



ABN 20 009 454 111

Audit and Review Report  
Merredin Energy Pty Ltd Electricity Generation  
Licence Performance Audit and Asset Management  
System Review

**September 2014**

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## Executive Summary

Merredin Energy Pty Ltd (MEPL or the licensee) holds an Electricity Generation Licence (EGL25) 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 MEPL to construct and operate power generating facilities in accordance with the licence conditions.

Sections 13 and 14 of the Act requires MEPL 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 April 2014 MEPL 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 22 June 2012 to 30 June 2014. The audit and review has 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 Lot 193 Robartson Road near Merredin, Western Australia. The generating assets consist of two diesel fuelled GE Frame 6 open cycle gas turbines (GT) driving Brush generators, diesel fuel tanks, fuel receipt and forwarding facilities, high voltage switchyard, water treatment and water storage facilities, compressed air system, main control building, workshop, evaporation pond, stormwater pond and water traps. Each GT is rated at 41.7 MW at 41°C with a total export capacity from the station of 82 MW.

The operation and maintenance of the assets has been contracted out to Perth Energy Pty Ltd, an experienced operator.

## THE REPORT

The report includes:

- (i) 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 and
- (iii) separately a post audit and review implementation plan prepared by the licensee listing the audit and review recommendations and the responses and actions proposed by MEPL. The plan does not form part of the report and is provided separately to complete the documentation.

## LICENSEE'S RESPONSE TO PREVIOUS AUDIT RECOMMENDATIONS

This is the first audit and review of the licence therefore there are no recommendations from previous audits.

## SUMMARY OF ISSUES AND RECOMMENDATIONS, PERFORMANCE AUDIT

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

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 22 June 2012 to 30 June 2014, Merredin Energy Pty Ltd's operation was in compliance with the licence conditions apart from the following finding:

- the licensee did not advise the Authority details of the asset management system on the required date.
- 

One opportunity for improvement was identified in regard to the continuity of supply. Under the licence MEPL has to minimise the extent or duration of any interruption, suspension or restriction of the supply of electricity due to an accident, emergency, potential danger. The operation of Merredin Power Station is specific and existing contingency/ emergency plans provided by the contracted operator need to be reviewed to confirm the suitability to its operation.

The Performance Audit issues and recommendations are listed in Table 1.

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

Table of Current Audit Non Compliances/Recommendations
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Reference No/ Year	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Auditors' Recommendations
1/2014	<p>B2 Obligation 106 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.</p> <p>▶ The operation of Merredin Power Station is specific, it has been subject to development to fully implement remote operation and existing contingency/ emergency plans need to be reviewed to confirm their suitability to its operation.</p>	<p><b>1/2014 (Opportunity for Improvement (OFI))</b> Available Contingency Plans/ emergency response documentation should be reviewed and, if applicable, updated, to ensure that it is tailored to the operation of MEPL.</p>
2/2014	<p>B2 Obligation 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.</p> <p>▶ The licensee did not advise the Authority details of the asset management system on completion of construction.</p>	<p><b>2/2014</b> The licensee did not advise the Authority details of the asset management system on completion of construction. The compliance procedures need to be revised to ensure that details and significant changes to the asset management system are notified to the Authority.</p>

## SUMMARY OF ISSUES AND RECOMMENDATIONS, ASSET MANAGEMENT SYSTEM REVIEW

The review has found that Merredin Energy Pty Ltd has an effective asset management system and is committed to continuous improvement and regulatory compliance through its approach to the management of the assets, engagement of an experienced operator to operate and maintain the plant, use of specialist consultants to carry out independent reviews of the assets operation and use of comprehensive and regular management reporting on the performance of the assets.

The main deficiencies found in the review 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	2.4	<p>A2</p> <p>Commissioning tests are documented and completed.</p> <ul style="list-style-type: none"> <li>▶ Some of the Balance of Plant (BOP) commissioning tests that were to be completed by the construction contractor were not signed off because of the contractor going into receivership. These tests are being re-run and documented through a warranty claim.</li> </ul>	<p><b>1/2014</b> Some of the Balance of Plant (BOP) commissioning tests that were to be completed by the construction contractor were not signed off because of the contractor going into receivership. These tests are being re-run and should be documented.</p>
2	3.2	<p>B2</p> <p>The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.</p> <ul style="list-style-type: none"> <li>▶ There have been failures to start-up and synchronise the GTs on start-up. The Review noted that the change in operation was noted in the monthly reports however, while the MPSAMP for 2014/2015 noted the objective of start up and running on load in accordance with maintenance instructions, the change in operation had not been sufficiently documented in the operational plans.</li> </ul>	<p><b>2/2014</b> Following the failures to start/synchronise the GTs, the Review noted that the change in operation was noted in the monthly reports and the objective of reliable starts and running on load was noted in the Merredin Power Station Asset Management System for 2014/2015. The change in operation should be further defined in operational plans.</p>
-	4.4	<p>A2</p> <p>Achievement of customer service levels.</p> <ul style="list-style-type: none"> <li>▶ There were a number of instances when the plant was not able to achieve start up as requested by System Management as reported under EC 3.2. The issues have been corrected and operational processes changed to improve performance.</li> </ul>	<p>Refer to Recommendation 2/2014.</p>
3	5.1	<p>B2</p> <p>Operational policies and procedures are documented and linked to service levels required.</p> <ul style="list-style-type: none"> <li>▶ Not all procedures have been issued at present however all of the procedures essential for the current operation of the AMS are available.</li> </ul>	<p><b>3/2014</b> (OFI) Complete the issuing of operational policies and procedures.</p>
4	5.3	<p>C2</p> <p>Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets'</p>	<p><b>4/2014</b> Complete the implementation of the Asset Register.</p>

Table of Current Review Asset System Deficiencies/ Recommendations			
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation
		<p>physical/structural condition and accounting data.</p> <ul style="list-style-type: none"> <li>▶ The Asset Register is being progressively compiled and was not in full operation at the time of the review.</li> </ul>	
5	6.3	<p>B1</p> <p>Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.</p> <ul style="list-style-type: none"> <li>▶ Maintenance plans had been prepared but not fully entered in the Asset Management System (TechOne) in the review period.</li> </ul>	<b>5/2014</b> Complete the upload into the TechOne system and the documentation of the maintenance plans (this activity is in progress).
6	6.5	<p>C1</p> <p>Risk management is applied to prioritise maintenance tasks.</p> <ul style="list-style-type: none"> <li>▶ At present the maintenance prioritisation process on the basis of risk is reactive and the procedure has not been formalised.</li> </ul>	<b>6/2014</b> Prepare a procedure or provide reference to an existing procedure for the prioritisation of maintenance tasks on the basis of risk.
7	7.2	<p>C1</p> <p>Input controls include appropriate verification and validation of data entered into the system.</p> <ul style="list-style-type: none"> <li>▶ While there are processes in place for verification and validation of data entered into the system the processes need to be formalised</li> </ul>	<b>7/2014</b> Document the processes for verification and validation of data entered into the system.
8	7.3	<p>B1</p> <p>Logical security access controls appear adequate, such as passwords.</p> <ul style="list-style-type: none"> <li>▶ There should be either a reference or more information in the AMS on the policies for computer system access.</li> </ul>	<b>8/2014</b> Provide a reference in the asset management system to existing policies or more information on computer system access policies.
9	7.5	<p>B1</p> <p>Data backup procedures appear adequate.</p> <ul style="list-style-type: none"> <li>▶ Information on system back-ups relies on contracted operator's systems, however there should be reference to the applicable</li> </ul>	<b>9/2014</b> Provide a reference in the asset management system to existing back-up policies/ procedures or more information on system back-ups.

Table of Current Review Asset System Deficiencies/ Recommendations			
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation
		procedures in the asset management system.	
10	8.1	<p>B1</p> <p>Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.</p> <ul style="list-style-type: none"> <li>▶ While there are documentation and processes addressing risk management such as: <ul style="list-style-type: none"> <li>○ policies and process directives in the AMS;</li> <li>○ procedures for risk analysis at PE and</li> <li>○ an acceptable process for risk analysis at MEPL which generates documented outcomes,</li> </ul> </li> </ul> <p>the MEPL risk analysis process is not fully documented.</p>	<b>10/2014</b> Provide a reference to existing procedures or document the risk analysis process at MEPL.
11	8.2	<p>B1</p> <p>Risks are documented in a risk register and treatment plans are actioned and monitored.</p> <ul style="list-style-type: none"> <li>▶ A risk register is not in use. One aspect of the risk analysis process that will require further improvement has to do with the registering of new risks as they arise, which may need immediate treatment and recognition by management at an early stage. In addition higher level risks resulting from external factors such as changes in market, operating conditions etc are not readily captured by the asset risk matrix.</li> </ul>	<b>11/2014</b> Assess whether the risk analysis process covers sufficiently all risks and whether a risk register is required.
12	9.1	<p>B3</p> <p>Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.</p> <ul style="list-style-type: none"> <li>▶ While the use of the contracted operator's contingency plans will be acceptable if they are appropriate to the Merredin Power Station operation, in view of the changing operation of the power station there was not sufficient evidence that appropriate documented plans have been implemented at Merredin.</li> </ul>	<b>12/2014</b> Assess the suitability of existing Contingency Plans and Emergency Responses to the Merredin Power Station operation and proceed with documentation / identification of plans and testing regime.

Table of Current Review Asset System Deficiencies/ Recommendations			
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation
13	12.1	<p>B1</p> <p>A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.</p> <p>▶ The AMP has been approved by the required authorities but the draft status has not been removed.</p>	<p><b>13/2014</b> Remove draft status from the asset management plan.</p>

## 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 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	18 November 2014

Ref:	36/10/2	
<b>Issue Status</b>		
Issue No	Date	Description
1	30 Sep 2014	First issue for review by the Authority
2	18 Nov 2014	Revised as per review

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# 1 OBJECTIVES AND SCOPE OF AUDIT AND REVIEW

## 1.1 BACKGROUND

Merredin Energy Pty Ltd (MEPL or the licensee) generates and supplies electricity to the South West Interconnected System (SWIS) in Western Australia under the EGL25 Electricity Generation licence (the licence) granted by the Economic Regulation Authority (the Authority) on 22 June 2012 (Licence is at Version 1).

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 power generating facilities or operate existing facilities in accordance with the licence conditions.

The licence has been granted for an area located at Lot 193 Robartson Road near Merredin, Western Australia. The generating assets consist of:

- two diesel fuelled GE Frame 6 open cycle gas turbines (GT) driving Brush generators;
- three 150,000 litre diesel fuel tanks, fuel receipt and forwarding facilities;
- high voltage switchyard;
- water treatment and water storage facilities;
- ancillary power supply system;
- compressed air system;
- main control building and workshop and
- evaporation pond, stormwater pond and water traps.

Each GT is rated at 41.7 MW at 41°C with a total export capacity from the station of 82 MW.

Under sections 13 and 14 of the Act MEPL'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 licence. The asset management system review is to determine the effectiveness of the licensee's asset management system.

Qualeng has been engaged by MEPL to conduct the performance audit and the asset management system review (the audit and review) for the period 22 June 2012 to 30 June 2014.

The audit and review has 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 AUDIT AND REVIEW OBJECTIVES

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 AUDIT AND REVIEW SCOPE

### 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 22 June 2012 to 30 June 2014. The audit and review was carried out between July and September 2014.

## **1.5 AUDIT AND REVIEW METHODOLOGY**

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 which outlined 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:

- Patrick Peake, General Manager Generation
- James Heng, Asset Manager
- Stewart Fraser, Supervisor Power Station Maintenance and Operations
- Kheng Lai Lim, Financial Controller.

## 1.7 LOCATIONS VISITED

The following facilities were visited during the audit and review:

- MEPL head office, Perth
- MEPL Merredin Power Station site.

## 1.8 AUDIT AND REVIEWING TEAM

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

<i>Item</i>	<i>Resource</i>	<i>Description</i>	<i>Hours</i>
1	M Zammit	Project Director and Lead Auditor	70
2	S Campbell	Senior Engineer, Document Reviewer and Verifier	49
4	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
Authority	Economic Regulation Authority
CAPEX	Capital Expenditure
DM	Document Management
DSOC	Declared Sent Out Capacity
EC	Effectiveness Criteria
EH&S	Environmental Health and Safety
ETAC	Electricity Transfer Access Contract
GE	General Electric International Inc
HV	High voltage
KPI	Key Performance Indicators
LCC	Lifecycle costs
LV	Low voltage
MEPL	Merredin Energy Pty Ltd
NA	Not applicable
O&M	Operation and Maintenance
OFI	Opportunity for Improvement
OHSE	Occupational Health, Safety and Environmental
OPEX	Operating Expenditure
PAIP	Post Audit and Review Implementation Plan
PE	Perth Energy Pty Ltd
SLA	Service Level Agreement
YTD	Year to Date





## **2 KEY FINDINGS AND RECOMMENDATIONS**

### **2.1 LICENSEE'S RESPONSE TO PREVIOUS AUDIT AND REVIEW RECOMMENDATIONS**

This audit represents the first audit of the licence and no recommendations are outstanding. This section is not applicable at this time.

## 2.2 AUDIT AND REVIEW SUMMARY

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

### 2.2.1 Performance Audit Compliance Summary

The performance audit is summarised below in Table 3. The table lists the compliance rating for each licence condition using the two-dimensional rating scale described in Table 4.

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

**Table 3: Audit Obligation Ratings**

Compliance 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 4 for details) (NP = Not Performed)					Compliance Rating (Refer to the 4-point rating scale in Table 4 for details)			
			A	B	C	D	NP	1	2	3	4
2	Grant of licence		✓					✓			
3	Term		✓					✓			
4	Fees		✓					✓			
5	Compliance			✓					✓		
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		✓					✓			
13	Individual performance standards						NA				
14	Performance audit		✓					✓			
15	Reporting a change in circumstances						NR				
16	Provision of information		✓					✓			
17	Publishing information						NR				

Compliance 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 4 for details) (NP = Not Performed)					Compliance Rating (Refer to the 4-point rating scale in Table 4 for details)			
			A	B	C	D	NP	1	2	3	4
18	Notices		✓					✓			
19	Review of the Authority's decisions						NR				
20	Asset Management System			✓					✓		

Note: Where obligations have not been rated, reasons for the lack of rating are provided in Table 8 Performance Audit Observations and Recommendations (July 2014 version, May 2014 version is shown in brackets).

**Table 4: Audit compliance and controls rating scales**

Performance audit compliance and controls rating scales	
Adequacy of Controls Rating	
Rating	Description
A	Adequate controls – no improvement needed
B	Generally adequate controls - some improvement needed
C	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

## 2.2.2 Asset Management Review Effectiveness Summary

The review of the Asset Management System is summarised below in Table 5. 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 6 (process and policy definition) and Table 7 (performance).

**Table 5: Asset management effectiveness summary**

<b>ASSET MANAGEMENT SYSTEM</b>	<b>Asset management process and policy definition adequacy ratings</b>	<b>Asset management performance ratings</b>
1. Asset planning	<b>A</b>	<b>1</b>
2. Asset creation/ acquisition	<b>A</b>	<b>1</b>
3. Asset disposal	<b>A</b>	<b>1</b>
4. Environmental analysis	<b>A</b>	<b>1</b>
5. Asset operations	<b>B</b>	<b>1</b>
6. Asset maintenance	<b>B</b>	<b>1</b>
7. Asset management information system	<b>B</b>	<b>1</b>
8. Risk management	<b>B</b>	<b>1</b>
9. Contingency planning	<b>B</b>	<b>3</b>
10. Financial planning	<b>A</b>	<b>1</b>
11. Capital expenditure planning	<b>A</b>	<b>1</b>
12. Review of asset management system	<b>A</b>	<b>1</b>

**Table 6: Asset management process and policy definition adequacy ratings**

<b>Rating</b>	<b>Description</b>	<b>Criteria</b>
<b>A</b>	Adequately defined	<ul style="list-style-type: none"> <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>
<b>B</b>	Requires some improvement	<ul style="list-style-type: none"> <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>
<b>C</b>	Requires significant improvements	<ul style="list-style-type: none"> <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>

Rating	Description	Criteria
D	Inadequate	<ul style="list-style-type: none"> <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 7: Asset management review performance rating scale**

Rating	Description	Criteria
1	Performing effectively	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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	<ul style="list-style-type: none"> <li>Process is not performed, or the performance is so poor that the process is considered to be ineffective.</li> </ul>

## 2.3 OBSERVATIONS AND FINDINGS

The observations and findings of the performance audit and the asset management system review are reported in Table 8 and Table 9.

The tables include all the findings, observations and recommendations and rate MEPL's overall compliance and adequacy of controls for each licence obligation and the asset management process and policy definition adequacy and performance in accordance with the Authority's requirements. The guidelines rating definitions are reproduced in Table 4 for the performance audit and in Table 6 and Table 7 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 issue(s) that have resulted in those ratings.

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

### 2.3.1 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
1. Text	Recommendations
[OFI]	Opportunity for Improvement

Key	Applicable	Description
Licence Grant Date		The licence was granted on the 22 June 2012
Start of operation		Practical completion of construction works was achieved on 19 November 2012 and start of operation on 14 September 2012

**Table 8 Performance Audit Observations and Recommendations (July 2014 version, May 2014 version is shown in brackets)**

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
L1	CI 2	<b>Grant of Licence</b>	The licensee has identified the licence area	5	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
		Licensee is granted a licence for the licence area to construct and operate generating works or operate existing generating works in accordance with the terms and conditions of this licence	and is operating the plant in accordance with the conditions of the licence. Layout C1027-AU-11-C-DRG326 of the generating work indicates that the physical sizes of the site correspond to the licence area.				
L2	CI.2 (Sch1)	<b>Licence Area</b> The licence area is the area as set out in plan ERA-EL-128	The licensee has identified the licence area and the licence boundaries which correspond to the licence information.	5	A	1	
L3	CI 3	<b>Term</b> Licence commences on the commencement date (22 June 2012) and continues until the earlier of: (a) the cancellation of the licence (clause 7) (b) surrender of licence (c) expiry (2042)	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	<b>Electricity Industry Act section 17(1)</b> A licensee must pay to the Authority the prescribed licence fee within one month after the day of grant or renewal of the licence and within one month after each anniversary of that day during the term of the licence.	Through examination of evidence of licence fee payments the audit found: <ul style="list-style-type: none"> <li>For the year 2013-14 ERA invoice of 13 June 2014 showed evidence of payment on 11 July 2014;</li> <li>For the year 2012-13 ERA invoice of 19 June 2013 showed evidence of payment on 27 June 2013;</li> <li>For the commencement year (2012) ERA invoice of 25 June 2012 showed evidence of payment on 20 July 2012;</li> </ul>	5	A	1	
	CI 4.1	The licensee must pay the applicable fees in accordance with the Regulations					



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
L5	Cl.5	<b>Compliance:</b> The licensee must comply with all applicable legislation.	The audit found that a number of processes and documents are in place to ensure the licensee's compliance with applicable legislation: <ul style="list-style-type: none"> <li>• "Operating Strategy"</li> <li>• The licensee has created a "Generation Licence Compliance Worksheet" which is used to identify the obligations under the licence and the status of compliance;</li> <li>• the document "ERA Generation Licence Compliance" provides the instructions for managing the reporting and compliance with the Authority's requirements;</li> <li>• Evidence was available of compliance with legislation through the planning analysis in the Asset Management System.</li> </ul>	4	A	1	
106	Cl 5.1	<b>Electricity Industry Act section 31(3)</b> 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.	Documents and processes are in place to manage and minimise the extent and duration of interruption of the supply of electricity: <ul style="list-style-type: none"> <li>• a "Risk Analysis Matrix" has been created to identify the asset risks, risk likelihood and criticality and mitigating actions;</li> <li>• Risk meetings take place six monthly, progress of action is documented in the Risk Analysis Matrix;</li> <li>• Operating strategy has been documented and identifies objectives and strategies for the minimisation of</li> </ul>	4	B	2	<b>1. (Opportunity for Improvement (OFI))</b> Available Contingency Plans / emergency response documentation should be reviewed and, if applicable, updated, to ensure that it is tailored to the operation of MEPL.

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
			<p>extent and durations of interruptions, suspension or restriction of supply;</p> <ul style="list-style-type: none"> <li>Merredin Energy Monthly Operating Reports document issues and corrective actions;</li> <li>AMS provides policies for maximising supply;</li> <li>Fault logs which include corrective actions provide a record of the steps taken to minimise interruptions;</li> <li>Contingency plans/emergency response are in place though Perth Energy's (PE) Operation and Maintenance Agreement.</li> </ul> <p>▶ The operation of Merredin Power Station is specific, it has been subject to development to fully implement remote operation and existing contingency/emergency plans need to be reviewed to confirm their suitability to its operation.</p>				
107	CI 5.1	<p><b>Electricity Industry Act section 41(6)</b> A licensee must pay the costs of taking an interest in land or an easement over land</p>	Land has been purchased by the licensee. Documentation including the Certificate of Title were examined.	4	A	1	
L6	CI 6	<p><b>Transfer of Licence</b> This licence may be transferred only in accordance with the Act.</p>	Not applicable in the audit period.	-	NR	NR	
L7	CI 7	<p><b>Cancellation of Licence</b> This licence may be cancelled only in accordance with the Act.</p>	Not applicable in the audit period.	-	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
L8	CI 8	<b>Surrender of Licence</b> This licence may be surrendered only in accordance with the Act  [and as defined in the clause]	Not applicable in the audit period.	-	NR	NR	
L9	CI 9	<b>Renewal of Licence</b> This licence may be renewed only in accordance with the Act.	Not applicable in the audit period.	-	NR	NR	
L10	CI 10	<b>Amendment of Licence on Application of the Licensee</b> The licensee may apply to the Authority to amend the licence in accordance with the Act.	Not applicable in the audit period.	-	NR	NR	
L11	CI 11	<b>Amendment of Licence by the Authority</b> the Authority may amend the licence at any time in accordance with this clause.	Not applicable in the audit period.	-	NR	NR	
L12 See item 119	CI 12	<b>Accounting Records</b> See item 119 below				-	
119	CI 12.1	<b>Accounting records:</b> Electricity Industry Act section 11 A licensee and any related body corporate must maintain accounting records that comply with the Australian Accounting Standards Board Standards or equivalent International Accounting Standards.	There was evidence to show that accounting records of the body corporate comply with the Australian Accounting Standards Board Standards.  The audit examined the accounting records for the 2013 financial year which have been prepared by the directors of Merredin Energy Holdings Pty Ltd for the members of the company. According to the directors:	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
			<ul style="list-style-type: none"> <li>the company is not a reporting entity as there are no users dependent on general purpose financial statements;</li> <li>accounting policies and records comply with the Australian Accounting Standards Board Standards.</li> </ul> <p>The financial report of Merredin Energy Holdings Pty Ltd has been audited by PricewaterhouseCoopers which have concluded that in their opinion the financial report “presents fairly the financial position of the consolidated entity...and its financial performance... in accordance with the accounting policies described” [above].</p>				
120	CI 13 CI 13.4	<b>Individual Performance Standards</b> Electricity Industry Act section 11 A licensee must comply with any individual performance standards prescribed by the Authority.	Not applicable, no individual performance standards have been prescribed by the Authority.	-	NA	NA	
L14	CI 14	<b>Performance Audit</b> see items 101, 121 below.				-	
101	CI14.1	<b>Electricity Industry Act section 13(1)</b> 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. CI 14.1 The licensee must, unless otherwise notified in writing by the Authority, provide the Authority with	<p>The audit found evidence of the licensee compliance with the requirement to provide a performance audit by examining the following information:</p> <ul style="list-style-type: none"> <li>The Licence, which was granted on 22 June 2012</li> <li>a letter of 10 March 2014 by the Authority advising that the audit period was from 22 June 2012 to 30 June 2014,</li> </ul>	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
		a performance audit within 24 months after the commencement date, and every 24 months thereafter.	<p>with a report to be provided to the Authority by 30 September 2014;</p> <ul style="list-style-type: none"> <li>the commissioned an independent expert to provide the Authority with a performance audit and a report to cover the period of 24 months from 22 June 2012 to 30 June 2014.</li> </ul>				
121	CI 14.2	<p><b>Electricity Industry Act section 11</b> A licensee must comply, and require its auditor to comply, with the Authority's standard audit guidelines dealing with the performance audit.</p>	The licensee has specified and the auditor has documented in the Audit Plan its compliance with the Authority's guidelines.	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 applicable 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 independent auditor was approved by the Authority by letter on 10 April 2014.	4	A	1	
123	CI 15	<p><b>Reporting a Change in Circumstances</b> Electricity Industry Act section 11 A licensee must report to the Authority, in the manner prescribed, if a licensee is under external administration or there is a significant change in the circumstances upon which the licence was granted which may affect a licensee's ability to meet its obligations.</p>	Not applicable during the audit period. The licensee has not been under external administration during the audit period and there were no significant changes in the circumstances upon which the licence was granted which may affect a licensee's ability to meet its obligations.	4	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	As per item 123 above.	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
		<p>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</p> <p>within 10 business days of the change occurring or</p> <p>(c) if the:</p> <p style="padding-left: 20px;">(i-iii) licensee's name; licensee's ABN; licensee's address;</p> <p style="padding-left: 20px;">(iv) description of the generating works; or</p> <p style="padding-left: 20px;">(v) nameplate capacity of the generating works,</p> <p>change, within 10 business days of the change occurring.</p>					
124	CI 16 CI 16.1	<p><b>Provision of information</b> 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.</p>	<p>Under the Electricity Industry Act the licensee is required to provide the information requested by the Authority which includes:</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p>The audit examined the licensee compliance register and compliance reports and found</p>	5	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
			evidence of the following: <ul style="list-style-type: none"> <li>“Merredin Energy Generation Licence Egl--25 Non Compliances” shows the records of non-compliances in the years ending 30 June 2013 and 2014;</li> <li>the licensee’s letter dated 23 August 2013 sent to the Authority with the attached non-compliance report</li> </ul>				
125	CL 17 CI 17.1	<b>Publishing information</b> Electricity Industry Act section 11 A licensee must publish any information it is directed by the Authority to publish, within the timeframes specified.	Not applicable in the audit period. There were no directions by the Authority to publish any information.	5	NR	NR	
126	CI 18 CI 18.1	<b>Notices</b> Electricity Industry Act section 11 Unless otherwise specified, all notices must be in writing.	It was confirmed with the licensee’s Manager that all notices are provided in writing.	5	A	1	
L19	CI 19 CI 19.1	<b>Review of the Authority’s decisions</b> The licensee may seek a review of a reviewable decision by the Authority pursuant to this licence.	Not applicable in the audit period.	-	NR	NR	
L20	CI 20	<b>Asset Management System</b>				-	
102	CI CI 20.1	<b>Electricity Industry Act section 14(1)(a)</b> A licensee must provide for an asset management system.	The licensee has implemented an asset management system (AMS) which has been subject to review by an independent auditor.	2	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
	20.1	The licensee must provide for an asset management system in respect of the licensee's assets.					
103		<b>Electricity Industry Act section 14(1)(b)</b> A licensee must notify details of the asset management system and any substantial changes to it to the Authority.	The licensee provided details of a draft asset management system in the application for the licence to the Authority, including the document "Supporting Documentation for Merredin Energy's Generation Licence Application for Merredin Peak Power Station". A full asset management system was going to be provided by the Operations and Maintenance contractor.	2	B	2	<b>2.</b> The licensee did not advise the Authority details of the asset management system on the required date. The compliance procedures need to be revised to ensure that details and significant changes to the asset management system are notified to the Authority.
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.	The audit has found that: ▶ The licensee did not advise the Authority details of the asset management system on the required date.	2	as above	as above	
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	Not applicable during the audit period, there have been no substantial changes to the asset management system in the audit period.	2	NR	NR	
104	CI 20.4	<b>Electricity Industry Act section 14(1)(c)</b> A licensee must provide the Authority with a report by an independent expert as to the effectiveness of its asset management system	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 22 June 2012 to 30 June	2	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
		every 24 months [calculated from the commencement date] or such longer period as determined [in writing] by the Authority.	2014.				
122	CI 20.5	<b>Electricity Industry Act section 11</b> 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	The licensee may seek a review of any of the requirements of the Authority's standard audit guidelines dealing with the asset management system in accordance with clause 19.1.	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 independent expert was approved by the Authority in writing on 10 April 2014.	2	A	1	
324 (was 345)	CI 5.1	<b>Electricity Industry Metering Code clause 3.3B</b> A user who is aware of bi-directional flows at a metering point which was not previously subject to a bi-directional electricity flows or any changes in a customer's or user's circumstances in a metering point which will result in bi-directional electricity flows must notify the network operator within 2 business days.	Not applicable in the audit period. There have been no changes to the operation of flows at the metering point. There have been bi-directional flows at the metering point since the start of operation.	4	NR	NR	
339 (was 360)	CI 5.1	<b>Electricity Industry Metering Code clause 3.11(3)</b> A Code participant who becomes aware of an outage or malfunction of a metering installation	Not applicable in the audit period. The licensee has not become aware of an outage or malfunction of the 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
		must advise the network operator as soon as practicable.	installation during the audit period.				
364 (was 385)	CI 5.1	<b>Electricity Industry Metering Code clause 3.27</b> 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 applicable in the audit period.  The audit found that the metering installation was installed by the network operator, Western Power, under the "Interconnection Works Contract" (IWC). Under the IWC Western Power has connected the power station to the SWIS.  Western Power owns and operates this connection, including the metering installation, while Merredin Energy has right to use it under the Electricity Transfer Access Contract (ETAC).	4	NR	NR	
371 (was 392)	CI 5.1	<b>Electricity Industry Metering Code clause 4.4(1)</b> 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 applicable in the audit period.  All operation related to the metering is performed by the network operator and is governed by the ETAC.  Western Power metering has a main meter and a check meter.  There was no evidence that a metering discrepancy had occurred in the audit period.	4	NR	NR	
372 (was 393)	CI 5.1	<b>Electricity Industry Metering Code clause 4.5(1)</b> A Code participant must not knowingly permit the registry to be materially inaccurate.	Not applicable in the audit period.  All operation related to the metering is performed by the network operator and is governed by the ETAC.	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
373 (was 394)	CI 5.1	<b>Electricity Industry Metering Code clause 4.5(2)</b> Subject to subclause 5.19(6), if a Code 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 details of the change or inaccuracy within the timeframes prescribed.	Not applicable in the audit period. All operation related to the metering is performed by the network operator and is governed by the ETAC. There was no evidence that a metering discrepancy had occurred in the audit period.	4	NR	NR	
388 (was 409)	CI 5.1	<b>Electricity Industry Metering Code clause 5.4(2)</b> 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.	Not applicable in the audit period. All operation related to the metering is performed by the network operator and is governed by the ETAC. No applicable requests were received by the licensee from the network operator in the audit period.	4	NR	NR	
401 (was 422)	CI 5.1	<b>Electricity Industry Metering Code clause 5.16</b> 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.	Not applicable. All operation related to the metering is performed by the network operator and is governed by the ETAC.	4	NA	NA	
402 (was 423)	CI 5.1	<b>Electricity Industry Metering Code clause 5.17(1)</b> 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	Not applicable. All operation related to the metering is performed by the network operator. The licensee's customer, the IMO, accesses meter reads directly from the network operator. The user employs 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
		an enactment or an agreement to do so for billing purposes or for the purpose of providing metering services to the customer.	network operator readings for its accounting purposes.				
405 (was 426)	CI 5.1	<b>Electricity Industry Metering Code clause 5.18</b> 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. All operation related to the metering is performed by the network operator and is governed by the ETAC. Western Power's System Management has remote access to the site operation.	4	NA	NA	
406 (was 427)	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(1)</b> 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 during the audit period. There have been no requests by the network operator to collect information from the customer during the audit period.	4	NA	NA	
407 (was 428)	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(2)</b> A user must, to the extent that it is able, collect and maintain a record of the prescribed information in relation to the site of each connection point with which the user is associated.	Not applicable. The connection point is with the network operator.	4	NA	NA	
408 (was 429)	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(3)</b> 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.	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
		aware of any change in an attribute described in subclause 5.19(2), notify the network operator of the change.					
410 (was 431)	CI 5.1	<b>Electricity Industry Metering Code clause 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 5.19(2) that results from the provision of standing data by the network operator to the user.	Not applicable. The connection point is with the network operator.	4	NA	NA	
416 (was 437)	CI 5.1	<b>Electricity Industry Metering Code clause 5.21(5)</b> 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 applicable during the audit period.	4	NR	NR	
417 (was 438)	CI 5.1	<b>Electricity Industry Metering Code clause 5.21(6)</b> 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 applicable during the audit period.	4	NR	NR	
435 (was 456)	CI 5.1	<b>Electricity Industry Metering Code clause 5.27</b> 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	Not applicable. The connection point is with the network operator.	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
		prescribed.					
448 (was 469)	CI 5.1	<b>Electricity Industry Metering Code clause 6.1(2)</b> A user must, in relation to a network on which it has an access contract, comply with the rules, procedures, agreements and criteria prescribed.	In respect to the Electricity Industry Metering Code there have been no breaches of the rules, procedures, agreements and criteria in the audit period. <ul style="list-style-type: none"> <li>Technical Rules tests have been completed.</li> <li>Originally network access was certified by the Independent Market Operator (IMO) for the 2012/13 Reserve Capacity Year and assigned 70 MW for the initial year of operation. Later a value of 82 MW was offered by GE (the gas turbine engine maker) and the export value updated and assigned to the year 2013/14. Tests have been carried out with Western Power allowing System Management control on the power station to run down power from 82 to 70 MW.</li> </ul>	4	A	1	
451 (was 472)	CI 5.1	<b>Electricity Industry Metering Code clause 7.2(1)</b> 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.	The audit found that the network operator had been notified of a telephone number for voice communication with the Code by the power station operator, PE. The notification was provided on 18 December 2012.	4	A	1	
453 (was 474)	CI 5.1	<b>Electricity Industry Metering Code clause 7.2(4)</b> If requested by a network operator with whom it	Not applicable during the audit period. There was no request by the network operator of code participant contact details.	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
		has entered into an access contract, the Code participant must notify its contact details to a network operator within 3 business days after the request.					
454 (was 475)	CI 5.1	<b>Electricity Industry Metering Code clause 7.2(5)</b> 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.	Refer to Obligation Number 451 for finding on notification. There was no evidence to show that there had been a change in the code participant contact details during the audit period.	4	NR	NR	
455 (was 476)	CI 5.1	<b>Electricity Industry Metering Code clause 7.5</b> 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.	Under the Operation and Maintenance Agreement PE is responsible for the operation of the assets. PE has in place confidentiality obligations on its employees and contractors. Confidentiality clauses also exist within the ETAC.	4	A	1	
456 (was 477)	CI 5.1	<b>Electricity Industry Metering Code clause 7.6(1)</b> A Code participant must disclose or permit the disclosure of confidential information that is required to be disclosed by the Code.	It was confirmed during the course of the audit that the licensee permits the disclosure of confidential information that is required to be disclosed by the Code.	4	A	1	
457 (was 478)	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(1)</b> 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	Not applicable during the audit period. There have been no Code participant disputes during 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
		good faith.					
458 (was 479)	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(2)</b> 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 applicable during the audit period.	4	NR	NR	
459 (was 480)	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(3)</b> 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.	Not applicable during the audit period.	4	NR	NR	
460 (was 481)	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(4)</b> 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 applicable during the audit period.	4	NR	NR	
461 (was 482)	CI 5.1	<b>Electricity Industry Metering Code clause 8.3(2)</b> The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective in subclause	Not applicable during 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
		8.3(1).					

### 2.3.2 Asset Management 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.

#### LEGEND

Key	Description
▶	Finding
1. Text	Recommendations
[OFI]	Opportunity for Improvement

Table 9 - Asset Management System Review

EC No.	AMS Element / Criteria	Rating	Review summary (▶ Findings)	Recommendations
1	Asset Planning	Adeq & Perf	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.	
1.1	Asset management plan covers key requirements.	A1	The Review has found that the asset management plan was adequately documented and its processes were performing effectively.  Merredin Energy Pty Ltd (MEPL) is the licensee and the owner of the Merredin Power Station. MEPL has contracted the operation and maintenance of the plant to Perth Energy Pty Ltd (PE) under an "Operation and Maintenance	

EC No.	AMS Element / Criteria	Rating	Review summary ( Findings)	Recommendations
			<p>Agreement” which started on 1 September 2012 and came into operation on 20 November 2012, following Practical Completion of the construction works.</p> <p>MEPL uses two documents that describe the asset management system (AMS) and provide policy and direction for the operation of the plant.</p> <ul style="list-style-type: none"> <li>• The “Merredin Power Station Asset Management System” (V3 – July 2014) (MPSAMS) provides the description of the AMS. It follows the structure of the key processes set out in the Authority’s guidelines and defines the policy, objectives, strategy and operation of the plant.</li> <li>• The MPSAMS is supported by the “Merredin Power Station Asset Management Plan” (MPSAMP) which reviews the historical operation of the plant and provides the plans for the following year.</li> </ul>	
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	A1	<p>MEPL has established a planning process and objectives which are integrated with business planning and reflect the needs of stakeholders.</p> <ul style="list-style-type: none"> <li>• MEPL is an entity established by the owners to provide a return on investment through the provision of reserve capacity to the interconnected system and earn an income through the sale of capacity credits.</li> <li>• The AMS describes the planning options, target outcomes and strategies available to MEPL. Both the MPSAMS and the MPSAMP are subject to annual review and update.</li> <li>• The planning process is documented in the “Preparation of Annual Asset Management Plan” procedure.</li> <li>• Operational objectives are defined in the MPSAMS (section 8.2) and in the “Operating Strategy” document.</li> <li>• The needs of stakeholders are identified in the MPSAMS.</li> </ul>	
1.3	Service levels are defined.	A1	<p>Service levels are defined in the Operational Objectives section of the MPSAMS, (sect. 8.2) and further evaluated in the “Operating Strategy”.</p>	

EC No.	AMS Element / Criteria	Rating	Review summary ( Findings)	Recommendations
			Asset operation has to meet the Network Operator Technical Rules as well market rules and procedures set out by the Independent Market Operator (IMO).	
1.4	Non-asset options (e.g. demand management) are considered.	NA	Not applicable to this operation. The operation relies on supplying power required by System Operation or dispatches power on demand from the customer (IMO). The assets are geared to supply as much power as the customer(s) demand within the plant capacity, therefore there is no demand management as such.	
1.5	Lifecycle costs of owning and operating assets are assessed. (also at 2.2)	A1	<p>Initial asset costs of the plant over the life of the plant have been assessed. The processes adequately document the performance of the assets and meet requirements.</p> <ul style="list-style-type: none"> <li>• The "Supporting Documentation for Merredin Energy's Generation Licence Application for Merredin Peak Power Station" showed that the power station will have an operating life of around 25 years.</li> <li>• Asset costs and revenue have been calculated in the "Merredin Energy Financial Model" over the lifetime of the plant, a range of costs have been shown for a span of 20 to 50 years;</li> <li>• The MPSAMS indicates, in section 8.2, "Operational Objectives" that the life of the plant is expected to be 30 years, this is likely as the plant is subject to minimal operating hours.</li> </ul> <p>The audit noted that the licensee has considered a number of disposal options for the power station and assumed that the disposal of the power station will be cost neutral.</p> <p>The annual budgeting cycle reviews the asset lifecycle costs and documents the updated costs in an annual "Financial Budget". Asset costs over five years are also evaluated in the MSAMP. Refinancing reviews (latest carried out in</p>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<p>2013) also include updating of life cycle costs.</p> <p>For new assets, the “Asset Acquisition” policy (MEPL-00-POLY-00001) provides detailed directions for assessing cost:</p> <ul style="list-style-type: none"> <li>• New generating plant acquisitions will need to demonstrate the asset capability for generating a return on investment that is in line with company and shareholders policies and will include capital and operating costs.</li> <li>• Other plant acquisitions will need to show benefits, capital and operating costs and cost-benefit analysis of proposed acquisition.</li> </ul>	
1.6	Funding options are evaluated.	A1	<p>Funding options are evaluated:</p> <ul style="list-style-type: none"> <li>• Refinancing of company debt has recently been arranged. Details are provided in Profit and Loss statements.</li> <li>• There have been no new significant asset acquisitions and therefore no additional funding needs since the completion of works, however there have been new asset replacements under warranty.</li> <li>• Revenue streams have been identified and calculated in forecasts.</li> </ul>	
1.7	Costs are justified and cost drivers identified.	A1	<p>Cost drivers have been identified in the MPSAMS and in the “Operating Strategy” documents.</p> <ul style="list-style-type: none"> <li>• Monthly reports, eg. the “Merredin Energy Monthly Operating Report, June 2014” report closely on the cost of sales, such as testing costs, fuel costs, operating and maintenance costs.</li> <li>• Monthly and Year-to-Date (YTD) P&amp;Ls are included in the monthly reports providing a detailed breakdown on costs.</li> </ul>	
1.8	Likelihood and consequences of asset failure are predicted.	A1	Likelihood and consequences of asset failure have been defined in the “Merredin-Risk Analysis-07 190314”.	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<ul style="list-style-type: none"> <li>• There is a process for reviewing and updating the asset risk analysis and for managing any mitigating actions. This includes 6 monthly reviews of the risk analysis in a formal meeting plus monthly follow up of actions and updates.</li> <li>• The process is documented at a high level in the MPSAMS document.</li> </ul>	
1.9	Plans are regularly reviewed and updated.	A1	<p>There is a formal procedure for reviewing and preparing the MPSAMS document and the MPSAMP.</p> <ul style="list-style-type: none"> <li>• The AMP review process consist of an annual review of the plant performance and of the existing AMP which leads to the preparation of the new MPSAMP.</li> </ul>	
<b>2</b>	<b>Asset Creation and acquisition</b>		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.	A1	<p>The licensee has a procedure and policies in place to guide the evaluation of new projects.</p> <ul style="list-style-type: none"> <li>• The “Engineering Change Management Procedure”, MEPL---00---CM--001, documents the process for assessment of the need of new assets, justification, design, procurement, construction and commissioning of the asset;</li> <li>• The “Asset Acquisition” policy, MEPL-00-POLY-00001, provides the direction to the acquisition of new or replacement assets, for the basis of decisions and scope of evaluation and costing.</li> </ul> <p>Two business cases were examined during the review:</p> <ul style="list-style-type: none"> <li>• the “132 kV Protection Relay Replacement” provides the case for the replacement of a protection relay monitoring and controlling the 132 kV interconnection with Western Power, in order to meet the Technical Rule requirements. The original relay had been found not to meet the Technical Rules but accepted by Western Power on the grounds that it was to be replaced by the 14 November 2012;</li> </ul>	

EC No.	AMS Element / Criteria	Rating	Review summary ( Findings)	Recommendations
			<ul style="list-style-type: none"> <li>the “Temporary UPS System and UPS Room Gas Based Fire Suppression System”, 3 April 2013, to be replaced after the occurrence of a fire in the Battery Room due to a program fault in the Uninterruptible Power Supply (UPS) controllers.</li> </ul>	
2.2	Evaluations include all life-cycle costs.	A/NR	<p>For new assets, the “Asset Acquisition” policy (MEPL-00-POLY-00001) provides detailed directions for assessing cost:</p> <ul style="list-style-type: none"> <li>New generating plant acquisitions will need to demonstrate the asset capability for generating a return on investment that is in line with company and shareholders policies and will include operating costs.</li> <li>Other plant acquisitions will need to show benefits, capital and operating costs and cost-benefit analysis of proposed acquisition.</li> </ul> <p>There have been no new significant asset acquisitions since the completion of works, there have been asset replacements under warranty that have not required assessment of life-cycle costs. Business Cases noted under EC3.1 were for assets replaced under warranty.</p>	
2.3	Projects reflect sound engineering and business decisions.	A1	<p>The Review examined project information of projects noted in section 2.1 and found that each project was based on sound engineering decisions. Procedures reviewed showed that a thorough process of project evaluation has been defined.</p>	
2.4	Commissioning tests are documented and completed.	A2	<p>The commissioning requirements were adequately documented while the performance of the process needed further work for compliance. The Review examined records and found:</p> <ul style="list-style-type: none"> <li>Some commissioning tests have been satisfactorily completed and documented at completion of installation;</li> <li>The set of commissioning records for the GT have been included in the scope of supply of the GT manufacturer (GE) and have been provided;</li> </ul>	<ol style="list-style-type: none"> <li>Some of the Balance of Plant (BOP) commissioning tests that were to be completed by the construction contractor were not signed off because of the contractor going into receivership. These tests are being re-run and should be documented.</li> </ol>

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<ul style="list-style-type: none"> <li>► Some of the Balance of Plant (BOP) commissioning test that were to be completed by the construction contractor were not signed off because of the contractor going into receivership. These tests are being re-run and documented through a warranty claim.</li> </ul>	
2.5	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood. (also at EC4.3)	A2	<p>The licensee has documented the overall legal/ environmental/ safety obligations of the asset owner in the MPSAMS and in the “Power Station Management Framework”. As noted in section 1.1 MEPL has engaged PE to manage the operation of the assets. In order to satisfy all of the licensee’s obligations PE has implemented environmental and health and safety systems for MEPL. PE provides some of the compliance services as well as commissioning external expert consultants to provide regulatory reports and tests, these included:</p> <ul style="list-style-type: none"> <li>• regulatory reports for its Generation Licence EGL 25;</li> <li>• reports for its Dangerous Goods Storage Licence;</li> <li>• Annual Environmental Reports to the Department of Environment Regulations based on audits of MEPL plant and operation;</li> <li>• plant power tests (for Reserve Capacity) for compliance with market rules of the Wholesale Energy Market (WEM).</li> </ul>	
<b>3</b>	<b>Asset Disposal</b>		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.	A1	<p>The licensee has in place continuous monitoring of the plant performance. Processes are both documented and performed effectively. This is achieved through:</p> <ul style="list-style-type: none"> <li>• implementation of a maintenance schedule which includes daily, weekly and monthly inspections on site in addition to long term major testing and maintenance activities;</li> <li>• monthly reporting on the assets operation through “Merredin Energy Monthly Operating Reports”;</li> </ul>	



EC No.	AMS Element / Criteria	Rating	Review summary ( Findings)	Recommendations
			<ul style="list-style-type: none"> <li>• six monthly review of asset risks;</li> <li>• annual review of asset operation in the annual MPSAMP review and preparation process;</li> </ul> <p>The Review has found that under-performing assets have been identified and projects have been initiated for the plant replacement under warranty (Refer to EC3.2 for projects and warranty replacement information).</p>	
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	B2	<p>The Review has found that the documentation and the performance of the process require some improvement.</p> <p>Through the Merredin Energy Monthly Operating Reports and the “Merredin Power Station Forced Outage Log” the licensee has identified poor performing plant and documented the causes and the corrective actions undertaken.</p> <p>The licensee has identified poor performing plant such as:</p> <ul style="list-style-type: none"> <li>• fuel heater; the single fuel heater in the original design was insufficient to heat the diesel fuel for operation under cold conditions; this had to be replaced by two more powerful fuel heaters (one per engine);</li> <li>• air compressors; two new air compressors are being installed as the original equipment was found to be inadequate.</li> <li>• protection relay.</li> </ul> <p>these items are being replaced under warranty.</p> <p>The licensee has also identified an issue with a number of failures to start or synchronise which occurred in 2013 and resulted in refunds to the IMO. The failures to start/synchronise in December 2013 were:</p> <ul style="list-style-type: none"> <li>• on 14 December 2013: GT1 would not synchronise to the grid;</li> <li>• 14 December 2013, GT2 would not start; GT2 was subsequently started and synchronised to the grid;</li> </ul>	<p>2. Following the failures to start/synchronise the GTs, the Review noted that the change in operation was noted in the monthly reports and the objective of reliable starts and running on load was noted in the MPS Asset Management System for 2014/2015. The change in operation should be further defined in operational plans.</p>

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<ul style="list-style-type: none"> <li>• 15 December 2013 GT1 failed to synchronise to the grid;</li> <li>• on 15 December 2013 GT2 failed to start.</li> </ul> <p>The GTs were inspected and the issues fixed. Recommendations were made including the need to periodically run the GTs at full speed no load and to run the GTs at power and connected to the grid after maintenance work on the GTs or following a software change.</p> <ul style="list-style-type: none"> <li>► The audit noted that the change in operation noted above was reported in the monthly reports however, while the MPSAMP for 2014/2015 noted the objective of start up and running on load in accordance with maintenance instructions, the change in operation had not been sufficiently documented in the operational plans.</li> </ul>	
3.3	Disposal alternatives are evaluated.	A/NR	<p>The licensee has not had the need to dispose of significant items of plant, replacement to date have been performed under warranty.</p> <p>A formal procedure is in place for the disposal of assets.</p>	
3.4	There is a replacement strategy for assets.	A1	<p>There is a generic replacement strategy for the assets which is noted in the MPSAMS. As the assets are in the second year of operation the only replacement issue concerns the GT control system which will require possible replacement due to the end of manufacturing and component support. This issue will have to be confronted at a time closer to the supplier changes (in about 10-15 years).</p>	
<b>4</b>	<b>Environmental Analysis</b>		<p>The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain requirements.</p>	
4.1	Opportunities and threats in the system environment are assessed.	A1	<p>The Review has found that the licensee has assessed the threats and opportunities in the system environment.</p> <p>PE has analysed the system environment in the MPSAMS, and identified issues that may impact on the licensee, such as:</p>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<ul style="list-style-type: none"> <li>• changes in the electricity market through the forthcoming Energy Market Review;</li> <li>• changes in the reserve capacity price the effect of which has been assessed by independent consultants in the recent refinancing process;</li> <li>• failure of the gas supply in Western Australia.</li> </ul> <p>External changes are continually reviewed in the Monthly Merredin Energy Monthly Operating Reports.</p>	
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.	A1	<p>Performance standards have been defined in the MPSAMS and in the Power Station Management Framework and are monitored.</p> <p>The main performance standards are:</p> <ul style="list-style-type: none"> <li>• availability of service; the MPS AMS has set the objectives for availability and forced outages; at this stage in the first full year of operation this has not been achieved;</li> <li>• capacity is subject to six monthly Reserve Capacity tests; the performance standard has been achieved;</li> <li>• emission tests are performed twice a year; except for one slight excursion above the required limit which has occurred at an unrepresentative operating point the plant has achieved the required performance. The last emission tests were performed in June 2014.</li> </ul> <p>Where tests are performed results are provided in appropriate reports and in the Merredin Energy Monthly Operating Reports with discussion and corrective actions where performance standards are not achieved. Examples of conditions and corrective actions have been reported at EC3.2 and noted below:</p> <ul style="list-style-type: none"> <li>• low temperature of fuel due to the poor performance of fuel heater affecting emission tests, fuel heater is being replaced under warranty;</li> <li>• failure to start and synchronise, issue and corrective actions detailed in</li> </ul>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			section EC3.2.	
4.3	Compliance with statutory and regulatory requirements.	A1	<p>The licensee has identified statutory and regulatory requirements in the MPSAMS. In addition the licensee has implemented procedures and processes to manage compliance. The following documentation was reviewed:</p> <ul style="list-style-type: none"> <li>• ERA Generation Licence Compliance procedure, MEPL-00-PROC-00008;</li> <li>• the Generation Licence Compliance Worksheet;</li> <li>• Environmental Management System and annual reports;</li> <li>• OH&amp;S Management System.</li> </ul> <p>The General Manager Generation monitors the Generation Compliance Worksheet. Where compliance is subject to measurements reports are commissioned from independent experts, for example, Emission Test Reports, Noise Emission Reports which have been prepared by independent expert consultants.</p>	
4.4	Achievement of customer service levels.	A2	<p>Discussion with the PE Contract Manager and the PE Power Station Supervisor indicated that customer service levels are being achieved and, where not achieved corrective actions are implemented:</p> <ul style="list-style-type: none"> <li>• service levels with the IMO have been achieved; the tests are currently carried out over three trading periods to achieve a higher reliability and will be cut back to two once operational performance is proven. Failure to achieve service levels will cause forced outages and loss of revenue; Capacity Credits would be lost if the Reserve Capacity figure is not achieved;</li> <li>► there were a number of instances when the plant was not able to achieve start up as requested by System Management as reported under EC 3.2. The issues have been corrected and operational processes changed to improve performance.</li> </ul>	Refer to Recommendation 2.

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
<b>5</b>	<b>Asset Operations</b>		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.	B2	<p>Operational policies are documented in the AMS and the AMP. The Review has found that the documentation requires some improvement as not all of the required operator procedures have been issued for MEPL use at present.</p> <p>The process of establishing the future operating regime for Merredin Power Station is documented in the “Preparation of Annual Asset Management Plan” procedure. The process includes for the review of the overall performance of the power station including:</p> <ul style="list-style-type: none"> <li>• starting and general reliability;</li> <li>• unscheduled outages and incidents;</li> <li>• non-compliances with environmental or legislative requirements;</li> </ul> <p>which are directly linked to service levels.</p> <p>Operational procedures have been registered in the “List of Power Station Management Procedures”.</p> <p>► Not all procedures have been issued at present however all of the procedures essential for the current operation of the AMS are available.</p>	3. (OFI) Complete the issuing of operational policies and procedures.
5.2	Risk management is applied to prioritise operations tasks.	A1	<p>The Review has found that there is adequate documentation and process for prioritising operations tasks.</p> <p>Risk management is applied through six monthly risk assessments which identify operational tasks that need to be carried out to mitigate risks. Progress of tasks is reviewed monthly.</p> <ul style="list-style-type: none"> <li>• minutes of six monthly meetings document the risk analysis;</li> <li>• progress of actions is tracked by member of staff through monthly correspondence.</li> </ul>	
5.3	Assets are documented in an Asset Register including asset type, location, material, plans of components, an	C2	The asset management information system requires improvement to fully document the asset register. The performance of the process requires some improvement.	4. Complete the implementation of the Asset Register (this work is in progress).

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
	assessment of assets' physical/structural condition and accounting data.		<p>Major assets have been identified and have records and information through drawings, Operation &amp; Maintenance (O&amp;M) Manuals and commissioning data.</p> <p>► The Asset Register is being progressively compiled and was not in full operation at the time of the review.</p>	
5.4	Operational costs are measured and monitored.	A1	<p>Operational costs are budgeted, measured and monitored. Both documentation and process are adequate.</p> <p>The Review examined:</p> <ul style="list-style-type: none"> <li>• the Merredin Energy Monthly Operating Reports, these include: <ul style="list-style-type: none"> <li>◦ monthly updates of the Profit and Loss (P&amp;L),</li> <li>◦ Cash Flows,</li> <li>◦ special expenditure with commentary on the reasons and status;</li> <li>◦ the P&amp;L includes the Operating Expenditure breakdown for the month and YTD;</li> <li>◦ O&amp;M costs are shown whether planned or unbudgeted.</li> </ul> </li> <li>• Reports are available to staff on the company IT system and circulated to management and the board of the licensee.</li> </ul>	
5.5	Staff resources are adequate and staff receive training commensurate with their responsibilities.	A1	<p>The Review found adequate documentation and effective performance of the training processes.</p> <p>The licensee relies on the services of a contracted operator, PE, for its operation. To date the site has operated with a single part time technician and visits by the PE Power Station Supervisor. PE provides the services of appropriately trained engineering and managerial staff to oversee the operation and management of the power station.</p> <p>A further technician and new administration staff were employed at the end of the review period. Staff have received training to bring their competency to the level required by their function.</p> <p>The Review noted that further training for site staff has been planned.</p>	

EC No.	AMS Element / Criteria	Rating	Review summary ( Findings)	Recommendations
6	<b>Asset Maintenance</b>		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.	A1	<p>Maintenance policies are documented in the MPSAMS and MPSAMP. Procedures are documented in O&amp;M Manuals. Performance of the processes was effective.</p> <p>As the maintenance regime requires few annual starts the plant is not accumulating continuous operational hours and consequently maintenance plans had to be specifically adapted between 2012 and 2014 to suit the conditions. Maintenance activities throughout the Review period were documented and have been used to formulate the new maintenance plan.</p> <p>The Review found that:</p> <ul style="list-style-type: none"> <li>the MPSAMP 2014-15 includes a list of all the scheduled maintenance planned for the forthcoming year;</li> <li>reports are generated monthly from the AMS which list the forthcoming maintenance tasks; the Review also examined a report generated from the AMS Work Management System (WMS) TechnologyOne (TechOne) which listed all the planned maintenance for 2014-15;</li> </ul> <p>A full study, the "Inspection Requirements and Short Run Marginal Costs of Generation", has been carried out to determine the operation and maintenance regime in view of the special operation of Merredin Power Station. The study has found that the station is expected to run approximately 100 hours per year to perform all the tests and provide the service required, so that major overhauls such as Combustion Inspection and Hot Gas Path Inspection can be timed.</p>	
6.2	Regular inspections are undertaken of asset performance and condition.	B1	<p>The Review found evidence that regular inspections are undertaken of asset performance and condition.</p> <p>Initial maintenance and inspection regime was documented using the O&amp;M Manuals recommendations and schedules. As the plant operating regime was unique, maintenance was mainly reactive.</p> <p>Walk-through inspections were performed daily.</p>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<p>On a monthly basis work orders are generated for the coming month and included in the Monthly Report. The Site Supervisor allocates task responsibility and tracks completion of tasks.</p> <p>Initially this was done manually, at the end of the review period the inspections were entered into TechOne which was then brought on stream.</p>	
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	B1	<p>The Review found that maintenance plans documentation needs some improvement. Performance of the process was satisfactory.</p> <p>Preventative, compliance and corrective maintenance plans are budgeted evenly across the year. Maintenance plans are prepared in blocks of three months which allows flexibility in the final scheduling. Maintenance activities reviewed were completed on schedule.</p> <p>During the review period maintenance was mainly reactive being adapted to the specific conditions of operation of this site. Tasks were identified however the review noted that:</p> <ul style="list-style-type: none"> <li>► Maintenance plans had been prepared but not fully entered in the Asset Management System (TechOne) in the review period.</li> </ul> <p>The review also noted that:</p> <ul style="list-style-type: none"> <li>• the plant was undergoing warranty repairs throughout the period, for example there were a total of 38 warranty repairs being carried out between January and February 2014.</li> </ul> <p>At the end of the review period maintenance plans were created in a Gantt chart for scenarios of 100 and 1000 operational hours per year. The plans were given to TechOne for entry into the WMS and full reports of scheduled maintenance were available for 2014-15.</p>	<p>5. Complete the upload into the TechOne system and the documentation of the maintenance plans (this activity is in progress).</p>
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary.	A1	<p>The Review found that both the documentation and the performance of the processes were adequate.</p> <p>The plant suffered a number of failures during the review period and the failures were registered in the Merredin Power Station Forced Outage Log,</p>	



EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<p>investigations carried out and reports generated.</p> <p>Details of failures have been reported at EC4.4. Maintenance plans have been adjusted following the failures.</p>	
6.5	Risk management is applied to prioritise maintenance tasks.	C1	<p>Documentation requires improvement. Performance of the process meets requirements.</p> <p>Maintenance has been reactive and activities have been initiated in responses to events as those events have occurred. Maintenance surveillance include alarm communication in real time to the plant Supervisor who then takes responses based on his experience and knowledge of the plant.</p> <ul style="list-style-type: none"> <li>► At present the maintenance prioritisation process on the basis of risk is reactive and the procedure has not been formalised.</li> </ul>	<p>6. Prepare a procedure or provide reference to an existing procedure for the prioritisation of maintenance tasks on the basis of risk.</p>
6.6	Maintenance costs are measured and monitored.	A1	<p>Maintenance costs are measured and tracked in monthly reports. Performance of the process met requirements.</p> <p>The licensee has established an Operation and Maintenance Agreement with PE which entails a fixed monthly charge for maintenance. PE, the operator, track maintenance costs and identify where there is unusual expenditure. Costs are closely monitored in the monthly reports:</p> <ul style="list-style-type: none"> <li>• the Merredin Energy Monthly Operating Reports include monthly updates of the Profit and Loss (P&amp;L), Cash Flows, special expenditure with commentary on the reasons and status, maintenance costs are shown whether planned or unbudgeted.</li> </ul>	
<b>7</b>	<b>Asset Management Information system (MIS)</b>		<p>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.</p>	
7.1	Adequate system documentation for users and IT operators.	B1	<p>Documentation for the system needs some improvement due to its gradual implementation. Performance of the system is effective.</p> <p>The MEPL Asset Management Information System (AMIS) is provided by PE</p>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<p>through the Operation and Maintenance Agreement.</p> <p>The AMS documentation system consist of:</p> <ul style="list-style-type: none"> <li>• manuals supporting the IT systems (TechOne) which is gradually being deployed to support the operation of the plant.</li> </ul> <p>The operation of the electronic system (TechOne) is supported by an external consultant and by a dedicated member of staff.</p>	
7.2	Input controls include appropriate verification and validation of data entered into the system.	C1	<p>Process documentation needs improvement. Performance of the process meets requirements.</p> <p>There is a process in place where data to be entered into the system is correlated by the Plant Supervisor, passed onto the Asset Manager and finally provided to the Contract Manager. Reports such as emission tests are critically examined prior to acceptance. Where results are not satisfactory tests have been verified or results re-validated.</p> <p>In addition some of the data is made available automatically through control and instrumentation data links.</p> <p>Various data is reported in the Merredin Energy Monthly Operating Reports and receives scrutiny by management.</p> <ul style="list-style-type: none"> <li>► While there are processes in place for verification and validation of data entered into the system the processes need to be formalised.</li> </ul>	7. Document the processes for verification and validation of data entered into the system.
7.3	Logical security access controls appear adequate, such as passwords.	B1	<p>Process documentation requires some improvement. Performance of the process meets requirement.</p> <p>Access to computers is controlled by user identification and passwords. The current Technician on site has only limited access.</p> <p>Brief directive on computer password protection is provided in the “Site Security” policy, MEPL-00-POLY-00003.</p> <ul style="list-style-type: none"> <li>► There should be either a reference or more information in the AMS on the policies for computer system access.</li> </ul>	8. Provide a reference in the asset management system to existing policies or more information on computer system access policies.

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
7.4	Physical security access controls appear adequate.	A1	<p>The Review found that physical access controls appeared adequate both through policies, procedures and application on site:</p> <ul style="list-style-type: none"> <li>• a procedure, the “Site Access” MEPL-00-PROC-00019 controls the process for access to the power station and its equipment and includes directions for site induction;</li> <li>• a “Site Security” policy, MEPL-00-POLY-00003 governs active and passive security measures including CCTV, gates and facilities locking, securing chemicals and consumables.</li> <li>• the power station site is secured through boundary fences, locked gates and locks at control room.</li> </ul>	
7.5	Data backup procedures appear adequate and backups are tested.	B1	<p>MEPL relies on PE to provide the AMS IT services including the back-up procedures. Documentation requires only minor improvement. Performance of the process meets requirements.</p> <p>Currently all PE data is backed up offsite through Netlink.</p> <ul style="list-style-type: none"> <li>► Information on system back-ups relies on PE’s systems, however there should be reference in the AMS of the applicable procedures.</li> </ul>	<p>9. Provide a reference in the asset management system to existing back-up policies/ procedures or more information on system back-ups.</p>
7.6	Key computations related to licensee performance reporting are materially accurate.	A1	<p>The controls in place to monitor and verify performance reporting appear to be sound. Performance reporting relates primarily to capacity output and emission results. Both sets of computations are performed through services provided by third parties and are subject to independent review:</p> <ul style="list-style-type: none"> <li>• as required by the market rules of the WEM, the power station performance requires verification at least once a year. The test can be run either through remote operation by Western Power’s System Management or by direct dispatching by PE; PE runs an additional test through the year to obtain a further validation of the results;</li> <li>• power exports are measured by Western Power through its owned and controlled metering installation, the metering installation includes the main meter and a check meter; power results are accessed directly by the customer (the IMO); MEPL has also installed its own separate metering</li> </ul>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<p>point and independently checks the IMO and network operator figures;</p> <ul style="list-style-type: none"> <li>exhaust gas emission tests at the exhaust stacks are performed by independent contractors selected by PE; results are reviewed by an independent consultant selected by PE;</li> </ul>	
7.7	Management reports appear adequate for the licensee to monitor licence obligations.	A1	<p>The Merredin Energy Monthly Operating Reports are comprehensive reports which adequately convey to management the performance of the plant and its compliance with licence obligations, in particular they include:</p> <ul style="list-style-type: none"> <li>regulatory compliance information;</li> <li>financial performance including funding information;</li> <li>stakeholder requirements;</li> <li>O&amp;M data and operating performance.</li> </ul> <p>In addition there are a variety of regular reports that PE, the operator, arranges for MEPL:</p> <ul style="list-style-type: none"> <li>regulatory reports for its Generation Licence EGL 25;</li> <li>reports for its Dangerous Goods Storage Licence;</li> <li>Annual Environmental Reports to the Department of Environment Regulations based on audits of MEPL plant and operation.</li> </ul>	
<b>8</b>	<b>Risk Management</b>		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.	B1	<p>Directions on risk policy and management are provided in the MPSAMS, however the documentation of the process needs improvement. An effective process is in place to review the AMS risks and actions are identified and followed up to minimise internal and external risks. The Review examined:</p> <ul style="list-style-type: none"> <li>the “Merredin-Risk Analysis-07 190314” which analyses all the systems and assets at the power station, their risks, consequences, likelihood, controls, inherent and residual risks and actions;</li> </ul>	<b>10.</b> Provide a reference to existing procedures or document the risk analysis process at MEPL.

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<ul style="list-style-type: none"> <li>• minutes of six monthly meetings reviewing the risk analysis noted above.</li> </ul> <p>The Review determined that the process documentation needs improvement:</p> <ul style="list-style-type: none"> <li>► While there are documentation and processes addressing risk management, such as:               <ul style="list-style-type: none"> <li>◦ policy and process directives in the AMS;</li> <li>◦ procedures for risk analysis at PE and</li> <li>◦ an acceptable process for risk analysis at MEPL which generates documented outcomes,</li> </ul> </li> </ul> <p>the MEPL risk analysis process is not fully documented.</p>	
8.2	Risks are documented in a risk register and treatment plans are actioned and monitored.	B2	<p>The Review found that documentation and performance of the process need improvement.</p> <ul style="list-style-type: none"> <li>► The MPSAMS notes that a risk register should exist, however the risk register had not been created during the review period.</li> </ul> <p>The audit noted that the “Merredin-Risk Analysis-07 190314” risk matrix reported at EC8.1 appears to provide the functionality of a risk register and fulfil the long term monitoring of risks. However there are limitations in its operation. The Review observed that:</p> <ul style="list-style-type: none"> <li>► A risk register is not in use.</li> <li>► One aspect of the risk analysis process that will require further improvement has to do with the registering of new risks as they arise, which may need immediate treatment and recognition by management at an early stage, this will require the use of a risk register.</li> <li>► In addition higher level risks resulting from external factors such as changes in market, operating conditions etc are not readily captured by the asset risk matrix.</li> </ul>	<p><b>11.</b> Assess whether the risk analysis process covers sufficiently all risks and whether a risk register is required.</p>

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			<p>As noted at EC8.1 the “Merredin-Risk Analysis-07 190314” analyses all the systems and assets at the power station, their risks, consequences, likelihood, controls, inherent and residual risks and actions; the actions (or treatment plans) are monitored through monthly follow ups by a nominated member of staff and are then subject to review at the six monthly meetings noted above at EC8.1. The process of actioning treatment plans appears effective.</p>	
8.3	<p>The probability and consequences of asset failure are regularly assessed.</p>	A1	<p>Documentation and performance of the process were adequate. Probability and consequences of asset failure are assessed at six monthly intervals as reported at EC8.1.</p>	
<b>9</b>	<b>Contingency Planning</b>		<p>Contingency plans have been developed and tested to minimise any significant disruptions to service standards</p>	
9.1	<p>Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.</p>	B3	<p>Contingency plans are documented but require review. Performance of the process needs improvement.</p> <p>The MPSAMS indicates that an approach is in place to deal with failures of assets with strategies such as alarm responses and spare part holdings and that the PE processes will be used to provide contingency responses including:</p> <ul style="list-style-type: none"> <li>• business continuity management;</li> <li>• recovery from disasters;</li> <li>• IT disaster recovery.</li> </ul> <p>There is a “Site Security” policy, which governs active and passive security measures and responses to security alerts. The PE “Emergency Response” procedure was examined and appeared to be satisfactory.</p> <p>► While the use of PE’s contingency plans will be acceptable if they are</p>	<p><b>12.</b> Assess the suitability of existing Contingency Plans and Emergency Responses to the Merredin Power Station operation and proceed with documentation / identification of plans and testing regime.</p>

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			appropriate to the Merredin Power Station operation, in view of the changing operation of the power station, there was not sufficient evidence that appropriate documented plans have been implemented at Merredin.	
<b>10</b>	<b>Financial Planning</b>		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.	A1	<p>The financial plan is documented and process performance meets requirements.</p> <ul style="list-style-type: none"> <li>• A financial plan, the “Merredin Energy Pty Ltd Financial Budget” is prepared annually, reviewing past operation, costs and variations. The plan includes the strategies, plans, revenue and expenditure forecasts to achieve and maintain the objectives set out in the MPSAMS.</li> <li>• The MPS AMP provides further information on the previous year plant performance and proposed activities to achieve the objectives.</li> </ul> <p>The budget planning and approval process has been documented in the “Merredin Energy Budget Process Overview”.</p>	
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs.	A1	The financial plan identifies the sources of funding for capital expenditure and recurring costs. The plan has identified and provided information on changes in funding arrangements and future changes in revenue.	
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	A1	The financial plan provides projections of cash flow and cash balances, profit and loss for five years.	
10.4	The financial plan provides firm predictions on income for the next five years and reasonable indicative	A1	Both the documentation and the performance of the processes were adequate.	

EC No.	AMS Element / Criteria	Rating	Review summary ( Findings)	Recommendations
	predictions beyond this period.		<ul style="list-style-type: none"> <li>The financial plans provides predictions of income for the next five years. Assumptions and forecast revenue changes are discussed and include firm prices set two years ahead for power export, and forecast prices for the following three years.</li> <li>A whole of life financial model, the Merredin Energy Financial Model, provides the estimates for future income past five years.</li> </ul>	
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	A1	<p>Both the documentation and the performance of the processes were adequate.</p> <p>The financial plan provides for all expenditure of the business. The plan provides a detailed monthly forecast of expenditure for the financial year ahead, including O&amp;M, administration and capital expenditure.</p> <p>The individual expenditure lines include, among others, service costs, consumables and fuels, access costs, predictive, corrective and compliance maintenance, O&amp;M costs, licensing and compliance costs, insurance, system, legal and accounting.</p> <p>Capital expenditure is provided and allowances made for future periods beyond the next financial year.</p>	
10.6	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	A1	<p>Both the documentation and the performance of the processes were adequate.</p> <p>The financial plan identifies and discusses variances in actual costs and revenue and forecasts variances in future periods. The commentary provides the reasons for the changes and adjustments in the activities and plans to respond to the changes.</p>	
<b>11</b>	<b>Capital Expenditure Planning</b>		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	A1	A capital expenditure plan is in place.	



EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
	proposed, responsibilities and dates.		<ul style="list-style-type: none"> <li>• Directions for the overall plan are provided in the MPSAMS and MPSAMP.</li> <li>• The Merredin Energy Pty Ltd Financial Budget contains a rundown of the issues and details of the actions and costs proposed for the next periods.</li> <li>• The MPS AMP provides further information on the previous year plant performance and proposed capital expenditure activities to achieve the objectives.</li> </ul> <p>The process of preparation of the CAPEX is documented in the “Preparation of Annual Asset Management Plan”, MEPL-00-PROC-00017 (Draft) as well as in the “Merredin Energy Budget Process Overview”. Long term projections have been made in the Merredin Energy Financial Model.</p> <p>The Review noted that there had been no provision for CAPEX for in the periods 2012-13 and 2013-14 due to the plant starting in September 2012 and the availability of the warranty period.</p>	
11.2	The plan provides reasons for capital expenditure and timing of expenditure.	A1	<p>The plan is documented adequately and the performance of the process meets the requirements:</p> <ul style="list-style-type: none"> <li>• The Merredin Energy Pty Ltd Financial Budget contains a rundown of the issues and details of the actions and capital expenditure proposed for the next periods.</li> <li>• The MPS AMP provides further information on the previous year plant performance and proposed capital expenditure activities to achieve the objectives.</li> </ul>	
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	A1	<p>Both the Merredin Energy Pty Ltd Financial Budget and the MPSAMP were consistent, with the same activities appearing in both.</p> <p>Both documents show an analysis of the plant conditions and identify asset expenditure required over the following five years. Both documents were also consistent with the information reviewed by the auditors in the Monthly</p>	

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
			Operating Reports.	
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	A1	<p>Both the documentation and the performance of the processes were adequate.</p> <p>The process for ensuring the implementation of the capital expenditure plan relies on the Merredin Energy Monthly Operating Reports which provide a monthly update of capital expenditure and identify both the planned and the unplanned expenditure items, together with reasons and actions for any variations.</p> <p>The Monthly Operating Reports include progress reports on the approved capital expenditure items.</p> <p>As reported at EC11.1 the MPS AMP provides further information on the previous year plant performance and proposed capital expenditure activities to achieve the objectives. Finally the Merredin Energy Pty Ltd Financial Budget is presented annually to management for review of the past and proposed financial plan and CAPEX.</p>	
<b>12</b>	<b>Review of AMS</b>		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.	B1	<p>The Review has found that the process was adequately documented. The performance of the process required some improvement.</p> <p>A process is in place for the annual review of the AMS and AMP.</p> <ul style="list-style-type: none"> <li>• The process for the review of the AMS is documented in the MPSAMS, there was evidence to show that this process has been applied;</li> <li>• the process for review of the AMP is documented both in the MPSAMS and in the Preparation of Annual Asset Management Plan procedure;</li> <li>• calendar entries prompt the start of the review activities.</li> </ul> <p>The last review of the AMP was performed between February and March 2014 and the AMP 2014-15 issued as a draft on the 18 March 2014.</p> <p>► The AMP has been approved by the required authorities but the draft status has not been removed.</p>	<b>13.</b> Remove draft status from the asset management plan.

EC No.	AMS Element / Criteria	Rating	Review summary (► Findings)	Recommendations
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system.	A1	<p>Both the documentation and the performance of the processes were adequate.</p> <p>There have been independent reviews of aspects of the AMS, these have included:</p> <ul style="list-style-type: none"> <li>• independent review of the financial reports by independent auditors (October 2013);</li> <li>• independent audit of the environmental system (August 2013) by an independent consultant, this has resulted in an update of MEPL's Environmental Management System (September 2013);</li> <li>• independent review of the occupational health and safety management system by an independent consultant (August 2013), this has resulted in changes to MEPL's Occupational Health and Safety Management System (September 2013);</li> <li>• review of the dangerous goods storage and handling by an independent consultant (May 2012).</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 performance audit non-compliances are listed in Table 10 and Table 11.

**Table 10 - 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 review period.		

**Table 11 - Current audit non-compliances and recommendations (Unresolved)**

Table of Current Audit Non Compliances/Recommendations (Unresolved)			
B. Unresolved during current Audit period			
Reference 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 Review period
1/2014	B2 Obligation 106 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	1/2014 (Opportunity for Improvement (OFI)) Available Contingency Plans/emergency response documentation should be reviewed and, if applicable, updated, to ensure that it is tailored to the	

Table of Current Audit Non Compliances/Recommendations (Unresolved)			
B. Unresolved during current Audit period			
Reference 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 Review period
	<p>unavoidable cause.</p> <ul style="list-style-type: none"> <li>▶ The operation of Merredin Power Station is specific, it has been subject to development to fully implement remote operation and existing contingency/ emergency plans need to be reviewed to confirm their suitability to its operation.</li> </ul>	operation of MEPL.	
2/2014	<p>B2 Obligation 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.</p> <ul style="list-style-type: none"> <li>▶ The licensee did not advise the Authority details of the asset management system on completion of construction.</li> </ul>	<p><b>2/2014</b> The licensee did not advise the Authority details of the asset management system on completion of construction. The compliance procedures need to be revised to ensure that details and significant changes to the asset management system are notified to the Authority.</p>	

## 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 12 and Table 13.

**Table 12-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 13- 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	2.4	<p>A2</p> <p>Commissioning tests are documented and completed.</p> <p>► Some of the Balance of Plant (BOP) commissioning tests that were to be completed by the construction contractor were not signed off because of the contractor going into receivership. These tests are being re-run and documented through a warranty claim.</p>	<p><b>1/2014</b> Some of the Balance of Plant (BOP) commissioning tests that were to be completed by the construction contractor were not signed off because of the contractor going into receivership. These tests are being re-run and should be documented.</p>	
2	3.2	<p>B2</p> <p>The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.</p> <p>► There have been failures to start-up or synchronised the GTs on start-up. The Review noted that the change in operation was noted in the monthly reports however, while the MPSAMP for 2014/2015 noted the objective of start up and running on load in accordance with maintenance instructions, the change in operation had not been sufficiently documented in the operational plans.</p>	<p><b>2/2014</b> Following the failures to start/synchronise the GTs, the Review noted that the change in operation was noted in the monthly reports and the objective of reliable starts and running on load was noted in the MPS Asset Management System for 2014/2015. The change in operation should be further defined in operational plans.</p>	
-	4.4	A2	Refer to Recommendation	

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
		Achievement of customer service levels.  ▶ There were a number of instances when the plant was not able to achieve start up as requested by System Management as reported under EC 3.2. The issues have been corrected and operational processes changed to improve performance.	2/2014.	
3	5.1	B2 Operational policies and procedures are documented and linked to service levels required.  ▶ Not all procedures have been issued at present however all of the procedures essential for the current operation of the AMS are available.	<b>3/2014 (OFI)</b> Complete the issuing of operational policies and procedures.	Work is in progress.
4	5.3	C2 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.  ▶ The Asset Register is being progressively compiled and was not in full operation at the time of the review.	<b>4/2014</b> Complete the implementation of the Asset Register.	Work is in progress.

<b>Table of Current Review Asset System Deficiencies/ Recommendations</b>				
<b>B. Unresolved during current Review period</b>				
<b>Item No</b>	<b>EC Ref</b>	<b>Rating / AMS Component Effectiveness Criteria / Details of Deficiency</b>	<b>Auditors' Recommendation</b>	<b>Management action taken by end of Review period</b>
5	6.3	B1 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.  ▶ Maintenance plans had been prepared but not fully entered in the Asset Management System (TechOne) in the review period.	<b>5/2014</b> Complete the upload into the TechOne system and the documentation of the maintenance plans (this activity is in progress).	The work was in progress during the Review period.
6	6.5	C1 Risk management is applied to prioritise maintenance tasks.  ▶ At present the maintenance prioritisation process on the basis of risk is reactive and the procedure has not been formalised.	<b>6/2014</b> Prepare a procedure or provide reference to an existing procedure for the prioritisation of maintenance tasks on the basis of risk.	
7	7.2	C1 Input controls include appropriate verification and validation of data entered into the system.  ▶ While there are processes in place for verification and validation of data entered into the system the processes need to be formalised	<b>7/2014</b> Document the processes for verification and validation of data entered into the system.	
8	7.3	B1 Logical security access controls appear adequate, such as passwords.  ▶ There should be either a reference or more information in the AMS on the policies for computer system access.	<b>8/2014</b> Provide a reference in the asset management system to existing policies or more information on computer system access policies.	
9	7.5	B1	<b>9/2014</b> Provide a reference	



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
		<p>Data backup procedures appear adequate.</p> <ul style="list-style-type: none"> <li>▶ Information on system back-ups relies on the contracted operator's systems, however there should be reference to the applicable procedures in the asset management system.</li> </ul>	<p>in the asset management system to existing back-up policies/ procedures or more information on system back-ups.</p>	
10	8.1	<p>B1 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.</p> <ul style="list-style-type: none"> <li>▶ While there are documentation and processes addressing risk management such as:               <ul style="list-style-type: none"> <li>◦ policies and process directives in the AMS;</li> <li>◦ procedures for risk analysis at PE and</li> <li>◦ an acceptable process for risk analysis at MEPL which generates documented outcomes,</li> </ul>               the MEPL risk analysis process is not fully documented.             </li> </ul>	<p><b>10/2014 (OFI)</b> Provide a reference to existing procedures or document the risk analysis process at MEPL.</p>	
11	8.2	<p>B1 Risks are documented in a risk register and treatment plans are actioned and monitored.</p> <ul style="list-style-type: none"> <li>▶ A risk register is not in use.</li> <li>▶ One aspect of the risk analysis process that will require further improvement has to do with the registering of new risks as they arise, which may need immediate treatment and recognition by management at an early stage,</li> </ul>	<p><b>11/2014</b> Assess whether the risk analysis process covers sufficiently all risks and whether a risk register is required.</p>	

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
		<p>this will require the use of a risk register.</p> <ul style="list-style-type: none"> <li>In addition higher level risks resulting from external factors such as changes in market, operating conditions etc are not readily captured by the asset risk matrix.</li> </ul>		
12	9.1	<p>B3</p> <p>Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.</p> <ul style="list-style-type: none"> <li>While the use of the contracted operator's contingency plans will be acceptable if they are appropriate to the Merredin Power Station operation, in view of the changing operation of the power station there was not sufficient evidence that appropriate documented plans have been implemented at Merredin.</li> </ul>	<p><b>12/2014</b> Assess the suitability of existing Contingency Plans and Emergency Responses to the Merredin Power Station operation and proceed with documentation / identification of plans and testing regime.</p>	
13	12.1	<p>B1</p> <p>A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.</p> <ul style="list-style-type: none"> <li>The AMP has been approved by the required authorities but the draft status has not been removed.</li> </ul>	<p><b>13/2014</b> Remove draft status from the asset management plan.</p>	

## 5 POST AUDIT AND REVIEW IMPLEMENTATION PLAN

The Post Audit And Review Implementation Plan (PAIP) is a 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

1. Asset Planning
  - 1.1. Merredin Power Station Asset Management System
  - 1.2. Merredin Power Station Asset Management Plan Financial Year 2014/15
  - 1.3. Merredin Energy Monthly Operating Reports
  - 1.4. Merredin Energy Financial Model
  - 1.5. Supporting Documentation for Merredin Energy's Generation Licence Application for Merredin Peak Power Station
  - 1.6. Preparation of Annual Asset Management Plan, MEPL-00-PROC-00017 [procedure]
  - 1.7. Power Station Management Framework
  - 1.8. Generation Licence Compliance Worksheet
  - 1.9. Merredin Power Station Environmental Management System
  - 1.10. Power Station Occupational Health and Safety Management System
2. Asset Creation and Acquisition
  - 2.1. Asset Acquisition Policy, MEPL-00-POLY-00001
  - 2.2. Engineering Change Management Procedure, MEPL---00---CM---001
  - 2.3. "Supporting Documentation for Merredin Energy's Generation Licence Application for Merredin Peak Power Station"
  - 2.4. Business Case 132 kV Protection Relay Replacement
  - 2.5. Business Case Temporary UPS System and UPS Room Gas Based Fire Suppression System
3. Asset Disposal
  - 3.1. Merredin Power Station Forced Outage Log
  - 3.2. Power Station Management Framework
4. Environmental Analysis
  - 4.1. ERA Generation Licence Compliance procedure, MEPL-00-PROC-00008
  - 4.2. Merredin Energy Monthly Operating Reports
5. Asset Operations
  - 5.1. Operating Strategy
  - 5.2. List of Power Station Management Procedures
6. Asset maintenance
  - 6.1. Inspection Requirements and Short Run Marginal Costs of Generation
  - 6.2. Merredin Power Station Forced Outage Log
7. Asset Management Information System

- 7.1. Site Access MEPL-00-PROC-00019
  - 7.2. Site Security policy, MEPL-00-POLY-00003
- 8. Risk Management
  - 8.1. Merredin-Risk Analysis-07 190314
- 9. Contingency Planning
  - 9.1. Merredin Power Station Asset Management System
  - 9.2. Merredin Energy Monthly Operating Reports
- 10. Financial Planning
  - 10.1. Merredin Energy Pty Ltd Financial Budget
  - 10.2. Merredin Energy Budget Process Overview
  - 10.3. Merredin Energy Financial Model
- 11. Capital Expenditure Planning
  - 11.1. Preparation of Annual Asset Management Plan, MEPL-00-PROC-00017
  - 11.2. Merredin Energy Pty Ltd Financial Budget
  - 11.3. Merredin Energy Budget Process Overview
  - 11.4. Merredin Energy Financial Model
- 12. AMS Review
  - 12.1. Merredin Power Station Annual Environmental Report
  - 12.2. Review of Power Station Occupational Health and Safety Management System
  - 12.3. Report for Dangerous Goods Storage and Handling