aligned with other organisational policies.

26 Findings were raised during the 2008 audit. Significant progress has been made in all but 2 of these findings. During this audit, based on evidence provided, 18 of these findings have been closed out. As stated, progress has been made in closing out a further 6 findings but there was insufficient evidence to totally close out these findings as corrective action plans were underway but not competed. It was noted that Western Power have ensured that the corrective action plans were engineered to ensure that delivery would close out the finding and prevent any future recurrence as well as delivering business benefit rather than a short term 'fix' purely to close the finding. This had meant that implementation of the corrective action plan was, in some cases, in the early stage of delivery.

There was no evidence of any action being taken against 2 findings:

- Update and review of risks on CURA
- Testing of the evacuation plan for the System Operation Control Centre (SOCC).

8 audit findings from 2008 have been transferred to the 2009 Post Audit Implementation Plan.
21 Findings are raised in this audit, including those transferred from the 2008 audit.
The key areas for management attention are:

- Management of the CURA risk database
- Western Power should introduce a formal documented process to ensure that all Capex and Opex plans are optimised to ensure any inefficiency is removed. Inputs to the process should include:
    - System Planning (for any capacity schemes)
    - Network Reliability (for any network improvement schemes)
    - Asset Replacement (for any condition based schemes)
    - System Management (for co-ordination of system outages and network access over the period of the plan)
    - Maintenance (for co-ordination of maintenance with projects)
    - Resource Management (for input on resource availability to deliver the plan)
- There is no formal process within Western Power to capture where maintenance policies and procedures are not aligned with industry best practice

Management attention and improvement in these areas will significantly improve the efficiency of the Western Power asset management system.

Throughout the assessment Western Power staff co-operated fully and positively with the Auditor.

6. 2009 Post Audit Implementation Plan

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/01	EDL1 ETL2	Western Power should introduce a formal documented process to ensure that all Capex and Opex plans are optimised to ensure any inefficiency is removed. Inputs to the process should include: • System Planning (for any capacity schemes) • Network Reliability (for any network improvement schemes) • Asset Replacement (for any condition based schemes) • System Management (for co-ordination of system outages and network access over the period of the plan) • Maintenance (for co-ordination of maintenance with projects) • Resource Management (for input on resource availability to deliver the plan) Meetings held should be formally documented and minuted	Western Power will establish regular meetings with representatives from System Planning (for any capacity schemes), Asset Replacement (for any condition based schemes), Network Reliability (for any network improvement schemes), System Management (for co-ordination of system outages and network access over the period of the plan), Maintenance (for co-ordination of maintenance with projects) and Resource Management (for input on resource availability to deliver the plan). The purpose of these meetings will be to discuss the following: *Optimising the work across each area (e.g. delay maintenance in some areas due to short capacity expansion works planned in the area, bundling work, etc). *Improving communication between project sponsors, resource management and System Management allowing knowledge of planned works to be shared earlier in the planning process. This will improve resource and outage planning capabilities. Meetings held will be formally documented and minuted.	June 2010 Continuous Improvement Bus Partner John Brisbane

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/02	EDL1 ETL2	Western Power should ensure that, during the optioneering phase of projects, there is consideration given to the overall life cycle costs to ensure that the most cost effective option is selected. This should include a determination of how changing of one asset will impact on the life cycles of associated assets.	Asset life cycle costs will be taken into account as part of the optioneering phase of business case development. The required processes will be developed and implemented under Western Power's Business Improvement project (Big Rock) for both transmission and distribution assets.	June 2011 Distribution Asset Performance Manager Johan Esterhuizen Transmission Asset Performance Manager Michael Round
09/03	EDL1	Western Power should align the production of the Distribution State of the Network report with the production of the DAMP such that information is consistent across the two reports. Western Power should also consider including a profile of asset age against mean time to failure rather than a simple average age profile.	1. Western Power will align the annual development of the DAMP and the Distribution State of the Network Report. It will provide data from a single source to ensure data is consistent across both reports 2. Western Power will review the viability of including a profile of asset age against mean time to failure in the DAMP. A review document will be produced and recommendations implemented.	Distribution Asset Performance Manager Johan Esterhuizen September 2010 September 2010
09/04	EDL1 ETL2	The 'Training Provider' database is reactive, only monitoring courses held. There is no system monitoring that annual refresher training is due or has been completed on time. Therefore staff that have not completed the annual refresher training could be operating on the network outside of Western Power requirements. Western Power should introduce a proactive training database that identifies when refresher training is due.	1. Western Power is determining business requirements with respect to an enterprise learning/training management system; this will incorporate the requirements to record and manage employee and contractor training records. The business requirements will be finalised by May 2010. These requirements will be reviewed against MIMS Ellipse Training Module functionality and gaps determined.	May 2010

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
			2. The 6.3 MIMS ELLIPSE training module will go live April 2011 or be replaced by an alternative learning/training management system. Short term solution (Authorisations) using current system being developed by Operational Technical Excellence Branch. 3. Roll out Employee and Manager self service (with respect to the management of training records) to all users.	April 2011 June 2011 Branch Manager, Human Resources Marissa Connolly Finance & Performance Manager Operational Technical Excellence Steve Paterson
09/05	EDL1 ETL2	Western Power should introduce a process to capture where maintenance policies and procedures are not aligned with industry best practice.	Western Power will add a new sub section (Identify the maintenance and replacement strategy assigned to this asset) within section 4 of the Asset Mission Template requiring the author to identify whether the maintenance or condition strategy is aligned with best industry practice. Asset missions will be reviewed based on their existing review schedule.	March 2010 Distribution Asset Performance Manager Johan Esterhuizen
09/06	EDL1	Western Power should ensure that the transfer of funding from preventative maintenance for distribution switchgear,	1. Western Power will assess the risk and impact of transferring funding from preventative to corrective maintenance for each asset affected. This will be	

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
		and any other affected assets, to corrective maintenance budgets will not adversely affect the condition and performance of those assets over their life cycles and when funding is available initiate a program to catch up on deferred maintenance activities	included as part of the change control process. 2 Document and record the risks associated with the deferred maintenance activities for each affected asset class in the Asset Risk Register. 3. Create a program of work to manage deferred maintenance activities when funding has been approved.	December 2010 December 2010 December 2010 Distribution Asset Performance Manager Johan Esterhuizen Maintenance Program Manager Service Delivery Johan Jankowitz
09/07	EDL1	Western Power should maintain focus on reducing the backlog in pole inspections by agreeing, where possible, increased budgets for any additional inspection requirements.	Western Power has recently changed the wood pole inspection requirements to ensure the wood pole drill test is conducted at 300 mm below ground leading to an increase in the overall inspection costs. This change has been taken into account as part of the Access Arrangement 2 submission and will commence in July 2010. In the event that the requested increase in funding is not approved Western Power will conduct a review to ascertain the impact of the reduced inspection volumes on backlog management and risk. The results of the review will be reported to the Executive.	July 2010 Branch Manager, Network Performance Mark McKinnon

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/08	EDL1 ETL2	Western Power should ensure that data used in reporting media is consistent across reports by using information from the Data Warehouse.	The equipment and Works data warehouse project in SPOW has been established to provide a single source of truth for all equipment and works reporting. Data Management will develop and internally publish key metrics of Western Power's asset base (e.g. number of wood poles) to ensure these figures are used as the official single source of the truth e.g. referenced in AA submissions. These metrics may be computed by the Data Warehouse (as applicable). 1. The top five metrics in place 2. Key remaining network asset data metrics in place	 October 2010 June 2011 Branch Manager : Standards, Policy & Data Quality Gavin Forrest Data Management & Quality Manager Andy Neemann
09/09	EDl1 ETL2	Recently introduced metrics for data timeliness indicate poor performance (32% within target). Western Power should introduce processes to improve this performance.	1. Refresher data training will be rolled-out out to the providers of as-constructed data.	March 2010 Branch Manager : Standards, Policy & Data Quality Gavin Forrest (Andy Neemann)

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
			2. Increased incentives (e.g. financial) for the supply of 'as-constructed' information from contractors will be investigated. These will be implemented where it is practical to do so.	May 2010 Branch Manager : Standards, Policy & Data Quality Gavin Forrest (Andy Neemann)
			3. Improved reports will be developed to clearly show performance by specific areas and outstanding 'As Constructed' information. The relevant performance reports will be made available to the appropriate stakeholders (including senior management).	May 2010 Branch Manager : Standards, Policy & Data Quality Gavin Forrest (Andy Neemann)
			4. A backlog management plan will be developed and implemented to ensure outstanding 'As Constructed' data is provided for updating of the information systems.	August 2010 Branch Manager, Distribution Metropolitan Operation Owen Casey
			5. The 'As-Constructed' manual will be refreshed to more clearly describe the requirements for providing 'As Constructed' information.	December 2010 Branch Manager : Standards, Policy & Data Quality Gavin Forrest (Andy Neemann)

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/10	EDL1 ETL2	Western Power should ensure that adequate controls are in place to demonstrate that risk treatment plans in the Corporate Risk Database are regularly reviewed and updated, and that records of this review are available.	1. Western Power will nominate divisional representatives (Champions) to be responsible for ensuring that division risks are reviewed and updated every three months. The task will be included in CURA so that the representative receives a reminder two weeks before the task is due for completion. A follow-up reminder will be sent to the Senior Risk Advisor to ensure the issues are followed up. The date of completion will indicate the date of review for the entire set of division risks. 2. Develop a quarterly health check report and monitor the status of CURA risks, actions and due dates.	June 2010 Senior Risk Advisor Risk and Compliance Irene Nutt June 2010 Senior Risk Advisor Risk and Compliance Irene Nutt
09/11	EDL1 ETL2	Western Power should ensure that each division is aware of the requirement to review their risks on a quarterly basis including the update requirements. It is also recommended that each division develop a methodology for the recording and monitoring of divisional risks and associated treatment plans which align with the corporate risk management framework. This review should include consideration of what divisional risks should be included in the corporate risk register and the methodology for doing so.	The Risk Management Framework will be reviewed and, if necessary, modified to clearly articulate the process in which branches document their risks and then in turn escalate them to the division risk register. Training for divisional 'Champions' will be included in this process.	August 2010 Senior Risk Advisor Risk and Compliance Irene Nutt

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/12	EDL1 ETL2	Western Power should consider if a more frequent, formal review of asset risks in BART would be appropriate to ensure adequate risk control.	Western Powers "Investment Strategy" Business Improvement Project #2 is the Risk Assessment Model (OE 2.2). This project will include the development of a methodology and will include consideration for the frequency for completing asset risk assessments.	June 2011 Branch Manager, Network Investment David Nairn
09/13	EDL1 ETL2	Western Power should ensure that business continuity plan tests are completed in accordance with procedures.	A Senior Risk Advisor will review the list of disaster recovery/business continuity plans to ensure they are properly documented and that testing is carried out on recommended dates. Electronic reminders will be set to ensure timely testing.	June 2010 Senior Risk Advisor Risk and Compliance Irene Nutt
09/14	ETL2	The contingency plan for the System Operation Control Centre detailing evacuation to the back up control centre at Head Office should be formally issued and evidence made available that it is regularly tested.	1. Finalise Control Room Instruction 15.09 Changeover to & Operation of Emergency Backup SCADA outlining move from Southern Terminal to Head Office. Include in this CRI 15.09 requirements for regular testing of backup control room, quarterly minimum testing (test phones, PCs and operate a few controls) and annual complete testing (Test phones, PCs and undertake complete control from backup control room). 2. Implement regular testing of backup control room as per CRI 15.09, resolve issues found and store inspection sheets.	May 2010 Branch Manager, System Operation Control Cameron Parrotte June 2010 Branch Manager, System Operation Control Cameron Parrotte (Matthew Kok)

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/15	EDL1 ETL2	The Western Power business continuity plans are focussed on IT systems. Western Power should review their business continuity plans to ensure there is adequate focus on loss of facilities and personnel e.g. pandemic plans for the control centres indicating minimum staffing levels to maintain safe operation of the system, total loss of the office facilities at Head Office etc.	Western Power will develop a comprehensive Business Continuity Management Implementation Plan. Its purpose will be to ensure a consistent and effective approach to the continuity of business activities during a major disruption. 1. Undertake a business impact assessment and prioritise business critical areas. 2. Conduct Division workshops to ascertain current business continuity plans and gaps. 3. Review and publish the Business Continuity Framework. 4. Training schedule developed and implemented 5. Review of testing and maintenance, identify gaps and implement changes.	June 2011 Senior Risk Advisor Risk and Compliance Irene Nutt May 2010 September 2010 October 2010 March 2011 June 2011
09/16	EDL1 ETL2	Western Power should introduce financial plan predictions past the 5 year timeline of the Strategic Development Plan.	Western Power will develop a strategy document which Includes financial planning/predictions past the 5 year timeline. This document will be submitted to the board for consideration. If endorsed it will be incorporated into normal business procedures.	June 2010 Branch Manager, Treasury. Jane Wedgwood
09/17	EDL1 ETL2	Western Power should ensure that compliance education sessions are completed to schedule. Western Power should also ensure that records are kept of all training undertaken, e.g compliance and corporate risk training.	1. Compliance presentations to non-SLO branches have been scheduled and will be completed by the end of the 2010 financial year.	June 2010 Compliance Advisor, Risk and Compliance Ruhi Bassari

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
			2. The Risk & Compliance Branch maintains training records for all compliance courses (Trade Practices Act and five codes and regulations supporting Western Power's operating licences) available to staff. Attendance records for compliance presentations to the branches were always the responsibility of the relevant branch managers. However, from 01/01/2010, the Risk & Compliance Branch will also maintain attendance records in the corporate training database of all employees who have attended compliance presentations. 3. The Senior Risk Adviser will maintain training records in the corporate training database of all employees who have attended corporate risk training sessions.	January 2010 Compliance Advisor, Risk and Compliance Ruhi Bassari January 2010 Senior Risk Advisor Risk and Compliance Irene Nutt
09/18	EDL1 ETL2	Western Power should ensure that the review of technical standards is completed within the timelines indicated on the programme.	Western Power will review and maintain a work plan for the review of specifications and standards on a regular basis. By June 2010, Western Power will have completed a full review of the transmission and distribution work plans, with allocation of regular review cycles, (review schedule for specifications and standards) The benefits of improved governance for the introduction of new technology and standards will be progressively delivered over the next 12 months through our Engineering Standards strategic initiative.	June 2010 Branch Manager, Standards Policy & Data Quality Gavin Forrest June 2010

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/19	EDL1 ETL2	Western Power should ensure that the mapping of key processes on Holocentric is completed within project timescales.	A consistent approach to process modelling is being undertaken with identified processes being maintained within a business process repository (Holocentric Modelpedia). The repository when published will be available for access by anyone within Western Power with desktop access. The goal is to encourage the business to recognise their accountability in maintaining currency of the process diagrams, supporting work instructions and any related information; and to promote the value of having the entire organisation's business processes represented. 1. Create an implementation plan to promote business awareness of Holistic (business wide repository for process mapping) to all divisions of Western Power. This plan will include a schedule for the publishing of core operational end-to-end processes and will include support environment procedures and review cycles. 2. Deliver Holistic and the business awareness presentation to all levels and divisions of Western Power. 3. Publish core operational processes in Holistic.	Branch Manager, Strategic Program Of Work Graeme Fairley Analyst, Strategic Program Of Work Sally-Anne Mitchell April 2010 June 2010 December 2010

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
09/20	EDL1	Western Power should monitor the delivery of the bundled zone overhead inspection regime to ensure that overhead lines reach their next inspection cycle without any further major corrective maintenance.	Western Power will develop a report which, once work is completed, tracks on a regular basis by maintenance zone the amount of major corrective work required prior to the next inspection cycle. The results of this monitoring will be used to review the inspect/review process effectiveness and allow for improvements to be developed.	December 2010 Maintenance Program Manager, Service Delivery Johan Jankowitz Distribution Asset Performance Manager Johan Esterhuizen
09/21	EDL1 ETL2	Western Power should ensure that the document review process is completed within stated timeframes and that a process is available for the ongoing review of documents.	1. IKM to develop and deploy a corporate document control policy and procedure detailing Western Power document control requirements and standards. 2. IKM will develop and implement a document control program to manage key document registers across the business. Business managers will be responsible for ensuring adherence to the procedures and document register reviews under their control. 3. Western Power will prepare an Enterprise Content Management (ECM) Strategy. This should be finalised by the end of this financial year. This	Graeme Fairley Branch Manager, Strategic Program Of Work August 2010 IKM Front line leader Suzanne Fraser December 2010 IKM Front line leader Suzanne Fraser June 2010 Solution Strategist Strategic Program Of

Action No.	Applicable Licence	Recommendation	Management Actions	Date for Completion
			Strategy will incorporate a section on the business need for Document Control. 4. If ECM Strategy is endorsed in principal, a business case for document-centric workflow will be created and a pilot of Document Control in DM utilising the workflow tool will be completed. 5. Upon successful completion of the pilot the workflow tool with document control functionality will be purchased and an implementation plan created and rolled out across the business.	Work Kerry Nichols Feb 2011 Solution Strategist Strategic Program Of Work Kerry Nichols Jun 2011 Solution Strategist Strategic Program Of Work Kerry Nichols

7. 2008 Distribution Wood Pole Audit Review

REPORT BY: Energy Safety

App Licence: EDL1

Report Name: 2008 Distribution Wood Pole Audit Review

Evidence Provided:
2009 Distribution Wood Pole Audit review – presentation to the Minister
2009 Distribution Wood Pole Audit review – Western Power's responses to Energy Safety's points
ORDER Number 01- 2009
Quarterly Report: Asset Performance September 2009
Wood Pole Improvement project – Monthly progress Report 2009
Wood Pole Inspection Update
Wood pole reporting system
Process for Identification of Unassisted Pole failure
Independent Serviceability opinion: GHD - Wood pole inspection procedure
Technical Specifications for new poles: Full length preservative treated timber poles
Outstanding Pole replacement quarterly report – Q1/2009

Auditors Opinion:
A review was undertaken of Western Power actions against the 2008 Energy Safety report on Distribution Wood Poles and subsequent order dated 29 September 2009. It is evident that Western Power was not undertaking pole inspections in line with Australian industry best practice. However Western Power were also measuring unassisted pole failures using a different methodology to other utilities and this showed as a poorer performance for Western Power. Western Power has been issued with an order requiring corrective actions to be taken and at the time of this audit those corrective actions were on target.

8 Glossary of Terms

Term	Definition
AA2	Access Arrangement No 2
BART	Business Asset Ranking Tool
BPMS	Business Process Management System
CPI	Consumer Price Index
CT	Current Transformer
CURA	Risk Management Software Application
DFIS	Distribution and Facilities Information System
DFMS	Distribution Facilities Management System
DM	Document Management System
DQM	Distribution Quotation Management (system)
ECM	Enterprise Content Management
EDL1	Distribution Licence
ELLIPSE/MIMS	Enterprise Resource Planning System
ENMAC	Electricity Network Management and Control
EPWM	Enhance Planning and Works Management
ETL2	Transmission Licence
IOPT	Investment Optimisation Planning Tool
KPI	Key Performance Indicator
NOCC	Network Operations Control Centre (Distribution)
NPV	Net Present Value
PAS	Publicly Available Specification
PCB	Polychlorinated biphenyls
PTS	Power Training Services
RMF	Risk Management Framework
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SLO	Significant Legislative Obligations
SOCC	System Operations Control Centre (Transmission)
TAMP	Transmission Asset Management Plan
TCMS	Trouble Call Management System
TCS	Trouble Call System
TIPD	Transmission Information Planning Database
TLS	Transmission Lines System
TPES	Transmission Protection Equipment System
TPMS	Transmission Plant Management System
TRIS	Transmission Ratings Information System
VT	Voltage Transformer

Appendix 1: Evidence Trails and Staff Interviewed for Assessment Criteria

Effectiveness Criteria	**Asset planning**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	

Network Performance Org chart: DM#5001028
Network Performance profile
Corporate plan
Customer Services Division – Strategic plan 2009/2010 dm6270366
Network Performance Branch – Plan on a page 2009 – 2010: DM#6213279
OPEX quarterly review with sponsors – 28/10/09: dm6331907
Minutes of Monthly meeting between Transmission Asset performance and Transmission Maintenance Delivery Branches: dm#6096077
Minutes of Transmission maintenance program: DM# 4830087v5
Agreement on Scope of Work, Budget and Delivery: 5443356
Agreement on Transmission Maintenance Program 2009/2010: DM# 6362826
Quarterly Report: Asset Performance: DM# 5338092
Pole top mitigation Strategy: DM# 6085539
Minutes of Quarterly Meetings with Energy Safety: DM#6170329v2A
Business case: Project T0300849: Replacement of 110V Battery banks at Muja Stage C & D 2009/2010: DM# 6470880v1
Asset mission: HV fuses: DM# 4563074
Monthly KPI Performance report – July 2009: DM# 3563456
Transmission Asset Management plan 2009/2010 to 2018/2019: DM# 906804
Replacement of Tambellup Area feeders: DM# 5396286
Network planning & Development Organisation chart: DM# 4941337v3
PSS-E Bus Numbers Diagram 2011 – 13 Load areas
List – process flow charts, Load forecasts, System studies by load areas, Projects Projects Listing

- Planning process
- Technical rules
- APR

BB 03 – Smart Planning, combined maintenance: DM#6366740
Distribution Network Planning Manual: DM#5157004
Metro & Country Regional Planning & development processes: DM# 3771462
Distribution Feeder Protection Settings policy: DM# 927475v7
Rural Distribution planning Criteria: DM# 4880519
A1 work flow
Quarterly Review – September 2009 report:DM# 4189691v10
Planning study report – CC507 Hammond Rd Feeder upgrades: DM# 6223418v1
Planning standards for country distribution capacity expansion projects: DM# 4504167
Planning standards for Metro distribution Capacity projects: DM# 4489792v5
Quality control plan: DM#6477769v2
NFIT compliance summary

Project Initiation and Scoping: DM#3379150 Long term planning – Distribution Internal Relationship plan: DM# 3649782 Demand Management Business model: 6086009v3 Green Town: Energy wise Community Denmark/Walpole Green town community presentation: DM# 5213725 Denmark feeder – Feasibility of Energy storage to defer Network reinforcements: DM# 6377127 Project approval submission: Denmark & Walpole Energy wise community Project – phase 1: DM# 4267652v1 Memo for Business case approval: 3575760 Asset management planning process: 3575760 Distribution Asset management Plan DAMP procedure
Staff Interviewed
John Brisbane Mike Round, Johan Esterhuizen, Amit Singh, Roger Petit Neil Chivers Cathy Chalmers Dean Frost Andy Kondola

Effectiveness Criteria	**Asset creation/ acquisition**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Secondary Systems Engineering – Business Process Interconnections: DM# 1954979v19 Field Protection Services – Commissioning process(Major Projects): DM# 4752114v1 Field Protection Services – Commissioning process(Asset Replacements):DM# 5184293 Power Alliance WA(AWA) Asset Replacement Process :DM# 5009828 Appendix A – Process flow for Unplanned Plant Replacement: DM# 5391004 Requesting an Archived Commissioning Project file: DM# 4920658 Boulder – BLD/19_812.0 Circuit Breaker replacement checklist: DM# 4920658 Program delivery Distribution projects – Portfolio report No244439 New "Cockburn Rd" Feeder, Cockburn Cement Zone Substation – 22kV, Distribution reinforcement Works 2007 WE_n6585183_v1_Country_project_Touch_point_process.ppt We_n6049042_v4_metro_CAPEX_lifecycle_process_mapping_-_draft.ppt	
Staff Interviewed	

Charles Crew Tracy Thomas

Effectiveness Criteria	**Asset disposal**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Returned Primary plant form: DM#378785 ERA Governance Review – Distribution Transformer Upgrade:DM#5574605 Works Practices Manual: Section 6.3 DM#6143136	
Staff Interviewed	
Geoff Barnett	

Effectiveness Criteria	**Environmental analysis**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Fault causes that contribute the normalised unplanned SAIDI DM#6585812 Review of Network quality and Reliability of Supply Performance Reporting: Stantons International: DM#6484349 Lloyd Asset Management Audit Request for Information: DM# 6602557 Annual Reliability Performance Report For The Public Minister: DM#6347745v3 Annual Reliability and Reporting Requirements To Regulator Process manual: DM# 3820607 SWIS Reliability Summary: DM# 3973145v27 Process Document for the Metro targeted reliability reinforcement – first section work: DM# 4007911v2 Planned DA Manual Vol 1 – Preliminary Engineering for DAS internals: DM#4821333 Paragraph_on_Coordination_with_Other_works_for_2008_2009: DM# 6593045v1 Work Instruction – Detailed Feeder Analysis: DM# 5149667 Omnibus Summary 1 November 2009: DM# 6588679 0708 Worst Rogue Feeder Reporting tool: DM#3619374 PQ Internal KPIs (Time to Remedy & No. of Complaints): 0809 PQ Complaints, Minor PQ Reinforcement, Major PQ Reinforcement	
Staff Interviewed	
Mark McKinnon,	

Aaron Gibbons, Michael Chung Margaret Pyrchla

Effectiveness Criteria	**Asset Operations**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Visit to SOCC and NOCC Organisation structure Training records – Scheduled Course assignment for Modules undertaken Electrical System Safety procedures DM#6433267 Works Practices Manual: DM# 6143136 NWI – 043 Network Operations, Backup Control centre Activation: DM# 1994223v6 NOCC BUCC Trial Form: DM# 2182759 Incident ID: 136346.....Reported 23/06/09....Completed 24/06/09 Control Room Instructions Vol One & Vol Two Transformer overloads procedure Section 15.09 Changeover to & Operation of Emergency backup SCADA(EBS)	
Staff Interviewed	
Lewis Potterton John Boswell Shane Duryea Harry MacDonald Cameron Parrotte	

Effectiveness Criteria	**Asset Maintenance**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Maintenance criteria – Power transformers: DM# 1045879 Asset mission tracker Catalogue of Maintenance timescales: DM#3235127v2 Asset mission: Pole mounted Drop out fuses: DM# 4510488 Risk ranking - projects Agreement on Scope of works, budget and Delivery: Distribution Carrier:DM# 5480892 Replacement Program 2009/2010 Maintenance Asset Management programs Distribution Regulatory Compliance category CAPEX: DM# 6071476 Minutes of Distribution Switchgear Maintenance Focus Group: DM# 5179560v4	

2009 backlog management Plan: DM# 5598454 2009 Distribution K2 OPEX Backlog – management Report: 4793692v3 Distribution OPEX/CAPEX YTD Actuals vs Budget: DM# 6184674 Transmission Maintenance program report AWP Distribution report:DM# 4997651 Unassisted failed pole report form: DM# 2292347 Pole top fire report form: DM# 2292347 Unassisted Wood Pole failure report for pick id 774652: DM# 6592007 Summary of RFR outstanding Testing of Aged Siliconed and Unsiliconed insulators – Porcelain and Cycloaliphatic: DM# 4764587 Follow up Inspection report on Schneider (Merlin Gerin) SM6 Switchgear: DM#6202656 Pole top fire Mitigation strategy: DM# 6085539 Internal relationship plan between CSD network performance and SDD Distribution Delivery: DM# 5189235 Investigate the defective indication of SF6 pressure gauges fitted to F & G RMU equipment: DM# 6050324 F & G Gas gauge modification – Installation procedure Submission to the PPC – 2009/2010 Distribution OPEX budget change Energy Safety KPI details Organisation Structure: DM# 47011323 Planning Schedule: DM# 4965797 Work Order Job Card: WO 02810084 Work Order Job card: TW102481 Work Order coding and Budgets: DM#3489385v7 Maintenance Program 2009/10(Sep 09): DM#4887022v2 AWP Group Manager Report: DM# 633453 ERA Asset Management interview 6: DM# 6597335 OPEX Tracker: DM# 4965797 KPI report 2008/09 DM# 4997651
Staff Interviewed
Mike Round Johan Esterhuizen John Brisbane Geoff Cook Johan Jankowitz

Effectiveness Criteria	**Asset Management Information System**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
MS Excel_we_n6052577_v4_field_to_office Field_to_office Timeliness report Enmac vs GIS asset discrepancy report Process to update the KPI Report	

Monthly General Performance Report August/September: DM# 3468707 ERA Asset management Audit – Data Management Information Pack: DM#6540570 Backup And Recovery: DM# 2802665 Tape Backup strategy: DM# 2802497v3 ERA Asset Management Audit – Data Management Information pack: DM# 6540570 2009 State of the Transmission Network: DM# 5439463 Transmission Asset Management plan 2009/2010 to 2018/2019
Staff Interviewed
Mark Wilshusen Robert Rogerson Perry Rogers Andy Neeman Nicholas Howard Winnie Kuek Mike Round Peter Ridgwell

Effectiveness Criteria	**Risk Management**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Risk Management policy: DM# 3006290 Risk Management framework: DM# 3017083 List of personnel trained in CURA/risk/Risk Management Risk Management advisory group: DM# 4022471v3 Corporate Risk assessment criteria: DM# 3536273v10 Quarterly Risk report October 2009 – Board submission: DM# 6506999 Asset Risk Management Training Log: DM# 6593411 Timetable for Division risk refreshers 2009 DM# 6317760	
Staff Interviewed	
Irene Nutt David Nairn Gareth Morris	

Effectiveness Criteria	**Contingency planning**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Crisis Management Plan: DM#3022037 Business Continuity Plan Customer Service centre: DM# 5439384	

Business Continuity CSC Test Plan: DM# 5518852
Staff Interviewed
Geoff Barnett

Effectiveness Criteria	**Financial planning**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Strategic Development Plan 2009/10 to 2013/14: DM# 5152278v22 Statement of Corporate Intent 2009/10: DM# 5275800v16 Budget pack 2009/10 – 2013/14: DM# 5217857 Corporate Performance Report Sept 2009 Customer Services, Controllable Cost report Corporate Performance Report – Sept 2009 Customer Services Performance Report Sep 2009 – final Customer Services – Controllable Cost Report Sept 2009(YTD)	
Staff Interviewed	
Daniel Kennedy Belinda Lake Brett Hutchison	

Effectiveness Criteria	**Capital expenditure planning**
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Capital Expenditure Plan 2008/9, 2009/10 AWP Distribution Report – September 2009 AWP Group Manager Report (Transmission) WE_n6236807_v2_EPWM_S1Training_-_Workshop_Book_half_day_August-September_2009	
Staff Interviewed	
David Nairn	

Effectiveness Criteria	Review of AMS
Applicable Licence(s)	**EDL1, ETL2**
Audit trails and sources of evidence:	
Network Performance Branch KPI procedure: DM#5487225 Network Performance Branch Monthly KPI report: DM# 3563456 Critical success factors: ABS Section managers, Branch Manager, DAP Section Manager, R&PQ, Secondary systems, Transmission	
Staff Interviewed	
Geoff Barnett	