

ABN 20 009 454 111

Audit and Review Report

Western Energy Pty Ltd 2014 Electricity Generation Licence Performance Audit and Asset Management System Review

#### February 2015

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# **Executive Summary**

Western Energy Pty Ltd (WEPL or the licensee) holds an Electricity Generation Licence (EGL19) issued by the Economic Regulation Authority (the Authority) under Sections 7 and 15 of the Electricity Industry Act 2004 (WA) (the Act). The licence enables WEPL to construct and operate power generating facilities in accordance with the licence conditions.

Sections 13 and 14 of the Act requires WEPL to provide the Authority with a report by an independent expert on the measures taken by the licensee to meet the performance criteria specified in the licence and on the effectiveness of its Asset Management System. In October 2014 WEPL commissioned Qualeng to carry out the performance audit of their licence compliance and the Asset Management System review (the audit and review) for the period 1 October 2012 to 30 September 2014. The audit and review have been conducted and this report prepared in accordance with the "Authority's Audit and Review Guidelines: Electricity and Gas Licences (April 2014)" (the guidelines).

#### THE ASSETS

The licence has been granted for an area located at Mason Road, Kwinana, South East of Perth, Western Australia. The generating assets consist of two 60 MW FT8 "Swiftpac" gas turbine generators supplied by Pratt and Whitney Power Systems (PWPS). Each Swiftpac includes two PWPS 30 MW aero derivative gas turbines driving a central 60 MW Brush generator. The Power Station includes a control building, high voltage switchyard, water treatment plant and storage tanks, diesel fuel storage tanks and fuel receiving, treatment and forwarding facility, workshop and spare parts and an emergency discharge and evaporation pond. The certified power export capacity of the station is 109 MW.

WEPL manages the operation and maintenance of the assets.

#### THE REPORT

The report includes:

- a summary of the objectives, the scope of the task and details of this audit and review;
- (ii) key findings and recommendations from this audit and review.

Separately, a post audit and review implementation plan has been prepared by the licensee listing the audit and review recommendations and the responses and actions proposed by WEPL. The plan does not form part of the report and is provided separately to complete the documentation.

### LICENSEE'S RESPONSE TO PREVIOUS AUDIT RECOMMENDATIONS

The previous audit report covered the period 15 September 2008 to 30 September 2012. The report made two recommendations while one additional recommendation was common with the Asset Management System Review. All of these recommendations were closed during this audit period.

#### **SUMMARY OF ISSUES AND RECOMMENDATIONS, PERFORMANCE AUDIT**

Throughout the audit the licensee's attitude towards compliance was positive and cooperative.

On completion of the performance audit the auditor has found that Western Energy Pty Ltd's operation was in full compliance with the licence conditions.

The Performance Audit summary of issues and recommendations is listed in Table 1.

**Table 1- Performance Audit non-compliances and recommendations** 

	Table of Current Audit Non Compliances/Recommendations				
Reference No/ Year	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Auditors' Recommendations			
	No Non Compliances or Control Improvement have been identified.				

#### **AUDITOR'S OPINION, PERFORMANCE AUDIT**

On completion of the performance audit, after assessment and testing of the licensee's control environment, risk assessment process, information system, control activities and monitoring, the auditor has formed the opinion that, during the audit period of 1 October 2012 to 30 September 2014, Western Energy Pty Ltd's

operation was in compliance with the licence conditions.

### LICENSEE'S RESPONSE TO PREVIOUS REVIEW RECOMMENDATIONS

The previous review report covered the period 15 September 2008 to 30 September 2012. The report made 15 recommendations. Except for one all actions on those recommendations have been completed or have sufficient evidence to show that corrective actions are in place. One recommendation remains outstanding and it has been incorporated into a new recommendation within this report.

# SUMMARY OF ISSUES AND RECOMMENDATIONS, ASSET MANAGEMENT SYSTEM REVIEW

The review has found that Western Energy Pty Ltd has an effective plan for managing the different aspects of the asset management system and is committed to continuous improvement and regulatory compliance. Overall the review found that the licensee's attitude towards compliance was always constructive, active and cooperative.

The review of the Asset Management System found five deficiencies which have been listed in Table 2 together with the review recommendations.

Table 2- Review Asset System Deficiencies / Recommendations

	Table of Current Review Asset System Deficiencies/ Recommendations					
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation			
1	5.3	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.  Information in the asset management system (AMS) database does not yet include information on the asset physical/structural condition. This information is available from site diaries, however the retrieval of this information will be laborious.	1/2014	Record assessment of assets' physical and structural condition in the asset register.		
2	6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.  While the records of maintenance activities can be traced through the site diaries, the records of work orders in the AMIS do not yet include actual	2/2014	Records of actual completion of maintenance activities should be entered in the T1 Asset Management System and should be traceable to the work activities.		

l		Table of Current Review Asset System Deficienc	ies/ Rec	ommendations
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency		Auditors' Recommendation
		completion of the activities or condition of assets.		
3	7.1	B2 Adequate system documentation for users and IT operators.	3/2014	Ensure that, as appropriate, documents in draft or under review are finalised and approved.
		Some documents, such as the "Crisis Management Plan" are in draft form and should be finalised.		
4	9.1	B2 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.  Both the Emergency Response Plan and the Kwinana Power Station Emergency Response Procedure contain similar information, however they also have differences. In case of an emergency, one of the documents should take precedence over the other.	4/2014	Both the Emergency Response Plan and the Kwinana Power Station Emergency Response Procedure contain similar information, however they also have differences. In case of an emergency, one of the documents should take precedence over the other and that should be clarified in the KSAMS and in the documents. Both documents should be reviewed side by side to ensure consistency and, if necessary, one withdrawn.
	9.1	B2 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.  The Crisis Management Plan has been consolidated from three separate plans and has been in operation since 2012. The plan is still shown to be a draft, however this is unlikely as the plan has been in use for a long time and has had a number of updates.	Refer to	recommendation 3/2014.
5	9.1	B2 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.  There has not been any testing of contingency plans during the review period. Testing has been planned for 2015 as documented in the 2015-16 AMP (AMPs follow an April to March financial year cycle).	5/2014	There has not been any testing of contingency plans during the review period. Testing has been planned for 2015 as documented in the 2015-16 AMP and should be carried out as defined.

#### **AUDITOR'S OPINION, ASSET MANAGEMENT SYSTEM REVIEW**

On completion of the asset management system review, after assessment and testing of the licensee's control environment the auditor has formed the opinion that during the audit period of 1 October 2012 to 30 September 2014, Western Energy Pty Ltd's asset management system was operating effectively.

Of the 12 areas of the asset management system, in 11 areas process and policy definition adequacy was found to be adequately defined and one area was rated as requiring some improvement. For the performance rating 11 areas were found to be performing effectively and one area was rated as "opportunity for improvement".

#### **POST AUDIT AND REVIEW ACTION PLAN**

The audit and review has resulted, where applicable, in findings and recommendations that require corrective actions by the Licensee.

The recommendations have been listed in the Licensee's Post Audit And Review Implementation Plan 2014. Responses including actions, responsibilities and dates for completion have been completed by the Licensee.

This report is an accurate representation of the findings and opinions of the auditors following the audit and review of the client's conformance to nominated Licence conditions. The audit and review is reliant on evidence provided by other parties and is subject to limitations due to the nature of the evidence available to the auditor, the sampling process inherent in the audit and review process, the limitations of internal controls and the need to use judgement in the assessment of evidence. On this basis Qualeng shall not be liable for loss or damage to other parties due to their reliance on the information contained in this report or in its supporting documentation.

The Post Audit Implementation Plan is a document prepared by the licensee in response to the recommendations provided by the audit and review. As it represent the licensee's views and actions it does not form part of the audit and review.

Approvals				
Representation	Name	Signature	Position	Date
Auditor:	M Zammit	_	Lead Auditor / Projects Director, Qualeng	5 February 2015

Ref:	36/9/9		
		Issue Status	
Issue No	Date	Description	
1	19 Dec 2014	Issue for review	
2	5 February 2015	Final Issue	

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#### 1 OBJECTIVES AND SCOPE OF AUDIT AND REVIEW

#### 1.1 BACKGROUND

Western Energy Pty Ltd (WEPL or the licensee) generates and supplies electricity to the South West Interconnected System (SWIS) in Western Australia under the EGL19 Electricity Generation licence (the licence) granted by the Economic Regulation Authority (the Authority) on 15 September 2008 (the Licence is at Version 3, 13 January 2011).

The licence has been issued under Sections 7 and 15 of the Electricity Industry Act 2004 (WA) (the Act) and enables the licensee to construct and operate generating works or operate existing generating works in accordance with the licence terms and conditions.

The licence has been granted for an area located at Mason Road, Kwinana, South East of Perth, Western Australia. The generating assets consist of:

- two 60 MW FT8 "Swiftpac" gas turbine generators supplied by Pratt and Whitney Power Systems (PWPS). Each Swiftpac includes two PWPS 30 MW aero derivative gas turbines driving a central 60 MW Brush generator;
- a control building;
- high voltage switchyard;
- water treatment plant and storage tanks;
- diesel fuel storage tanks and fuel receiving, treatment and forwarding facility;
- workshop and spare parts; and
- emergency discharge and evaporation pond.

The power station is connected by a short transmission line to the Western Power grid.

Under sections 13 and 14 of the Act WEPL's systems are subject to independent performance audits and asset management system reviews at 24 month intervals or some other period as decided by the Authority. The performance audit is an audit of the effectiveness of measures taken by the licensee to meet the performance criteria specified in the licensee. The asset management system review is to determine the effectiveness of the licensee's asset management system.

Qualeng has been engaged by WEPL to conduct the performance audit and the asset management system review (the audit and review) for the period 1 October 2012 to 30 September 2014. The audit and review have been conducted and this report prepared in accordance with the "Authority's Audit and Review Guidelines: Electricity and Gas Licences (April 2014)" (the guidelines).

#### 1.2 OBJECTIVES OF AUDIT AND REVIEW

The purpose of the performance audit is to:

• Assess the effectiveness of measures taken by the licensee to meet the obligations of the performance and quality standards referred to in the licence.

The purpose of the asset management system review is to:

 Assess the effectiveness of the measures taken by the licensee for the proper management of assets used in the provision and operation of services and, where appropriate, for the construction or alteration of relevant assets.

#### 1.3 SCOPE OF AUDIT AND REVIEW

#### 1.3.1 Scope of Performance Audit

The scope of the performance audit is to audit the systems and the processes to assess their effectiveness in ensuring compliance with the standards, outputs and outcomes required by the licence, in detail:

- Assess the effectiveness of systems and procedures and the adequacy of internal controls;
- Consider performance against standards prescribed in the licence;
- Provide assurance of compliance to systems and procedures, existence of control and system outputs / records;
- Verify completeness and accuracy of performance reporting to the Authority;
- · Verify compliance with any individual licence conditions.

#### 1.3.2 Scope of Asset Management System Review

The scope of the asset management system review includes the assessment of the adequacy and effectiveness of the licensee's asset management system by evaluating the key processes of:

- Asset planning
- Asset creation/acquisition
- Asset disposal
- Environmental analysis
- Asset operations
- Asset maintenance
- Asset management information system
- Risk management

- Contingency planning
- Financial planning
- Capital expenditure planning
- Review of the asset management system.

Each of the system processes was evaluated against effectiveness criteria defined in the guidelines.

Key documentation examined by the auditors is listed in Appendix A.

#### 1.4 AUDIT AND REVIEW PERIOD

The audit and review covers the period between 1 October 2012 to 30 September 2014. The audit and review was carried out between September and December 2014.

#### 1.5 METHODOLOGY OF AUDIT AND REVIEW

The audit and review followed the methodology defined in the Authority's guidelines including:

- Review of documentation;
- Preparation of the audit and review plan, risk assessment and system analysis;
- Fieldwork including the document review and meetings;
- · Reporting.

These activities were supported by additional investigations to further clarify aspects of the procedures.

The audit and review plan was prepared outlining the objectives, scope, risk assessment, system analysis, fieldwork plan, the report structure, key contacts and auditing staff.

The audit and review adopted a risk based approach where a preliminary risk and materiality assessment was carried out. The risks resulting from lack of controls (inherent risks) and the strength of existing controls to mitigate the inherent risks were rated and audit and review priority assigned based on the above. Tests were also defined for each licence condition to assess the compliance and effectiveness of the current process.

With specific regard to the Asset Management Review, the review followed the methodology outlined above and defined in the guidelines. The risk assessment was carried out on each asset management system (AMS) element to assess the effectiveness of the current asset management processes.

#### 1.6 LICENSEE'S REPRESENTATION

Licensee representatives that participated in the audit and review meetings or were requested to clarify aspects of the licensee's operation were:

#### East Perth head office:

- Patrick Peake, General Manager Generation;
- James Heng, Asset Manager;
- Gordon Whitelaw, Engineering Manager;
- Kheng Lai Lim, Financial Controller.

At the Kwinana power station:

Stewart Fraser, Supervisor Power Plant Maintenance and Operations.

#### 1.7 LOCATIONS VISITED

The following facilities was visited during the audit and review:

- · WEPL head office, East Perth
- WEPL Kwinana Swift Power Station site.

#### 1.8 AUDIT AND REVIEW TEAM

A summary of the auditing resources utilised in the performance of the audit and review is listed below.

Item	Resource	Description	Hours
1	M Zammit	Project Director and Lead Auditor	85
2	S Campbell	Senior Engineer, Document Reviewer and Verifier	39
3	Support staff	Document control	-

#### 1.9 KEY DOCUMENTS AND INFORMATION

Main documents accessed by the auditors are listed in Appendix A.

#### 1.10 LIMITATIONS AND QUALIFICATIONS

An audit provides a reasonable level of assurance on the effectiveness of control procedures, however there are limitations due to the nature of the evidence available to the auditor, the sampling process inherent in checking the evidence, the limitations of internal controls and the need to use judgement in the assessment of evidence.

In regard to the review process, the reviewer relies on evidence coming to the reviewer's attention showing that the control procedures are not effective, when the initial process and procedures do not provide sufficient evidence to the level that would be required by a review.

As noted above, due to the sampling process, the nature of the evidence available to the auditor, the limitations of internal controls and the need to use judgement in the assessment of evidence there are limitations in the level of accuracy that can be obtained in the audit and in the review and errors and non-compliances may remain undetected.

The Post Audit And Review Implementation Plan (PAIP) is a document prepared by the licensee in response to the recommendations provided by the audit and review. As it represents the licensee's views and actions it does not form part of the audit and review and is provided separately in accordance with the guidelines.

#### 1.11 ABBREVIATIONS

AMP	Asset Management Plan
AMIS	Asset Management Information System
AMS	Asset Management System
AS	Australian Standard
Audit	2014 Performance Audit
Authority	Economic Regulation Authority
CAPEX	Capital Expenditure
CEO	Chief Executive Officer
DM	Document Management System
DMS	Document Management
DSOC	Declared Sent Out Capacity
EC	Effectiveness Criteria
EH&S	Environmental Health and Safety
ETAC	Electricity Transfer Access Contract
FY	Financial Year
HV	High voltage
KPI	Key Performance Indicators
LCC	Lifecycle costs
LV	Low voltage
NA	Not applicable
NR	Not rated
O&M	Operation and Maintenance
OFI	Opportunity for Improvement
OHSE	Occupational Health, Safety and Environmental

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OPEX	Operating Expenditure		
PAIP	Post Audit and Review Implementation Plan		
PE	Perth Energy Pty Ltd		
Review	2014 Electricity Generation Licence Asset Management System Review		
SLA	Service Level Agreement		
T1	TechnologyOne Asset Management System (Database)		
WEPL	Western Energy Pty Ltd		
YTD	Year to Date		



#### 2 KEY FINDINGS AND RECOMMENDATIONS

## 2.1 LICENSEE'S RESPONSE TO PREVIOUS AUDIT RECOMMENDATIONS

The previous audit report covered the period 15 September 2008 to 30 September 2012. The report made three recommendations which have all been closed in the current audit period of 1 October 2012 to 30 September 2014.

Table 3- Previous audit non-compliances and recommendations

	Table of Previous Non Compliances and Audit Recommendations				
Α	Resolved before end of p	revious audit period			
Reference (No/ Year)	(Compliance rating/ Legislative obligation / Details of the issue)	Auditors' recommendation or action taken	Date resolved	Further action required (Yes/No/Not Applicable) Details of further action required including current recommendation reference if applicable	
	Nil				
В	Resolved during current	audit period			
Reference (No/ Year)	(Compliance rating/ Legislative Obligation / Details of the issue)	Auditors' Recommendation or action taken	Date resolved	Further action required (Yes/No/Not Applicable) Details of further action required including current recommendation reference if applicable	
Asset MgtSystem Review- EC6/2012	the information required	Continue with the implementation of corrective actions to address the noncompliance against licence obligations.  ERA obligations have been set out in Engineering Diary on MS Office system.  AMP 2015-16 has identified that the Authority's Obligations will be set as work orders in TechnologyOne Asset Management System by March 2015.		No	
	3 124	As per AMSR-EC6/2004 above	As per AMSR-EC6/2004 above	No	



	Provision of information Electricity Industry Act section 11 A licensee must provide the Authority, in the manner prescribed, any information the Authority requires in connection with its functions under the Electricity Industry Act.		
	As per AMSR-EC6/2004 above		
1/2012	operator must give notice to a user, or (if there is a different current user) the current user, acknowledging receipt of any customer, site or address attributes from the user within the timeframes prescribed.	customer, site and address attributes to the operator and request a formal acknowledgement which needs to be retained as a compliance record.  Send written notice to System Management formally providing site details and contact details for Kwinana Swift Power Station and request formal response.	No
2/2012	3 448 Electricity Industry Metering Code clause 7.2(1) Code participants must use reasonable endeavours to ensure that they can send and receive	The contact information	No

	· · · · · · · · · · · · · · · · · · ·		
ar cc nc op nt cc cc	nd electronic ommunication and must otify the network perator of a telephone umber for voice ommunication in onnection with the Code.  Whilst there was evidence	with the network operator.	
ot be nc be be	etween the code articipant and the etwork operator, there vas no formal record of otification of contacts etween the network perator and code articipant.		
EI M 7. m pa cc ch de da	49 Electricity Industry Netering Code clause	Refer to Recommendation Reference 2/2012 (item 448). Action as per Reference 2/2012 (item 448).	No
of be pa ne wi no be	Whilst there was evidence f communication etween the code articipant and the etwork operator, there was no formal record of otification of contacts etween the network perator and code articipant.		
45 EI M 7. A nc ne ch	51 Electricity Industry Netering Code clause	Refer to Recommendation Reference 2/2012 (item 448). Action as per Reference 2/2012 (item 448).	No

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	network operator at least 3 business days before the change takes effect.  Whilst there was evidence of communication between the code participant and the network operator, there was no formal record of notification of contacts between the network operator and code			
i	participant.			
С	Unresolved at end of curi	rent audit period		
Reference (No/ Year)	(Compliance rating/ Legislative Obligation / Details of the issue)	Auditors' Recommendation		Further action required (Yes/No/Not Applicable) Details of further action required including current recommendation reference if applicable
	Nil			



### 2.2 LICENSEE'S RESPONSE TO PREVIOUS REVIEW RECOMMENDATIONS

The previous review report covered the period 15 September 2008 to 30 September 2012. The report made 15 recommendations which have been closed in the current review period of 1 October 2012 to 30 September 2014 except for Recommendation 13/2012 which is now covered by the new Recommendation 5/2014.

Table 4- Previous review non-compliances and recommendations

	Table of Previous Review Ineffective Components Recommendations				
Α	Resolved before end of p	revious review period			
Reference (No/ Year)	(Asset management effectiveness rating/ Asset Management System Component & Criteria / Details of the issue)	Auditors' recommendation or action taken	Date resolved	Further action required (Yes/No/Not Applicable) Details of further action required including current recommendation reference if applicable	
	Nil				
В	Resolved during current	review period			
Reference (No/ Year)	(Asset management effectiveness rating/ Asset Management System Component & Criteria / Details of the issue)	Auditors' Recommendation or action taken	Date resolved	Further action required (Yes/No/Not Applicable) Details of further action required including current recommendation reference if applicable	
1/2012	updating, for example it still refers to the MEX Work Management	identified where improvements could be made.		No	
2/2012		implementation of a document management	30 September 2014	Action documented and considered closed.	

introduce a new document	collected in a single area that is easily identifiable and accessible by all staff.  Complete implementation of the document management system. Collect all documentation into one area. Scope of work for DMS has been developed. Preferred system has been identified and purchased. System is now being populated. This work is due to be completed by December 2014  All electronic information for the power station is currently held on a common drive that is available to all Engineering team staff.  Physical documentation is now centralised and located within the		
B2 Asset Creation and Acquisition – 2.4 Commissioning tests are documented and completed.		23 December 2013	No
the commissioning results. The non-compliance concerned the Technical Rules, CI 3.2.5.4 (c) and (e) [now 3.3.4.5 (a) (3)]: not complying with "maintaining adequate generating unit stability under all operating conditions".  Western Power has indicated that it will be favourable to an exemption	technical Rules clauses 2.2.8(a) and 2.2.8(b) has been granted.		

	which are due to	a a man la ta d		
	which are due to confirm the final generator parameters.			
4/2012	B2	OFI: Consider the	30 September 2014	No
	Asset Disposal – 3.2	introduction of charting of		
	The reasons for under- utilisation or poor performance are critically examined and corrective action or disposal	some of the critical operational parameters to enable trending analysis.  Review how outage data		
	undertaken.	is gathered and determine ways in which this can be better captured and used.		
	trips, it is not logged with causes, dates, actions, responsibilities etc in a register. There is no evident analysis of trends. At this early stage of the plant operation this may not provide clear results	Where possible performance trends are being monitored but this is not always practical because of the very intermittent operation of the power station – each of the gas turbine generators only ran for around 20 hours during the 2013-14 financial year.  Equipment failures through the past year		
		provide enough data to track trends.  Data is being gathered on the high voltage equipment which is continually being energised as part of the technical compliance process.  Western Energy will		
		continue to review performance.		
5/2012	B2	OFI: Consider reporting of		No
	Asset Disposal – 3.2  The reasons for under- utilisation or poor performance are critically examined and corrective			
		generation unit can be implemented. Assess		

0
0

8/2012	Asset Operations – 5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, and an assessment of assets physical/structural condition and accounting data.	Some of the parts in the CTEC spare parts register still show ETA 13 October and 19 December 2010. Spare Parts Register (CTEC) needs to be updated.  Update the Spare Parts Register (CTEC). The register is now held in the TechnologyOne Asset Management System, so it is automatically updated with each spare part purchase or usage.  Regular physical stocktakes continue to be done.	No
9/2012	Because of the low operating demand, periodic maintenance can be uneconomical and the decision on running the maintenance tasks is left with the site operator, who, on the basis of the inspections and assessment of plant condition determines the maintenance	current policy for plant maintenance.  Document and implement formal procedures for modification of the approved maintenance schedule. The transition to full utilisation of the TechnologyOne Asset Management System is improving the overall view of the actual maintenance situation.  A formal procedure for the development of the annual maintenance plan as part of the budget has been implemented. The procedure includes a formal process for modification of the maintenance schedule due to changing conditions.	No
10/2012	B2 Asset Operations – 6.4 Failures are analysed and operational/maintenance	[ <b>OFI</b> ] Consider the revision and updating of the failure recording system to better track the	No

	plans adjusted where necessary.  The failure recording system needs minor improvement to better track the details of each event, better reporting at operational meetings and to provide an historical view of the asset	details of each event, including identification of plant, causes, documentation, actions, dates. This will enable better reporting at operational meetings and will provide an historical view of the asset performance. This should include more transparent	
	performance.	reporting of items such as failures to start or engine trips.  Implemented reporting of all plant operation with details of any untoward events. Improved reporting of all failures and engine trips.	
11/2012	identified in the risk analysis is risk number 36, "Generation licence regulation non-compliance". A number of actions are in place to mitigate the risk however the actions and their status are not readily visible in risk registers or reports.	Implement a review of the Risk Register on a quarterly basis.  Implement a full review with HAZOP on an annual basis.  Review the status of all actions as part of this review.	No
12/2012	B3  Risk Management – 8.3  The probability and consequences of asset	Review and update the Generation Risk Register. Bring up to date the actions required.	No

	failure are regularly assessed.  It was noted that the Generation Risk Register is due to be reviewed annually (Quantate Risk Report: Perth Energy (including WE) as at 15 Oct 2012 for period ending 30 September 2012), however the generation risk register was last reviewed in 2010.	Generation Risk Register is being reviewed six monthly and was last updated in July 2014.		
14/2012	proposed, responsibilities and dates.  There is no commitment of funds for major asset	expenditure plan to include planned asset expenditure and remove inconsistencies.  Committed capital expenditure has been identified and included into the 2014-15 capital expenditure plan and budget. Capital expenditure plans will be updated annually.	30 June 2013	No
15/2012	C2 Capital Expenditure Planning – 11.2 The plan provides reasons for capital expenditure and timing of expenditure.	acquisition including the management of the capital expenditure plan.		No

	A procedure for asset creation and acquisition including capital expenditure planning was in draft at the time of the audit. The procedure should be implemented.	2012. Latest update was 26 April 2013.		
	regularly updated and actioned.  At this point the capital expenditure process is not	recommendation 15/2012 (EC11.2)  Action as per 15/2012 (EC11.2)		No
	formalised. Updates and revisions to the proposed expenditure were documented in Monthly Operating Reports, however these changes were not reflected in the overall plans.			
C Reference (No/ Year)	(Asset management effectiveness rating/ Asset Management System Component & Criteria / Details of the issue)	Auditors' Recommendation		Further action required (Yes/No/Not Applicable) Details of further action required including current recommendation reference if applicable
13/2012	laocumentea unaerstooa	has not been undertaker other work. Implement co confirm their application.	en completed but a live test n having been deferred by ntingency plans and test to nergy will seek to complete nt calendar year (2014).	Refer to current Recommendation number 5/2014.
	A "Kwinana Power Station Emergency Response Plan KSPS-00-PLAN-001" has been prepared but is not yet fully implemented.			



#### 2.3 SUMMARY OF AUDIT AND REVIEW

Separate performance audit summary and asset management system review summary are provided in this section.

#### 2.3.1 Performance Audit Compliance Summary

The performance audit is summarised below in Table 5. The table lists the compliance rating for each licence condition using the two-dimensional rating scale described in Table 6.

Each obligation is rated for both the adequacy of existing controls and the compliance with the relevant licence obligation.

**Table 5: Audit Obligation Ratings** 

Complian ce Licence Condition	Compliance Licence Condition	Audit Priority Applied (1=Highest 5-Lowest)	Adequacy of Controls Rating (Refer to the 4-point rating scale in Table 6 for details) (NP = Not Performed)				Compliance Rating (Refer to the 4-point rating scale in Table 6 for details)				
			Α	В	С	D	NP	1	2	3	4
2	Grant of licence	5	<b>\</b>					1			
3	Term	5	<b>√</b>					1			
4	Fees	5	<b>\</b>					1			
5	Compliance	4	<b>\</b>					1			
6	Transfer of licence						NR				
7	Cancellation of licence						NR				
8	Surrender of licence						NR				
9	Renewal of licence						NR				
10	Amendment of licence (licensee)						NR				
11	Amendment of licence (Authority)						NR				
12	Accounting records	4	<b>\</b>					1			
13	Individual performance standards						NA				
14	Performance audit	4	<b>\</b>					1			
15	Reporting a change in circumstances	4					NR				
16	Provision of information	5	<b>\</b>					1			
17	Publishing information	5					NR				

Complian ce Licence Condition	Compliance Licence Condition	Audit Priority Applied (1=Highest 5-Lowest)	pplied (Refer to the 4-point rating Highest scale in Table 6 for details) rating scale (NB NATE Professional Refer to the 4-point rating scale in Table 6 for details)			fer to t scale	oliance Rating r to the 4-point cale in Table 6 or details)				
			Α	В	С	D	NP	1	2	3	4
18	Notices	5	<b>√</b>					✓			
19	Review of the Authority's decisions						NR				
20	Asset Management System	2	1					✓			

Note: Where obligations have not been rated, reasons for the lack of rating are provided in Table 10 Performance Audit Observations and Recommendations (July 2014 version).

Table 6: Audit compliance and controls rating scales

Performance audit compliance and controls rating scales							
Adequacy of Controls	Adequacy of Controls Rating						
Rating	Description						
А	Adequate controls – no improvement needed						
В	Generally adequate controls - some improvement needed						
С	Inadequate controls - significant improvement required						
D	No control evident						
Compliance Rating							
Rating	Description						
1	Compliant						
2	Non-compliant- minor impact on customers or third parties						
3	Non-compliant – moderate impact on customers or third parties						
4	Non-compliant - major impact on customers or third parties						

#### 2.3.2 Asset Management Review Effectiveness Summary

The review of the Asset Management System is summarised below in Table 7. The table lists each of the 12 key asset management processes together with the effectiveness criteria for each key component. Definition of the ratings is given in Table 8 (process and policy definition) and Table 9 (performance).

Table 7: Asset management effectiveness summary

ASSET MANAGEMENT SYSTEM COMPONENT & EFFECTIVENESS CRITERIA	Asset management process and policy definition adequacy ratings	Asset management performance ratings	
1. Asset planning	Α	1	
1.1 Asset management plan covers key requirements.	Α	1	
1.2 Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	Α	1	
1.3 Service levels are defined.	Α	1	
1.4 Non-asset options (e.g. demand management) are considered.	NA	NA	
1.5 Lifecycle costs of owning and operating assets are assessed. (also at 2.2)	А	1	
1.6 Funding options are evaluated.	Α	1	
Costs are justified and cost drivers identified.	Α	1	
1.8 Likelihood and consequences of asset failure are predicted.	А	1	
1.9 Plans are regularly reviewed and updated.	Α	1	
2. Asset creation/ acquisition	Α	1	
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	А	1	
2.2 Evaluations include all life-cycle costs.	Α	NR	
2.3 Projects reflect sound engineering and business decisions.	Α	NR	
2.4 Commissioning tests are documented and completed.	NR	NR	
2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.	Α	1	
3. Asset disposal	A	1	

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	1	
3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process.	A	1
3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.		1
3.3 Disposal alternatives are evaluated.	A	NR
3.4 There is a replacement strategy for assets.	A	1
4. Environmental analysis	A	1
4.1 Opportunities and threats in the system environment are assessed.	A	1
4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.	A	1
4.3 Compliance with statutory and regulatory requirements.	A	1
4.4 Achievement of customer service levels.	A	1
5. Asset operations	A	1
5.1 Operational policies and procedures are documented and linked to service levels required.		1
5.2 Risk management is applied to prioritise operations tasks.	A	1
5.3 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.	В	2
5.4 Operational costs are measured and monitored.	A	1
5.5 Staff resources are adequate and staff receive training commensurate with their responsibilities.	A	1
6. Asset maintenance	Α	1

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6.1 Maintenance policies and procedures are documented and linked to service levels required.	Α	1
6.2 Regular inspections are undertaken of asset performance and condition.	Α	1
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	В	2
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary.	Α	1
6.5 Risk management is applied to prioritise maintenance tasks.	Α	1
6.6 Maintenance costs are measured and monitored.	Α	1
7. Asset management information system	Α	1
7.1 Adequate system documentation for users and IT operators.	В	2
7.2 Input controls include appropriate verification and validation of data entered into the system.	А	1
7.3 Logical security access controls appear adequate, such as passwords.	Α	1
7.4 Physical security access controls appear adequate.	Α	1
7.5 Data backup procedures appear adequate and backups are tested.	Α	1
7.6 Key computations related to licensee performance reporting are materially accurate.	Α	1
7.7 Management reports appear adequate for the licensee to monitor licence obligations.	Α	1
8. Risk management	Α	1
8.1 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	Α	1

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8.2 Risks are documented in a risk register and treatment plans are actioned and monitored.	Α	1
8.3 The probability and consequences of asset failure are regularly assessed.	Α	1
9. Contingency planning	В	3
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	В	3
10. Financial planning	Α	1
10.1 The financial plan states the financial objectives and strategies and actions to achieve the objectives.	Α	1
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs.	А	1
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	А	1
10.4 The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period.	А	1
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	Α	1
10.6 Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	A	1
11. Capital expenditure planning	Α	1
11.1 There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	А	1
11.2 The plan provides reasons for capital expenditure and timing of expenditure.	Α	1
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	Α	1



11.4 There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	Α	1
12. Review of asset management system	Α	1
12.1 A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.	А	1
12.2 Independent reviews (e.g. internal audit) are performed of the asset management system.	А	1

Table 8: Asset management process and policy definition adequacy ratings

Rating	Description	Criteria
A	Adequately defined	<ul> <li>Processes and policies are documented.</li> <li>Processes and policies adequately document the required performance of the assets.</li> <li>Processes and policies are subject to regular reviews, and updated where necessary.</li> <li>The asset management information system(s) are adequate in relation to the assets that are being managed.</li> </ul>
В	Requires some improvement	<ul> <li>Process and policy documentation requires improvement.</li> <li>Processes and policies do not adequately document the required performance of the assets.</li> <li>Reviews of processes and policies are not conducted regularly enough.</li> <li>The asset management information system(s) require minor improvements (taking into consideration the assets that are being managed).</li> </ul>
С	Requires significant improvements	<ul> <li>Process and policy documentation is incomplete or requires significant improvement.</li> <li>Processes and policies do not document the required performance of the assets.</li> <li>Processes and policies are significantly out of date.</li> <li>The asset management information system(s) require significant improvements (taking into consideration the assets that are being managed).</li> </ul>
D	Inadequate	<ul> <li>Processes and policies are not documented.</li> <li>The asset management information system(s) is not fit for purpose (taking into consideration the assets that are being managed).</li> </ul>

#### Table 9: Asset management review performance rating scale

Rating	Description	Criteria
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# WESTERN ENERGY PTY LTD 2014 ELECTRICITY GENERATION LICENCE PERFORMANCE AUDIT AND ASSET MANAGEMENT SYSTEM REVIEW

Rating	Description	Criteria
1	Performing effectively	<ul> <li>The performance of the process meets or exceeds the required levels of performance.</li> <li>Process effectiveness is regularly assessed, and corrective action taken where necessary.</li> </ul>
2	Opportunity for improvement	<ul> <li>The performance of the process requires some improvement to meet the required level.</li> <li>Process effectiveness reviews are not performed regularly enough.</li> <li>Process improvement opportunities are not actioned.</li> </ul>
3	Corrective action required	<ul> <li>The performance of the process requires significant improvement to meet the required level.</li> <li>Process effectiveness reviews are performed irregularly, or not at all.</li> <li>Process improvement opportunities are not actioned.</li> </ul>
4	Serious action required	Process is not performed, or the performance is so poor that the process is considered to be ineffective.

#### 2.4 OBSERVATIONS AND FINDINGS

The observations and findings of the performance audit and the asset management system review are reported in Table 10 and Table 11.

The tables include all the findings, observations and recommendations and rate WEPL's overall compliance and adequacy of controls for each licence obligation and process and policy definition adequacy and performance for the asset management system in accordance with the Authority's requirements. The rating definitions are reproduced in Table 6 for the performance audit and in Table 8 and Table 9 for the asset management system review.

In regard to the performance audit, where appropriate or where the compliance obligation has been rated as C, D, 2, 3 or 4 recommendations are made to address the issue(s) that have resulted in that rating. Optionally, recommendations to address opportunities for improvement (for items rated A, B or 1) may also be included in the audit report.

In regard to the asset management system review, if process and policy definition is rated C or D, or the asset management performance is rated 3 or 4, recommendations are included to address the deficiencies that have resulted in those ratings.

The licensee's corrective actions are included in the separate Post Audit And Review Implementation Plan.

#### 2.4.1 Performance audit findings and observations

Key findings and recommendations arising from the performance audit are listed against their licence obligation in the following table.

#### **KEY TO FINDINGS AND RECOMMENDATIONS**

Key	Description	
•	Finding/ Non-compliance or Inadequacy of controls	
1. Text	Recommendations	
[OFI]	Opportunity for Improvement	

Key	Description	
Licence Grant Date	Licence Grant Date The licence was granted on the 15 September 2008	
Audit period	1 October 2012 to 30 September 2014	

#### Table 10 Performance Audit Observations and Recommendations (July 2014 version)

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
L1			The licensee has identified the licence area and is operating the plant in accordance		А	1	

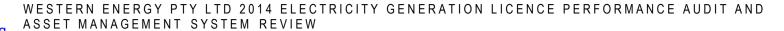


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Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		operate existing generating works in accordance with the terms and conditions of this licence	with the conditions of the licence.				
L2	CI.2 (Sch1)	Licence Area The licence area is the area as set out in plan ERA-EL-115	The licensee has identified the licence area and the licence boundaries which correspond to the licence information.	5	A	1	
L3	CI 3	Term Licence commences on the commencement date (15 September 2008) and continues until the earlier of: (a) the cancellation of the licence (clause 7) (b) surrender of licence (c) expiry (2038)	The licence has been maintained during the audit period. There have been no changes to the licence such as cancellation, surrender or expiry.	5	A	1	
105 L4	CI 4	prescribed licence fee within one month after the	fee payments the audit found prescribed licence fees had been paid as per requirements:		А	1	
	CI 4.1	The licensee must pay the applicable fees in accordance with the Regulations	<ul> <li>For payment due 15 October 2012: paid on 25 September 2012;</li> <li>For payment due 15 October 2013: paid 9 September 2013;</li> <li>Noted that the fee for 15 October 2014 was paid on 29 August 2014.</li> </ul>				

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
L5	CI.5	Compliance: The licensee must comply with all applicable legislation.	The audit found that the licensee has a process and documentation in place to ensure the licensee's compliance with applicable legislation:  • A "Generation Licence Compliance Worksheet" has been created and is used to identify the obligations under the licence and the status of compliance;  • the document "ERA Generation Licence Compliance" provides the instructions for managing the reporting and compliance with the Authority's requirements;  • evidence was available of compliance with legislation through the planning analysis documented in the Asset Management System;  • reporting on compliance with the Dangerous Goods Licence in annual Asset Management Plans;  • Department of Environment and Conservation licence annual report;  • Authority Generation Licence fee	4			
			<ul> <li>payments;</li> <li>Electricity Generation Licence compliance report; etc</li> <li>(Further details of compliance are audited under obligation 124).</li> </ul>				

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y	Recommendations
106	CI 5.1	Electricity Industry Act section 31(3)  A licensee must take reasonable steps to minimise the extent or duration of any interruption, suspension or restriction of the supply of electricity due to an accident, emergency, potential danger or other unavoidable cause.	The audit found that documents and processes are in place to manage and minimise the extent and duration of interruption of the supply of electricity:  • constant review of operation and in depth annual review in budgeting and AMPs preparation which identify objectives, performance, issues with plant operation and improvement actions;  • clear, defined and regularly monitored performance criteria to optimise the reliability of the plant;  • a process of regular asset operation risk analysis which identifies actions for mitigating risks;  • experienced staff and clearly identified support contractors with defined service scopes;  • Emergency Response Plan and Crisis Management Plan.	4	A A	2,3,4=N 1	
107	CI 5.1	Electricity Industry Act section 41(6) A licensee must pay the costs of taking an interest in land or an easement over land	The Audit examined sufficient evidence of payments of costs for an interest in land including:  • payment of monthly site rentals,  • payment of annual land tax;	4	A	1	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
			payment of shire/council rates.				
L6	CI 6	Transfer of Licence This licence may be transferred only in accordance with the Act.	Not rated, The General Manager Generation confirmed that there was no applicable activity in the audit period.	NR	NR	NR	
L7	CI 7	Cancellation of Licence This licence may be cancelled only in accordance with the Act.	Not rated, The General Manager Generation confirmed that there was no applicable activity in the audit period.	NR	NR	NR	
L8	CI 8	Surrender of Licence This licence may be surrendered only in accordance with the Act [and as defined in the clause]	Not rated, The General Manager Generation confirmed that there was no applicable activity in the audit period.	NR	NR	NR	
L9	CI 9	Renewal of Licence This licence may be renewed only in accordance with the Act.	Not rated, The General Manager Generation confirmed that there was no applicable activity in the audit period.	NR	NR	NR	
L10	CI 10	Amendment of Licence on Application of the Licensee The licensee may apply to the Authority to amend the licence in accordance with the Act.	Not rated, The General Manager Generation confirmed that there was no applicable activity in the audit period.	NR	NR	NR	
L11	Cl 11	Amendment of Licence by the Authority the Authority may amend the licence at any time in accordance with this clause.	Not rated, The General Manager Generation confirmed that there was no applicable activity in the audit period.	NR	NR	NR	
L12 See item 119	Cl 12	Accounting Records See item 119 below				-	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
119		maintain accounting records that comply with the	There was evidence to show that accounting records of the body corporate comply with the Australian Accounting Standards Board Standards.  Examination of the licensee's records confirmed that:  • accounting records had been maintained for the audit period;  • accounting policies and records comply with the Australian Accounting Standards Board Standards.  The financial report of WEPL has been audited by KPMG which have concluded that in their opinion the financial report "presents fairly, in all material respects, the financial position of WEPLand its financial performance and cashflow in accordance with the accounting policies described" [above].  The licensee provided accounting records for FY 2013 and 2014.		A	1	
120	CI 13 4	Individual Performance Standards Electricity Industry Act section 11 A licensee must comply with any individual performance standards prescribed by the Authority.	Not applicable during the audit period. The Authority did not prescribe individual performance standards during the audit period.	NR	NR	NR	
L14	CI 14	Performance Audit see items 101, 121 below.				-	

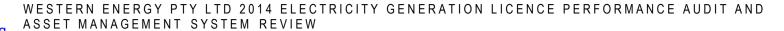


Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
101	CI14.1	Electricity Industry Act section 13(1)  A licensee must, not less than once every 24 months, provide the Authority with a performance audit conducted by an independent expert acceptable to the Authority.  Cl 14.1  The licensee must, unless otherwise notified in writing by the Authority, provide the Authority with a performance audit within 24 months after the commencement date, and every 24 months thereafter.	<ul> <li>The audit found evidence of the licensee compliance with the requirement to provide a performance audit by examining the following information:</li> <li>The Licence, which was granted on 15 September 2008;</li> <li>a letter of 13 October 2014 by the Authority advising the approval of the auditor and stating that the audit period was from 1 October 2012 to 30 September 2014, with a report to be provided to the Authority by 31 December 2014;</li> <li>the licensee commissioned an independent expert to provide the Authority with a performance audit and a report to cover the period of 24 months from 1 October 2012 to 30 September 2014.</li> </ul>	4	A	1	
121	CI 14.2	Electricity Industry Act section 11 A licensee must comply, and require its auditor to comply, with the Authority's standard audit guidelines dealing with the performance audit.	The licensee has specified and the auditor has documented in the Audit Plan its compliance with the Authority's guidelines. The Audit Plan was approved by the Authority on 1 December 2014.	4	A	1	
L15	CI 14.3	The licensee may seek a review of any of the requirements of the Authority's standard audit guidelines in accordance with clause 19.1.	Not rated. The General Manager Generation confirmed that there were no applicable requests in the audit period.	4	NR	NR	
L16	CI 14.4	The independent auditor must be approved by the Authority prior to the audit.	The General Manager Generation confirmed that the auditor was approved by the Authority prior to the audit. This was		A	1	

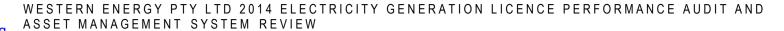
Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
			confirmed by the Authority's letter reference D129493 of 13 October 2014.				
123	CI 15	manner prescribed, if a licensee is under external	Not rated, The General Manager Generation confirmed that there was no significant change in the circumstances upon which the licence was granted which could affect WEPL's ability to meet its obligations in the audit period.		NR	NR	
L17	CI 15.1	The licensee must report to the Authority:  (a) if the licensee is under external administration  (b) if the licensee experiences a change in the licensee's corporate, financial or technical circumstances upon which this licence was granted which may affect the licensee's ability to meet its obligations under this licence  within 10 business days of the change occurring or  (c) if the:  (i-iii) licensee's name; licensee's ABN; licensee's address;  (iv) description of the generating	Not rated, The General Manager Generation confirmed that there was no significant change in the circumstances upon which the licence was granted which could affect WEPL's ability to meet its obligations in the audit period.		NR	NR	
		works; or (v) nameplate capacity of the generating works, change, within 10 business days of the change occurring.					

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
124	CI	Provision of information  Electricity Industry Act section 11  A licensee must provide the Authority, in the manner prescribed, any information the Authority requires in connection with its functions under the Electricity Industry Act.	Under the Electricity Industry Act the licensee is required to provide the information requested by the Authority which includes:  • Annual Compliance reports covering all of its type 1 and type 2 licence obligations for each reporting year (1 July and ending 30 June) by 31 August immediately following the end of the financial year that is the subject of the report.  The audit examined the licensee compliance register and compliance reports and found evidence of the following:  • Report required by 31 August 2013 to cover the period 1 July 2012 to 30 June 2013  • Issued 9 August 2013, reports a	5	A	1	
			contravention for report of 5 September 2012 which was issued five days late;  Report required by 31 August 2014 to cover the period 1 July 2013 to 30 June				
			2014  Issued 5 August 2014, reports no contraventions.  The compliance reports were consistent with the compliance register and were submitted in accordance with the				

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
			requirements during the audit period.  The compliance reports identified one non-compliance which was due to the late submission of the compliance report of 5 September 2012 occurring in the previous audit period of 15 September 2008 to 30 September 2012. There was sufficient evidence to show that the licensee had improved the controls on the submission of required reports by entering the licence obligations on its Engineering calendar.				
125	CI	Publishing information Electricity Industry Act section 11 A licensee must publish any information it is directed by the Authority to publish, within the timeframes specified.	Not Rated. Not applicable in the audit period. There were no directions by the Authority to publish any information.	5	NR	NR	
126	CI	Notices Electricity Industry Act section 11 Unless otherwise specified, all notices must be in writing.	It was confirmed with the licensee's Power Station Manager that all notices are provided in writing.	5	A	1	
L19	CI 19 CI 19.1	Review of the Authority's decisions The licensee may seek a review of a reviewable decision by the Authority pursuant to this licence.	Not Rated. Not applicable in the audit period. There were no requests by the licensee to review decisions by the Authority in relation to this licence.	NR	NR	NR	
L20	CI 20	Asset Management System See 102/Cl 20.1				-	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
102	CI 20.1	Electricity Industry Act section 14(1)(a)  A licensee must provide for an asset management system.  CI 20.1  The licensee must provide for an asset management system in respect of the licensee's assets.	The licensee has implemented an asset management system (AMS) which has been subject to review by an independent auditor.	2	A	1	
103		Electricity Industry Act section 14(1)(b)  A licensee must notify details of the asset management system and any substantial changes to it to the Authority.	Not Rated. Not applicable during the audit period.  There were no substantial changes to the licensee's asset management system (AMS) in the audit period.	2	NR	NR	
L21	CI 20.2	The licensee must notify the Authority of the details of the asset management system within 5 business days from the later of:  (a) the commencement date; and  (b) the completion of construction of the generating works.					
L22	CI 20.3	The licensee must notify the Authority of any substantial change to the asset management system within 10 business days of such change					
104	CI 20.4	Electricity Industry Act section 14(1)(c)  A licensee must provide the Authority with a report by an independent expert as to the effectiveness of its asset management system every 24 months [calculated from the	The licensee has commissioned an independent expert to provide the Authority with a report on the effectiveness of its asset management system to cover a period of 24 months from 1 October 2012 to 30		A	1	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		commencement date] or such longer period as determined [in writing] by the Authority.	September 2014 as noted in the Authority's letter of the 13 October 2014.				
122	CI 20.5	Electricity Industry Act section 11 A licensee must comply, and must require the licensee's expert to comply, with the relevant aspects of the Authority's standard guidelines dealing with the asset management system.	The licensee has complied and has requested the licensee's expert to comply with the Authority's guidelines.  The licensee's expert has documented in the Audit Plan its compliance with the Authority's guidelines.	2	A	1	
L23	CI 20.6	requirements of the Authority's standard audit	Not rated. Not applicable in the audit period. There have been no requests for a review of the Authority's standard audit guidelines dealing with the asset management system.	2	NR	NR	
L24	CI 20.7	The review of the asset management system must be conducted by an independent expert approved by the Authority.	The General Manager Generation confirmed that the auditor was approved by the Authority prior to the audit as documented in the Authority's letter (reference D129493) of 13 October 2014.		A	1	
324	CI 5.1	A user who is aware of bi-directional flows at a metering point which was not previously subject	Not rated. The metering point was subjected to bi-directional electricity flows since construction. There have not been any changes in the user's circumstances during the audit period.		NR	NR	
339	CI 5.1	3.11(3)	Not rated. The General Manager Generation confirmed that the Code participant was not aware of any outage or malfunction of the		NR	NR	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		outage or malfunction of a metering installation must advise the network operator as soon as practicable.	metering installation during the audit period.				
364	CI 5.1	Electricity Industry Metering Code clause 3.27 A person must not install a metering installation on a network unless the person is the network operator or a registered metering installation provider for the network operator doing the type of work authorised by its registration.	Not rated.  The metering installation was installed by the network operator prior to this audit period. Discussion with the General Manager Generation confirmed that the licensee was not advised of any changes to the metering installation during the audit period.	4	NR	NR	
371	CI 5.1	Electricity Industry Metering Code clause 4.4(1)  If there is a discrepancy between energy data held in a metering installation and data held in the metering database, the affected Code participants and the network operator must liaise together to determine the most appropriate way to resolve a discrepancy.	Not rated. Not applicable in the audit period. There was no evidence that a metering discrepancy had occurred in the audit period.		NR	NR	
372	CI 5.1	Electricity Industry Metering Code clause 4.5(1) A Code participant must not knowingly permit the registry to be materially inaccurate.	Not rated. Not applicable in the audit period. All operation related to the metering was performed by the network operator during the audit period and the licensee did not encounter any instances where the registry was noted to be materially inaccurate in terms of energy and standing data during the audit period.		NR	NR	
373	CI 5.1	Electricity Industry Metering Code clause 4.5(2)	Not rated. Not applicable in the audit period.	4	NR	NR	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		participant, other than a network operator, becomes aware of a change to, or an inaccuracy in, an item of standing data in the registry, then it must notify the network operator and provide	All operation related to the metering was performed by the network operator during the audit period and the licensee did not encounter any instances where the registry was noted to be materially inaccurate in terms of energy and standing data during the audit period.				
388	CI 5.1	Electricity Industry Metering Code clause 5.4(2) A user must, when reasonably requested by a network operator, assist the network operator to comply with the network operator's obligation under subclause 5.4(1). [5.4(1)] A network operator must, for each meter on its network, at least once in every 12 month period undertake a meter reading that provides an actual value that passes the validation processes in Appendix 2.	Under the ETAC the network operator has access both to the site, to the metering installation and to switchyard independently of WEPL.  No applicable requests were received by the licensee from the network operator in the audit period.	4	NR	NR	
401	CI 5.1	Electricity Industry Metering Code clause 5.16 If a user collects or receives energy data from a metering installation then the user must provide the network operator with the energy data (in accordance with the communication rules) within the timeframes prescribed.	from the metering installation.	4	NA	NA	
402	CI 5.1	Electricity Industry Metering Code clause 5.17(1)  A user must provide standing data and validated, and where necessary substituted or estimated, energy data to the user's customer to which that information relates where the user is required by an enactment or an agreement to do so for billing purposes or for the purpose of providing metering		4	NR	NR	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		services to the customer.					
405	CI 5.1	Electricity Industry Metering Code clause 5.18 If a user collects or receives information regarding a change in the energisation status of a metering point then the user must provide the network operator with the prescribed information, including the stated attributes, within the timeframes prescribed.	Not applicable, the user does not collect any information regarding the energisation status of the metering point. Under the ETAC the network operator has access, operates and controls the metering installation.	4	NA	NA	
406	CI 5.1	Electricity Industry Metering Code clause 5.19(1)  A user must, when requested by the network operator acting in accordance with good electricity industry practice, use reasonable endeavours to collect information from customers, if any, that assists the network operator in meeting its obligations described in the Code and elsewhere, and provide that information to the network operator.	Not applicable. The General Manager Generation confirmed that there were no requests by the network operator and that the licensee has no customers under the Electricity Industry Metering Code.	4	NR	NR	
407	CI 5.1	A user must, to the extent that it is able, collect and maintain a record of the prescribed	Not applicable, The user is associated only with one connection point and the connection point is with network operator via the Kwinana Power Station switchyard. The user has no customers under the Electricity Industry Metering Code.	4	NA	NA	
408	CI 5.1	Subject to subclauses 5.19(3A) and 5.19(6), the user must, within 1 business day after becoming	Not applicable. The connection point is with the network operator, there are no customers associated with the connection point under the Electricity Industry Metering Code and there have been no changes to the site's prescribed attributes during the	4	NA	NA	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		the change.	audit period.				
410	CI 5.1	<b>5.19(6)</b> The user must use reasonable endeavours to ensure that it does not notify the network operator of a change in an attribute described in subclause	Not applicable. The connection point is with the network operator, there are no customers associated with the connection point under the Electricity Industry Metering Code and there have been no changes to the site's prescribed attributes during the audit period.	4	NA	NA	
416	CI 5.1	Electricity Industry Metering Code clause 5.21(5)  A Code participant must not request a test or audit under subclause 5.21(1) unless the Code participant is a user and the test or audit relates to a time or times at which the user was the current user or the Code participant is the IMO.	Not rated. The General Manager Generation confirmed that there have been no test requests during the audit period.	4	NR	NR	
417	CI 5.1	Electricity Industry Metering Code clause 5.21(6) A Code participant must not make a request under subclause 5.21(1) that is inconsistent with any access arrangement or agreement. [5.21(1) A Code participant must not make a test or audit request that is inconsistent with any access arrangement or agreement].	Not rated. The General Manager Generation confirmed that there have been no test requests during the audit period.	4	NR	NR	
435	CI 5.1	Electricity Industry Metering Code clause 5.27 Upon request from a network operator, the current user for a connection point must provide the network operator with customer attribute information that it reasonably believes are missing or incorrect within the timeframes prescribed.		4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
448	CI 5.1	Electricity Industry Metering Code clause 6.1(2)  A user must, in relation to a network on which it has an access contract, comply with the rules, procedures, agreements and criteria prescribed.	There was evidence to show that the user is complying with the rules, procedures, agreement and criteria prescribed in the network access contract. There have been changes in the requirements and mode of operation of the power station in the audit period. Remote operation by System Management was in place but was removed by System Management with the introduction of the balancing market. Remote operation by System Management has been re-established.  Compliance testing with the Technical Rules was carried out in 2013. A variation to the ETAC between Western Power and WEPL was signed in January 2014 for a change to the electro mechanical damping ratio which had been under review since 2011.		A	1	
451	CI 5.1	Electricity Industry Metering Code clause 7.2(1) Code participants must use reasonable endeavours to ensure that they can send and receive a notice by post, facsimile and electronic communication and must notify the network operator of a telephone number for voice communication in connection with the Code.	Complies. The code participant has facilities to send and receive notices by post, facsimile and electronic communication. The code participant provided formal advice of telephone numbers for voice communication as well as address and electronic communication in connection with the Code on 18 December 2012.		A	1	
453	CI 5.1	Electricity Industry Metering Code clause 7.2(4) If requested by a network operator with whom it has entered into an access contract, the Code	Not rated. The General Manager Generation confirmed that there were no requests by the network operator in the audit period.	4	NR	NR	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		participant must notify its contact details to a network operator within 3 business days after the request.					
454	CI 5.1	Electricity Industry Metering Code clause 7.2(5)  A Code participant must notify any affected network operator of any change to the contact details it notified to the network operator under subclause 7.2(4) at least 3 business days before the change takes effect.		4	NR	NR	
455	CI 5.1	Electricity Industry Metering Code clause 7.5  A Code participant must subject to subclauses 5.17A and 7.6 not disclose, or permit the disclosure of, confidential information provided to it under or in connection with the Code and may only use or reproduce confidential information for the purpose for which it was disclosed or another purpose contemplated by the Code.	the audit period		A	1	
456	CI 5.1	Electricity Industry Metering Code clause 7.6(1) A Code participant must disclose or permit the disclosure of confidential information that is required to be disclosed by the Code.	Manager Generation confirmed that the		A	1	
457	CI 5.1	Electricity Industry Metering Code clause 8.1(1) If any dispute arises between any Code participants then (subject to subclause 8.2(3)) representatives of disputing parties must meet within 5 business days after a notice given by a disputing party to the other disputing parties and attempt to resolve the dispute by negotiations in	addit poriod.	4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
450	015.4	good faith.		4	ND	ND	
458	CI 5.1	Electricity Industry Metering Code clause 8.1(2)  If a dispute is not resolved within 10 business days after the dispute is referred to representative negotiations, the disputing parties must refer the dispute to a senior management officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith.	Not rated. There were no disputes in the audit period.	4	NR	NR	
459	CI 5.1	Electricity Industry Metering Code clause 8.1(3) If the dispute is not resolved within 10 business days after the dispute is referred to senior management negotiations, the disputing parties must refer the dispute to the senior executive officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith.		4	NR	NR	
460	CI 5.1	Electricity Industry Metering Code clause 8.1(4) If the dispute is resolved by representative negotiations, senior management negotiations or CEO negotiations, the disputing parties must prepare a written and signed record of the resolution and adhere to the resolution.	Not Rated. Not applicable during the audit period.	4	NR	NR	
461	CI 5.1	Electricity Industry Metering Code clause 8.3(2) The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective in subclause	Not Rated. Not applicable during the audit period.	4	NR	NR	



# WESTERN ENERGY PTY LTD 2014 ELECTRICITY GENERATION LICENCE PERFORMANCE AUDIT AND ASSET MANAGEMENT SYSTEM REVIEW

Ite	em Li	ic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
			8.3(1).					

### 2.4.2 Asset Management System Review Findings and Observations

Key findings and recommendations arising from the Asset Management System Review are listed against their Effectiveness Criteria (EC) in the following table.

#### **KEY TO FINDINGS AND RECOMMENDATIONS**

Key	Description
•	Finding/ Deficiency
1. Text	Recommendations
[OFI]	Opportunity for Improvement

### **Table 11 - Asset Management System Review**

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
1	Asset Planning	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.	
		Western Energy Pty Ltd (WEPL), the licensee, is a subsidiary of Perth Energy Pty Ltd (PE). PE provides the engineering, operation and maintenance of the Kwinana Swift Power Station through its staff and selected contractors and provides corporate systems for accounts, financial, contract, purchasing, human resources, crisis management and IT.	
1.1	Asset management plan covers key requirements.	Both the licensee's asset management plan (AMP) and the asset management system	ADEQUACY OF CONTROLS: A

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		(AMS) document provide the policies and describe the key processes for the delivery of an effective AMS.  The Kwinana Swift AMS (KSAMS) document describes the AMS objectives and strategies, the external factors impacting on WEPL's operation, the structure of the system and, in accordance with the Authority's guidelines, the elements of the system. For each of the elements of the AMS, planning and operational policies are described. Risk management, financial management, capital expenditure planning, contingency management are covered.  The AMP supports the KSAMS. It reviews the historical operation of the plant and provides the plans for the forthcoming year.  Both documents cover elements such asset creation and acquisition, enhancement of assets, operation and maintenance (O&M) and asset disposal.  The Review examined various issues of the KSAMS and AMP from 2012 to 2014-15 and found that both the process documentation and the performance of the process were adequate.	Adequately defined PERFORMANCE: 1 Performing effectively
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	Planning process is defined in the KSAMS document and is geared to follow the needs of both internal and external stakeholders. The Review found that both the process and policies were documented and the process performance met requirements.  WEPL is a wholly owned subsidiary of Perth Energy Pty Ltd (PE), asset planning is performed at the parent company level.  • There is an annual process which follows the business planning cycle and support the development of a five year budget (it is noted that both the asset management planning process and the budgeting process follow an April to March financial year cycle). The planning process is documented in the "Preparation of Annual Management Plan" procedure.  • The AMP is developed annually and reports on the station management and operation. The AMP reviews future electricity demand, security, consideration of the whole of life financial model and revenue, performance of the plant and requirements of external bodies such as statutory bodies and insurance providers.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		The KPAMS and the "Proposed Budget" document define the operational objectives.	
1.3	Service levels are defined.	The Review found that service levels were defined both in the KSAMS and the AMP. The Review found that both the documentation and the performance of the process were adequate.  • Both the KSMAS and the AMP identify stakeholders and define the service levels and the test and maintenance regime required to maintain those levels.  • Service level performance is also reported in the Monthly Operating Reports.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
1.4	Non-asset options (e.g. demand management) are considered.	Not applicable to this operation. The operation relies on supplying power required by System Operation or dispatches power on demand from other parties. The assets are geared to supply as much power as required up to the plant capacity, therefore there is no demand management as such.	NA
1.5	Lifecycle costs of owning and operating assets are assessed. (also at 2.2)	Both the documentation and the performance of the processes met requirements.  Lifecycle costs of owning and operating the plant were initially calculated in a "Bank Model" (Model). The Model has been kept up to date by entering actual costs on a quarterly basis and reviewing and updating the assumptions annually for budgeting purposes.  The annual "Budget" document reports the predicted and actual costs and variances of owning and operating the assets. Analysis of costs is reported in the Budget and in Monthly Operating Reports with commentary on any variation and specific activities.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
1.6	Funding options are evaluated.	The process is documented and the performance of the process met requirements. Funding is evaluated through the budget process. The annual budget process is documented and involves the assessment of past and future activities and associated	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		costs. Once costs are identified the budget is firmed up and funding options are reviewed within the budget review and approval process.  Refinancing is an option that has been considered in the cost review.  Capital expenditure is presented and approved through the annual budgeting process and Business Cases are prepared when the expenditure is due, both for funded (planned) and unfunded (unplanned) expenditure.  A reserve account is in place funded from a proportion of every MW generated to provide recurring funds for major overhauls.	Performing effectively
1.7	Costs are justified and cost drivers identified.	Both the documentation and the performance of the processes met requirements. Costs of operation are formally reviewed annually in the AMP and in the "Proposed Budget", an operation strategy document which identifies CAPEX requirements, external services, contractors, breakdown maintenance, capital budget for components recommended by insurance firms, identified operational items and safety items. The costs are entered into the budget which is then subject to a management review and approval process with final approval required by the Board in November. The AMP also identifies the main cost drivers associated with the operation of the plant and adjusts the operational strategy to suit.  Monthly Operating Reports including budget updates track the costs through the year and provide commentary; Monthly Operating Reports are circulated to the licensee's Board of Directors and to major investors.	PERFORMANCE: 1 Performing effectively
1.8	Likelihood and consequences of asset failure are predicted.	Both the documentation and the performance of the processes met requirements. A risk management process is in place, with a risk analysis of asset failures performed in workshops at six monthly intervals and generating a "Risk Analysis" summary register with identification of risks, mitigating actions, timing and status of actions. There is a monthly follow up of actions and updates. The process is documented at a high level in the KSAMS document and in the "Risk Management Framework".	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
1.9	Plans are regularly reviewed and updated.	There was evidence to show that the asset management plan is regularly reviewed and updated.  AMPs are reviewed and updated annually. The AMPs are first reviewed by the engineering team and later subject to approval by the General Manager Generation.  A procedure is documented, the "Preparation of the Annual Asset Management Plan" which defines both the preparation and review of the annual AMP and the process for revising the plan during the year, if necessary.	Adequately defined
2	Asset Creation and acquisition	A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.	
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	Both the documentation and the performance of the processes met requirements. WEPL's policy and procedure on asset creation and acquisition have been documented in the "Asset Acquisition Policy and Procedure" document. The document covers both the acquisition or creation of major assets like new power generating plant or balance of plant (BOP) equipment.  For major assets, proposal are to be discussed at Perth Energy PL (PE) board meetings. In either case the asset acquisition/creation proposal needs to be approved by PE's Board of Directors.  There were no significant new projects undertaken at WEPL within the review period. The Review examined Business Cases for minor acquisitions and for taking over a proportion of contracted works and the documentation appeared adequate for the level of work.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
2.2	Evaluations include all life-cycle costs.	The documentation of the process was adequate.  There is provision for calculation of life cycle costs in the "Asset Acquisition Policy and Procedure", however there were no instances of its application as no significant asset acquisitions or creations occurred during the review period.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: NR Not rated as there were no instances of significant asset evaluations during the Review period.
2.3	Projects reflect sound engineering	The "Asset Acquisition Policy and Procedure" document adequately documents the	ADEQUACY OF CONTROLS: A

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
	and business decisions.	acquisition or creation process for major assets like new power generating plant or assets making up BOP equipment.  However no significant asset acquisitions or creations were undertaken during the review period.	Adequately defined PERFORMANCE: NR Not Rated. There were no instances of significant asset acquisitions or creation during the Review period.
2.4	Commissioning tests are documented and completed.	No significant asset acquisitions or creations were undertaken during the review period and no commissioning test were required.	Not Rated. There were no instances of significant asset acquisitions or creation during the Review period.
2.5	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood. (also at EC4.3)	Obligations have been documented and responsibilities assigned. There was evidence of performance of the process through regular reporting against obligations.  Obligations of the licensee have been identified and documented through a range of processes:  in company calendar, obligation have been identified and assigned;  the KSAMS has identified the specialist consultants selected to provide specialist services for compliance with obligations, those consultants are aware of the licensee's requirements and provide external monitoring of when obligations are due and their requirements;  in particular the KSAMS has identified the obligations and licences which require compliance, for example:  the Electricity Generation Licence;  Environmental Licences and associated environmental reports, emission monitoring, energy and greenhouse gas emissions, noise monitoring, ground water monitoring, reporting of environmental incidents;  Dangerous Goods, for the management of transport and storage of flammable and dangerous chemicals;	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>Registered Plant;</li> <li>Electrical Licences;</li> <li>compliance with the Market Rules of the Wholesale Electricity Market;</li> <li>compliance with Western Power's Technical Rules;</li> <li>legislative requirements such as testing of the High Voltage Switchyard and the earthing grid.</li> </ul>	
3	Asset Disposal	Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.	
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process.	Performance of the assets is subject to regular documented review. The performance of the process of identification of under-utilised and under-performing assets was demonstrated and effective.  Review of asset performance is performed regularly:  there is an annual review through the preparation of the annual AMP, which includes a review of the performance of the assets and identification of any issues and possible solutions. While the KSAMS identifies long term asset replacement activities, the AMP deals with more immediate issues with the assets;  the annual review is supported by Monthly Operating Reports which report monthly on operational results, testing and under-performing assets. Results of tests and operational data are continually monitored and reviewed and provide management and the Board a documented trail of asset performance;  Plant performance issues which have been identified during the review period are noted at EC3.2 below.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performance was effective.
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	Both the documentation and the performance of the processes were adequate.  Poorly performing assets are identified in the AMP, in the Monthly Operating Reports and in test reports. Once identified the assets are subject to review which may result	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>in changes to operation. Ultimately any under-performing assets are analysed during the annual AMP preparation and proposals formulated and provided to the Board for approval of the preferred actions.</li> <li>Cracks were found in September 2014 in auxiliary transformers which will need further investigation and may result either in repair or replacement.</li> <li>Evaporative coolers are also not performing as required and modifications have been identified to improve their operation.</li> </ul>	Performing effectively
3.3	Disposal alternatives are evaluated.	The documentation of the process met requirements.  A procedure is in place, the "Asset Disposal Procedure", for the disposal of asset, including the disposal of building material, waste, consumables, contaminated and perishable assets.  No significant assets were disposed of during the review period and therefore there was no applications of the procedure.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: NR Not rated. No significant assets were disposed of during the review period
3.4	There is a replacement strategy for assets.	Plans for plant expansion and replacement have been noted in the AMP and in the KSAMS. The performance of the process was adequate.  The plant has been designed to have an economic operating life of 25 years. Due to the regular review of operation and the plant operating regime being adjusted to suit market conditions the replacement strategy has remained flexible. The plant low operating hours mean that asset replacement can be delayed, however due consideration has been taken of the number of starts of the plant and of the operation of ancillary plant.  The AMPs have reviewed the performance of major items of plant and equipment which are not performing satisfactorily.  Replacement plans have been considered for equipment that has faults like the auxiliary transformers which have been experiencing leaks.	Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
4	Environmental Analysis	The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain requirements.	
4.1	Opportunities and threats in the system environment are assessed.	<ul> <li>Opportunities and threats in the system environment are analysed in the annual AMS review and in the preparation of the AMP. Documentation and performance of the process met requirements.</li> <li>The AMS provides the overall process for planning the Power Station operation based on the assessment of the current environment as defined by demand, prices, competitive market, reserve capacity prices, manufacturers development plans, changes to regulatory requirements and market rules. The process leads to the preparation of the annual AMP and budgets.</li> <li>A procedure is in place, the "Preparation of Annual Asset Management Plan" to document the process of preparation of the AMP.</li> <li>The "Proposed Budget" document reviews the operating assumptions in view of the past and future changes in external and internal factors. This document is prepared to summarise and support the five year operational budgets which will be incorporated in the overall annual WEPL budget.</li> <li>Evidence of the assessment of emerging opportunities and threats to the asset system was found in the AMPs and Budget.</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.	<ul> <li>Both the documentation and the process met requirements.</li> <li>Performance standards are clearly documented in the AMS and AMP. They include:</li> <li>availability of service and continuity including forced outages, scheduled outages, failure to start and engine trips;</li> <li>capacity, including results from capacity verification runs.</li> <li>In addition the Power Station needs to comply with environmental requirements.</li> <li>The performance standards are monitored in the annual AMP and in the Monthly Operating Reports where the monthly and YTD figures are listed.</li> <li>Monthly Operating Reports reviewed (2013-14 and 2014-15 NZ financial years)</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		showed compliance with the set standards.	
4.3	Compliance with statutory and regulatory requirements.	The Review found that the documentation of the process was extensive. Performance of the process at times required improvements however those improvements have been adequately documented and implemented.  The KSAMS identifies in detail the requirements of the licences or statutory and regulatory requirements, in particular:	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
		Electricity Generation Licence (reporting to the Authority)	
		Environmental Operating Licence (Department of Environmental Regulation)	
		Dangerous Goods Licence (Department of Mines)	
		Electricity Technical Rules (Western Power)	
		National Greenhouse and Energy Reporting (NGER) Act	
		Pressure Vessels (Department of Commerce)	
		Occupational Health and Safety Regulations.	
		The AMPs defined the tests, audits, reports and other activities that will be required through the year for compliance with the above requirements. The AMPs also report on any issues arising from previous tests or reports.	
		The company calendar has also been set up to notify responsible staff and management of impending compliance activities. Two actions identified by the licensee in the previous review period (15 September 2008 to 30 September 2012) are due to be completed shortly to improve this process. They include:	
		• the entry of compliance activities into the work management system of the operational AMS database TechnologyOne (T1). This will enable another layer of control so that Work Order will be generated for compliance tasks and will remain open until completion. This work has been budgeted in the AMP for 2015-16;	
		the completion of implementation of the Document Management System (DMS)	

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		which is due by the end of 2014.	
		The "ERA Generation Compliance Procedure" is in place to address the compliance requirements for the generation licence.	
		In regard to performance against a sample of requirements:	
		<ul> <li>Compliance against Electricity Generation Licence during the review period: a non compliance had been identified in regard to the previous review period for the submission of the compliance report on 5 September 2012, 5 days past the required date of 31 August. No non-compliance occurred during this review period (1 October 2012 to 30 September 2014);</li> </ul>	
		<ul> <li>In regard to the Annual Environmental Report for the Department of Environment and Conservation the Power Station passed the exhaust emissions tests. In June 2014 the most significant pollutant, oxides of nitrogen, measured at significantly less than the maximum permitted level on all engines;</li> </ul>	
		<ul> <li>In regard to pressure vessels inspections, the compressed air receivers have been certified as having met the Department of Commerce requirements;</li> </ul>	
		<ul> <li>Compliance testing with the Technical Rules was carried out in 2013, next tests are due in 2016. A variation to the ETAC between Western Power and WEPL was signed in January 2014 for a change to the electro mechanical damping ratio which had been under review since 2011;</li> </ul>	
		<ul> <li>Inspection by the Department of Mines showed that the storage arrangements for the chemicals in the water treatment plant did not comply with WEPL's Dangerous Goods Licence (there was conflicting advice from the specialist consultant that had assessed the arrangement). An interim change is now in place pending further changes in the plant operation.</li> </ul>	
4.4	Achievement of customer service levels.	Both the documentation and the performance of the processes met requirements. Service levels have been documented in the AMS and the AMPs. Service levels and standards are clearly defined. Past performance is reported in the AMPs and future tests are identified.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>In addition the Monthly Operating Reports publish details of impending tests and the results of completed tests.</li> <li>During the review period:</li> <li>Reserve Capacity verification test runs were completed successfully in December 2013 and April 2014 for the Independent Market Operator certification;</li> <li>The last black start test was performed successfully in August 2014 to verify the provision of System Restart Service to Western Power.</li> </ul>	Performing effectively
5	Asset Operations	Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved.	
5.1	Operational policies and procedures are documented and linked to service levels required.	The Review found sufficient evidence to show that operational policies are adequately documented and linked to required service levels.  The AMS and the AMP provide the operational policies; they are updated regularly and reflect  the state of the market;  the changes resulting from the previous year operation and  the updated strategies.  Strategies have been adjusted to the demands of the market and customers and reflect business objectives.  Operation of the power station is centered on tests to meet its licence conditions for:  emission monitoring;  tests of full power output to meet Reserve Capacity Obligation;  black start capability to meet System Restart Service;  tests for compliance with Western Power's Technical Rules.  Results of the above tests show that the plant has complied with the requirements of the licences.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		The operation also has to meet:  scheduled and unscheduled maintenance;  need to maintain the plant operational capability in times of no demand;  operation to meet the demands of the balancing market.  Procedures have been documented and implemented and include:  "Dispatch Procedure";  "Emergency Response" procedure.	
5.2	Risk management is applied to prioritise operations tasks.	<ul> <li>A risk management process was in place to continually assess and manage plant risks. Both the documentation and the performance of the process were adequate. The process is documented in the "Risk Management Framework" and includes:</li> <li>six monthly risk assessments which identify actions and operational tasks that need to be carried out to mitigate risks.</li> <li>minutes of six monthly meetings document the risk analysis;</li> <li>progress of actions is tracked by a member of staff through monthly correspondence.</li> <li>Risk analysis has resulted in:</li> <li>maintenance on the black start generator is prioritised as the station operation depends on its performance and to fulfil WEPL's service contract with Western Power;</li> <li>the alarms are communicated remotely to the station supervisor/operator;</li> <li>the operator then responds to the alarms based on his experience of the plant operation and history.</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		Typical operational tasks that have been prioritised include the daily operation of the RO (Reverse Osmosis) trains in the water treatment plant to prevent their failure.	
5.3	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.	Both the documentation and the process require some improvement.  The asset register is provided by the operational AMS database TechnologyOne (T1). T1 holds asset description and identifier, links to asset information such as drawings and manuals, asset inspection and maintenance activities.  Asset accounting data is held by an accounting register which holds current asset cost and current depreciation. A "Spare Parts Register" is also in place.  At this point details of asset life and condition is provided by the diarised information recorded in site diaries.  Information on asset faults is documented in communication from site and is tracked through a failure register, however  The asset information in the AMS database does not yet include information on the asset physical/structural condition. This information is available from site diaries, however the retrieval of this information will be laborious.	ADEQUACY OF CONTROLS: B  Documentation of the asset register requires some improvement  PERFORMANCE: 2  Opportunity for improvement  1. Record assessment of assets' physical and structural condition in the asset register.
5.4	Operational costs are measured and monitored.	<ul> <li>The Review found that both the documentation and the process were adequate.</li> <li>Operational costs are measured and monitored through:</li> <li>allocation of labour costs to operational budgets;</li> <li>recording of purchases of parts and materials into inventory; parts are then requisitioned from inventory for use in jobs;</li> <li>control of external services through work requests and purchase orders which are then recorded in the financial system;</li> <li>variation of service costs need to be justified through variation and Purchase Order modifications which are processed through T1 and approved by management;</li> <li>operational costs are reported monthly through Monthly Operating Reports which includes commentary on variances of actual income and expenses where these occur;</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>costs are reviewed annually through the AMP and the budget preparation process;</li> <li>actual costs are entered in the "Bank Model" on a quarterly basis and reviewed annually for budgeting purposes.</li> </ul>	
5.5	Staff resources are adequate and staff receive training commensurate with their responsibilities.	the operating regime of the Power Station. Documentation and performance of the training process appeared adequate.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
6	Asset Maintenance	Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.	
6.1	Maintenance policies and procedures are documented and linked to service levels required.	Both the documentation and the performance of the process were adequate.  The maintenance plan is documented in the AMP. Policies for maintenance are included in the plan. Policies have been formulated with attention to stakeholders and plant operational demands. The policies address:  compliance demands in respect of Technical Rules for access to the network;  compliance demands in respect of environmental requirements for emissions of pollutants, greenhouse gases and noise emissions;  requirements of the Independent Market Operator (IMO) for reserve capacity power;	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>compliance with the requirements to manage hazardous materials;</li> <li>objectives of maintaining black start capability and</li> <li>high reliability.</li> <li>Plant operation and maintenance manuals are available to document the maintenance procedures.</li> <li>Scheduling of maintenance activities has been managed through use of the MEX database (early in the review period) and the T1 database (at the end of the review period).</li> </ul>	
6.2	Regular inspections are undertaken of asset performance and condition.	Both the documentation and the performance of the process were adequate.  Maintenance plans have been prepared based on original equipment manufacturer's (OEM) recommended schedules and adapted to suit the site operating conditions. Required maintenance activities have been entered in the AMS database, T1. T1 is used to generate annual and monthly reports of required maintenance:  • the annual report of planned inspections is included in the AMP;  • monthly inspection schedules are issued to the site O&M staff to perform the inspections and tests. Specialist inspections and tests are assigned to selected external contractors with the required expertise;  • inspections and tests include:  • emission tests;  • inspections of piping corrosion including cathodic protection tests on underground piping, performed every six months, now reduced to annually due to absence of corrosion;  • environmental checks of ground water;  • monthly battery inspections.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		are reported in the Monthly Operating Reports and in the AMP.	
	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	The documentation of the process needs some improvement in respect of documentation of the conditions and status of the assets in the asset management information system (AMIS).  Maintenance plans have been prepared based on original equipment manufacturer's recommended schedules. Timewise these plans have been adapted to suit the limited operation of the machines which have accumulated low operating hours.	ADEQUACY OF CONTROLS: B Documentation requires minor improvements. PERFORMANCE: 2 Performing requires some improvement.
		Required maintenance activities have been entered in T1 which is used to generate annual and monthly reports of required maintenance:  • the annual maintenance schedule is attached to the AMP;  • monthly maintenance schedules are attached to the Monthly Operating Reports.  Predictive maintenance has also been employed with the replacement of the Power Station control computer drives following reports from the drive internal diagnostics of likely failure.  Monthly maintenance schedules are issued to the site O&M staff so that maintenance activities can be undertaken. Specialist maintenance is assigned to preferred external contractors with the required expertise.  A "Maintenance Strategy / O&M Risk Prioritisation" chart is in place describing the process of executing the preventative, corrective and emergency maintenance schedules and revising those schedules when prioritising maintenance activities to respond to any faults and failures.	Records of actual completion of maintenance activities should be entered in the T1 Asset Management System and should be traceable to the work activities.
		Records of maintenance have been entered in site diaries. Completion and outcome of maintenance of major plant are reported in the AMPs. Issues arising during maintenance activities are also reported in the AMP together with description of corrective actions.  • While the records of maintenance activities can be traced through the site diaries, the records of work orders in the AMIS do not yet include actual completion of the activities or condition of assets.	

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary.	There is a process for dealing with faults and failures. Adequate documentation was in place.  Fault alarms are initially sent by the Power Station control system to the station supervisor. Once the fault or failures are assessed on site the incidents are discussed with management and formally reported by site to management through e-mail notifications. The faults are tracked through entries in the "Failure Register" and, depending on the severity of the fault, reported to the CEO and in Monthly Operating Reports. Not many faults have occurred, faults on two auxiliary transformers were examined by this Review:  • leaks have been identified on the two auxiliary transformers in the area where the cooling fins are welded to the main tank. Corrective maintenance has been programmed to repair the leaks. In addition allowance has been made to consider transformer replacement should the fault re-occur. The AMP 2015-16 has made provision for this work.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
6.5	Risk management is applied to prioritise maintenance tasks.	<ul> <li>A risk management process is in place to continually assess and manage plant risks. Both the documentation and the performance of the process were adequate.</li> <li>At a high level the process is documented in the "Risk Framework" and includes:</li> <li>six monthly risk assessments which identify actions and maintenance tasks that need to be carried out to mitigate risks;</li> <li>minutes of six monthly meetings documenting the risk analysis;</li> <li>progress of actions is tracked by a member of staff through monthly correspondence;</li> <li>incorporation of high operational risks into the corporate risk register.</li> <li>A "Maintenance Strategy / O&amp;M Risk Prioritisation" chart is in place to document the process of executing the maintenance schedules and prioritising maintenance activities, revising and updating the maintenance schedule to respond to any faults and failures.</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		Risk analysis has resulted in:  identification of plant maintenance tasks that need to be prioritised;  daily maintenance checks and monitoring of Gas Turbines (GT);  periodic testing of operation of compressed air plant in view of the fact that compressed air plant failure would shut down the GTs.	
6.6	Maintenance costs are measured and monitored.	<ul> <li>Both the documentation and the performance of the processes were adequate.</li> <li>Maintenance costs are measured and monitored through:</li> <li>allocation of labour costs to budgets;</li> <li>purchases of parts going into inventory and recording of parts requisitioned from inventory;</li> <li>control of external maintenance services through work requests and purchase orders which are then recorded in the financial system;</li> <li>variation of service costs need to be justified through variation and Purchase Order modifications which are processed through T1 and approved by management;</li> <li>maintenance costs are reported monthly through Monthly Operating Reports which includes commentary on variances of actual income and expenses where these occur;</li> <li>costs are reviewed annually through the AMP and the budget preparation process;</li> <li>actual costs are entered in the "Bank Model" on a quarterly basis and reviewed annually for budgeting purposes.</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
7	Asset Management Information system (MIS)	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.	
7.1	Adequate system documentation for users and IT operators.	performance of the process require some improvement as some of the documents were in draft form.  Staff using the T1 asset management system have been trained in its use. Training Manuals are available as well as assistance from local IT support. The AMS document provides the high level overview of the T1 system and its main capabilities including its Work Order system, the physical asset register, maintenance scheduling and inspection schedules.  Data back up and data verification procedures are documented. Documentation is available both in electronics and paper form.  A Document Management System (DMS) has been established and the AMP have indicated that the bulk of existing documents will be loaded into the DMS by the end of 2014.  Some documents, such as the "Crisis Management Plan" are in draft form and	improvements PERFORMANCE: 2 Performance of the process need some improvement
		should be finalised.	
7.2	Input controls include appropriate verification and validation of data entered into the system.	<ul> <li>There are processes in place for the verification and validation of data entered into the systems, some of the processes are used as needed. The process performance is adequate.</li> <li>Data entered into the system goes through levels of reviews and verification.</li> <li>Generation data is provided by Western Power primary and check meters. There are local meters in WEPL's control room which can and a times have been used by the Engineering Manager to cross check the Western Power meter data;</li> <li>Data on starts and running hours is collected by the Power Station Supervisor and included by the Asset Manager in the monthly reports which are reviewed by the</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		General Manager Generation;     Cost data is entered from written documentation which is approved by management and reports are reviewed by the financial controller and management.	
7.3	Logical security access controls appear adequate, such as passwords.	Documentation and performance of the process appeared adequate.  Corporate systems are provided by PE and enforce access controls through user authorisation by management and provide restricted levels of access depending on staff roles and positions. An "IT Security" procedure defines the process.  The controls include user identification and login passwords which are subject to regular change and disabling. Access to key software applications is restricted.  The Power Station station Integrated Control and Monitoring System (ICMS) can be accessed remotely and is also subject to tight user control.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
7.4	Physical security access controls appear adequate.	Physical security access control are documented and the process appeared to be adequate.  Physical access control to the Asset Management Information System (AMIS) appeared adequate. Policies are noted in the KSAMS and in the "Remote Network Access Security" document.  Access to the offices is controlled by electronic keys which are security monitored. The AMS server is located in a locked server room. Access to the server room keys is restricted.  The site computers connect to the AMS server and are located in rooms that are locked and alarmed after hours or when vacated. Perimeter fencing, locked gates and CCTV are also in place to secure the site.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
7.5	Data backup procedures appear adequate and backups are tested.	Both the documentation and the performance of the process appeared adequate.  PE data back-up procedures are documented in the "Backup and Restore – Perth Energy" document.  The procedure includes for:  • servers backed up as per set backup schedule;	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>backup server uploading all daily backups offsite for storage away from PE and WEPL's offices;</li> <li>retention of weekly and monthly backups;</li> <li>automatic weekly verification of integrity of backups to validate restore capability.</li> </ul>	
7.6	Key computations related to licensee performance reporting are materially accurate.		ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
7.7	Management reports appear adequate for the licensee to monitor licence obligations.	<ul> <li>The licensee has in place a process for ensuring the monitoring and timely compliance with licence obligations. Management reports appeared adequate for the monitoring of licence obligations.</li> <li>Compliance obligations are identified both in the KSAMS and in the annual AMP; in addition the "Proposed Budget" document identifies any licence obligations, including testing and audits necessary in the year ahead;</li> <li>the Engineering calendar notifies responsible staff and reporting managers when compliance activities are due;</li> <li>the activities are then reported in Monthly Operating Reports which are circulated to management.</li> <li>A process improvement has been identified by the licensee which will result in the calendar task being entered into the T1 work management system so that each obligation will be covered by recurring Work Orders. The Work Orders are reported annually in the AMP and monthly to operational staff. This action is due to be completed in March 2015.</li> <li>The Monthly Operating reports and the AMPs report on performance. Monthly</li> </ul>	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		Operating Reports include:  electricity exported on the different fuels;  fuel use;  emissions;  availability, scheduled and forced outages;  failure to start and engine trips;  income and operating expenses, budgeted, actuals and variances; commentary on variances;  compliance tests;  health, safety, environmental and operational issues.	
8	Risk Management	An effective risk management framework is applied to manage risks related to the maintenance of service standards.	
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	Both the documentation and the performance of the process met requirements. The risk management framework is documented in the KSAMS and in the "Risk Management Framework" procedure:  • for new initiatives, at concept stage an initial risk analysis is carried out to assess business risks;  • at design stage Hazard and Operability studies are carried out;  • at operational level risk workshops are held every six months, results are entered into the Kwinana "Asset Management System Risk Analysis Matrix" (Risk Matrix);  • actions are identified in the Risk Matrix and followed up monthly.  In addition the risk process is supported by:  • a failure register identifying outages, impact, causes and investigations;	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		<ul> <li>a corporate risk register listing the business risks including the risks arising from external factors;</li> <li>independent reviews of the power station risks carried out by FM Global.</li> <li>Through the continuous application of the risk management process staff had good understanding of risk management.</li> <li>The risk matrix showed that actions were up to date.</li> </ul>	
8.2	Risks are documented in a risk register and treatment plans are actioned and monitored.	Both the documentation and the performance of the process met requirements.  The Review examined the Risk Matrix and found that:  the matrix had identified and documented significant risks;  actions had been identified together with completion dates and indication of budgeting requirements;  changes in risks due to action completion had been recorded (last update of matrix was July 2014);  The risk process had been applied and there was evidence of action progress and monitoring.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
8.3	The probability and consequences of asset failure are regularly assessed.	Both the documentation and the performance of the process met requirements.  A process is in place to review risks and document actions in the Risk Matrix at six monthly intervals. Forthcoming risk analysis workshops are reported in the Monthly Operating Reports and completion of the workshops is also recorded in the reports and in the AMPs.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
9	Contingency Planning	Contingency plans have been developed and tested to minimise any significant disruptions to service standards	
9.1	Contingency plans are documented, understood and tested to confirm	The Review has found that there was adequate contingency response documentation which required minor consolidation/updating. There was understanding of the	ADEQUACY OF CONTROLS: B Documentation requires some

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
	their operability and to cover higher risks.	requirements and of the process. The performance of the contingency response process needs improvement due to the lack of testing in the review period.	PERFORMANCE: 3
		There was sufficient documentation covering the licensee's contingency response process. This included:	Performance requires improvement to meet requirements.
		the Kwinana Power Station Emergency Response Plan;	
		Kwinana Power Station Emergency Response Procedure;	4. Both the Emergency Response Plan and the Kwinana Power Station
		the Emergency Exercise Drill procedure;	Emergency Response Procedure contain similar information, however
		<ul> <li>Perth Energy Crisis Management (Business Continuity) Plan (Draft, last updated in May 2014).</li> </ul>	they also have differences. In case of an emergency, one of the documents should take precedence
		The Review has noted:	over the other and that should be clarified in the KSAMS and in the
		▶ Both the Emergency Response Plan and the Kwinana Power Station Emergency Response Procedure contain similar information, however they also have differences. In case of an emergency, one of the documents should take precedence over the other.	documents. Both documents should be reviewed side by side to ensure consistency and, if necessary, one withdrawn.
		▶ The Crisis Management Plan has been consolidated from three separate plans and has been in operation since 2012. The plan is still shown to be a draft, however this is unlikely as the plan has been in use for a long time and has had a number of updates.	Reference draft Crisis Management Plan, refer to recommendation 3/2014.
		There has not been any testing of contingency plans during the review period. Testing has been planned for 2015 and has been documented in the 2015-16 AMP (AMPs follow an April to March financial year cycle).	5. There has not been any testing of contingency plans during the review period. Testing has been planned for 2015 as documented in the 2015-16 AMP and should be carried out as defined.

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
10	Financial Planning	A financial plan that is reliable and provides for the long-term financial viability of the services.	
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives.	The WEPL budgeting process is documented in a "Budget Process Overview" chart. The annual formal Budget and supporting documentation provide the financial plan information. Both the documentation and the performance of the process were adequate.  The process timeline is in line with the New Zealand financial calendar (April to March) in reference to the major stakeholder.  Initially a budget plan and an OPEX budgeting report are generated. The commercial team provides an electricity model and its assumptions are verified. Operational input	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
		into the financial plan is through the preparation of an operation strategy document ("Proposed Budget") which identifies objectives, strategies and actions resulting in the definition of CAPEX requirements, as well as external services, contractors, breakdown maintenance, capital budget for components wanted by insurance service provider, identified operational items and safety items.  On the basis of the available information the Budgeting/Forecasting Model is updated and the budget documentation is subject to management review and submitted for final Board approval in November.	
		The final budget is used to input the new OPEX activities into the AMS through T1. CAPEX spend for each proposed asset has to be submitted through a Business Case and receive individual Board approval.	
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs.	Both the documentation and the performance of the process met requirements. The financial documentation identifies the sources of funds for OPEX which is funded from operating cash flow while capital expenditure is both submitted for Board approval in the annual Budget plan and then individually subject to Business Case approval.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	Both the documentation and the performance of the process met requirements.  The Budget provides actual and projections over four quarters for the current financial year as well as projections of revenue and expenditure (P&L), balance sheet and	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1





EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		cashflow for the next five years.	Performing effectively
10.4	The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period.	Both the documentation and the performance of the process met requirements. The Budget provides actual and projections over four quarters for the current financial year as well as projections of revenue and expenditure (P&L), balance sheet and cashflow for the next five years.  Assumptions used in the forecasts are highlighted and critical revenue indicators defined.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	Both the documentation and the performance of the process met requirements.  The budget provides for O&M expenditure, administration and capital expenditure.  Provision for O&M expenditure includes for:  • routine services, external services and contractors;  • provisions for unscheduled maintenance;  • reserve capacity refunds to the IMO due to unscheduled maintenance;  • fuels and consumables;  • management and licence fees.  Capital expenditure is also identified in the Proposed Budget and the final Budget.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
10.6	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	Both the documentation and the performance of the process met requirements.  Variances of actual income and expenses from plans are identified and discussed in the Monthly Operating Reports, this allows early response to changes. No significant negative variance was noted in the reports examined by this Review.  During 2014 it was noted that there were small variances due to the cost of diesel fuel, however there was a significantly larger reduction in operating expenses due to WEPL taking over the operation of the plant.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
11	Capital Expenditure Planning	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.	
11.1	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	The capital expenditure (CAPEX) plan is adequately documented and the process of preparation and control is effective.  The CAPEX plan is documented in:  the AMP  the "Proposed Budget"  the Budget.  The AMP provides the details of the plant historical performance, any issues to be addressed, proposed actions and the plans for the forthcoming year, including asset creation and acquisition, enhancement of assets, operation and maintenance (O&M) and asset disposal.  While some minor CAPEX has been identified in the AMP and in the Budget, there have been no significant new works in the review period. New or improvement works identified for the current financial year have not yet been undertaken.	ADEQUACY OF CONTROLS: A Documentation meets requirements PERFORMANCE: 1 Performance meets requirements
11.2	The plan provides reasons for capital expenditure and timing of expenditure.	<ul> <li>The process is documented and the process performance met requirements.</li> <li>The CAPEX is part of the AMP, the AMP provides the detailed reasons for capital expenditure and the timing of expenditure.</li> <li>Costs and timing of capital expenditure are reported in the annual Budget and each major item of capital expenditure is subject to a Business Case submission.</li> <li>As noted above minor CAPEX has been identified in the AMP and in the Budget, however there have been no significant new works in the review period. New or improvement works identified for the current financial year have not yet been undertaken.</li> </ul>	ADEQUACY OF CONTROLS: A Documentation meets requirements PERFORMANCE: 1 Performance meets requirements
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset	The process is documented and the process performance met requirements.  The CAPEX is included in the AMP. The AMP reports on the historical operation of the plant, any issues to be addressed, proposed actions and the plans for the forthcoming	ADEQUACY OF CONTROLS: A Adequately defined

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
	management plan.	year, including asset creation, acquisition, enhancement of assets and asset disposal. Costs and timing of capital expenditure are reported in the annual Budget and the Budget was found to be consistent with the AMP information.	PERFORMANCE: 1 Performing effectively
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	The process is documented and the process performance met requirements.  The CAPEX is part of the AMP and the AMP is updated yearly. Items identified in the AMP are then included in the Budget approved by the Board. Business Cases then support the major items of CAPEX and go through a review and approval process.  The AMP can be varied during the year, as defined in the "Preparation of the Annual Asset Management Plan" procedure, to suit changes in the market or O&M requirements.  While some minor CAPEX has been identified in the AMP and in the Budget, there have been no significant new works in the review period. New or improvement works identified for the current financial year have not yet been undertaken.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
12	Review of AMS	Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency.	
12.1	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.	There is an annual process of review of the AMP which results in updates of the AMP for the forthcoming year. The AMS is also subject to review and at the end of the review period the KSAMS document was at its fourth update. The process documentation was adequate and the process was performing effectively.  The AMP was last updated in June 2014 for the 2014-15 period and at the end of the review period a new update had been prepared for the period 2015-16.  There have been a number of changes in the AMP including:  • the contract for the operation and maintenance of the power station had originally been awarded to CTEC, which later became part of the Forge Group. However	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
		<ul> <li>Western Energy took over the maintenance and operation role in 2011 and subsequently, with the collapse of the Forge Group, terminated the contract with CTEC in February 2014;</li> <li>with low electricity prices in the balancing market the plant is mainly run to meet WEPL's obligations in emission tests, black start requirements and Reserve</li> </ul>	

## WESTERN ENERGY PTY LTD 2014 ELECTRICITY GENERATION LICENCE PERFORMANCE AUDIT AND ASSET MANAGEMENT SYSTEM REVIEW

EC No.	AMS Element / Criteria	Review summary (▶ Findings)	Recommendations
		Capacity Obligation for the IMO.  The AMS was last reviewed and the head document issued in July 2014. The AMS was reviewed twice during the Review period.	
	audit) are performed of the asset management system.	Independent reviews of the AMS have been carried out in the review period. The	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
		<ul> <li>Independent review of OHS system was carried out by the consultant AllSafety in July 2014;</li> <li>Review of the environmental systems have been carried out by the consultant Environ, this review included inspection of the site.</li> </ul>	



#### 3 CHANGES TO THE LICENCE

No changes to the licence conditions are recommended.

#### 4 RECOMMENDATIONS

### 4.1 CURRENT AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

Recommendations on the actions to be taken by the licensee to address the current performance audit non-compliances are listed in Table 12 and Table 13.

Table 12 - Current audit non-compliances and recommendations (Resolved)

	Table of Current Audit Non Compliances/Recommendations (Resolved)				
A. Resolved during current Audit period					
Manual Ref	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Date Resolved (& management action taken)	Auditors Comments		
	No actions resolved during current audit period.				

Table 13 - Current audit non-compliances and recommendations (Unresolved)

	Table of Current Audit Non Compliances/Recommendations (Unresolved)				
B. Unresolved during current Audit period					
Ref. No/ Year	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Auditors' Recommendation	Management action taken by end of Audit period		
	No Non Compliances or Control Improvements have been identified.				

## 4.2 CURRENT REVIEW ASSET SYSTEM DEFICIENCIES/RECOMMENDATIONS

Recommendations on the actions to be taken by the licensee to address process deficiencies are listed in Table 14 and Table 15.

Table 14-Current Review Asset System Deficiencies / Recommendations (Resolved)

	Table of Current Review Asset System Deficiencies/ Recommendations					
	A. Resolved during current Review period					
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Date Resolved (& management action taken)	Auditors Comments		
		No actions resolved during current review period.				

Table 15- Current Review Asset System Deficiencies / Recommendations (Unresolved)

	Table of Current Review Asset System Deficiencies/ Recommendations					
	B. Unresolved during current Review period					
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation	Management action taken by end of Review period		
1	5.3	Asset Operations  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.  Information in the asset management system (AMS) database does not yet include information on the asset physical/structural condition. This information is available from site diaries, however the retrieval of this information will be laborious.	1/2014 Record assessment of assets physical and structural condition in the asset register.			
2	6.3	B2 Asset Maintenance Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	2/2014 Records of actual completion of maintenance activities should be entered in the T1 Asset Management System and should be traceable to the work activities.			

	Table of Current Review Asset System Deficiencies/ Recommendations				
	B. Unresolved during current Review period				
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation	Management action taken by end of Review period	
		While the records of maintenance activities can be traced through the site diaries, the records of work orders in the AMIS do not yet include actual completion of the activities or condition of assets.			
3	7.1	Asset Management Information System  Adequate system documentation for users and IT operators.  Some documents, such as the "Crisis Management Plan" are in draft form and should be finalised.	review are finalised and approved.		
4	9.1	B3  Contingency Planning  Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.  Both the Emergency Response Plan and the Kwinana Power Station Emergency Response Procedure contain similar information, however they also have differences. In case of an emergency, one of the documents should take precedence over the other.	information, however they also have differences. In case of an emergency, one of the documents should take precedence over the other and that should be clarified in the KSAMS and in the documents. Both documents should be reviewed side by side to ensure consistency and, if necessary, one withdrawn		
	9.1	B3 Contingency Planning Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.  The Crisis Management Plan has been consolidated from three separate plans and has been in			

	Table of Current Review Asset System Deficiencies/ Recommendations				
	B. Unresolved during current Review period				
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation	Management action taken by end of Review period	
		operation since 2012. The plan is still shown to be a draft, however this is unlikely as the plan had been signed off, in use for a long time and has had a number of updates.			
5	9.1	Contingency Planning Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.  There has not been any testing of contingency plans during the review period. Testing has been planned for 2015 and has been documented in the 2015-16 AMP (AMPs follow an April to March financial year cycle).	in the 2015-16 AMP and should be carried out as defined.		

#### 5 POST AUDIT AND REVIEW IMPLEMENTATION PLAN

The Post Audit And Review Implementation Plan (PAIP) is a separate document prepared by the licensee in response to the recommendations made in the audit and review. As it represents the licensee's views and actions it does not form part of the audit and review report, however it includes all key audit and review findings and recommendations that have been made in the audit and review. For each recommendation the licensee has recorded responses and corrective actions, responsibility for the actions and a proposed date for completion.

# Appendix A - Documentation reviewed



#### **Key Documentation Reviewed**

#### Performance Audit

- 1. WEPL Electricity Generation Licence EGL19 2
- 2. Electricity Generation Licence Performance Audit and Review Report 2012
- 3. 2013 Aug Western Energy Post Audit Implementation Plan 2012 Status
- 4. ERA Generation Licence Compliance Procedure
- 5. Generation Licence Compliance Worksheet
- 6. Western Energy Compliance Reports
- 7. ERA letter noting receipt of Compliance Report
- 8. Economic Regulation Authority Letters on Status of Post Audit Implementation Plan 2012
- 9. Western Energy Updated Post-Audit and Post-Review Implementation Plan September 2014
- 10. Non Compliances Records
- 11. Kwinana Swift Asset Management System
- 12. Business Services Reports
- 13. Licence fee payments
- 14. Land fee payments
- 15. Audited Reports

#### Asset Management System Review

- 1. Asset Planning and Performance Audit
  - 1.1. WEPL Electricity Generation Licence EGL19 2
  - 1.2. Electricity Generation Licence Performance Audit and Review Report 2012
  - 1.3. Kwinana Swift Power Station Asset Management System
  - 1.4. Asset Management Plans
  - 1.5. Generation Licence Compliance Worksheet
  - 1.6. Non Compliances Records
  - 1.7. Monthly Operating Reports
  - 1.8. Proposed Budgets
  - 1.9. Perth Energy Pty Ltd Org Chart
  - 1.10. Preparation of Annual Asset Management Procedure
  - 1.11. ERA Generation Licence Compliance Procedure
- 2. Asset Creation and Acquisition
  - 2.1. Asset Acquisition Policy and Procedure
  - 2.2. Warranty Close Out at Kwinana Swift



- 2.3. Sea Containers at Kwinana Site
- 3. Asset Disposal
  - 3.1. Asset Disposal Procedure
- 4. Environmental Analysis
  - 4.1. ERA Generation Licence Compliance Procedure
  - 4.2. Western Energy Generation Licence Technical Compliance
- 5. Asset Operations
  - 5.1. Monthly Operating Reports
  - 5.2. WE KSPS Asset Register Information
  - 5.3. WE Kwinana Failure Register
  - 5.4. Western Energy Generation Licence Technical Compliance
  - 5.5. O&M Risk Prioritisation Chart
  - 5.6. Western Energy Ancillary Services Deed (System Restart Service
  - 5.7. Training Needs Gap Analysis PE Engineering
  - 5.8. Engineering Skills Register
  - 5.9. Statement of Attendance Generation
  - 5.10. Qualifications and training records
- 6. Asset maintenance
  - 6.1. Maintenance Schedules and Work Orders
  - 6.2. Kwinana Open Cycle Gas Turbine Power station Earth Grid and Touch / Step Voltage Test Report
- 7. Asset Management Information System
  - 7.1. IT Security Procedure
  - 7.2. KSPS Remote Access Security
  - 7.3. KSPS Software Change Management Form
  - 7.4. KSPS Software Change Management Procedure
  - 7.5. User Account Request Form
- 8. Risk Management
  - 8.1. Kwinana-Risk Analysis
  - 8.2. Risk Management Framework
  - 8.3. Risk Report summary
- 9. Contingency Planning
  - 9.1. PE Crisis Management Plan
  - 9.2. Emergency Response Plan
  - 9.3. Emergency Response Procedure
  - 9.4. Emergency Exercise Drill Procedure
- 10. Financial Planning



- 10.1. Budget and 5 year forecast
- 10.2. Audited Reports
- 10.3. O&M Budgets Proposed Budgets
- 10.4. Funding (Master Amendment Deed)
- 10.5. Western Energy Financial Asset Register
- 10.6. WAM K1 Spare Parts List
- 10.7. Budgeting and Reporting Process
- 11. Capital Expenditure Planning
  - 11.1. O&M Budgets Proposed Budgets (CAPEX)
  - 11.2. Western Energy Proposed Capital Budget for 2015-16
- 12. AMS Review
  - 12.1. Asset Management Plans
  - 12.2. Monthly Operating Reports

