2017 Performance Audit and Asset Management System Review for Bluewaters Power 1 Pty Ltd EGL4

Audit Report	Authorisation	Name	Position	Date
Prepared By	[redacted]	Nicole Davies	Principal Consultant (GES Pty Ltd)	26/04/2018
Approved By (licensee)	[redacted]	Andrew Sutherland	Chief Executive Officer	26/04/2018

Geographe Environmental Services Pty Ltd
PO Box 572 DUNSBOROUGH WA 6281
Tel: 0438 938 394

March 2018
Audit Report No: BW1AR032018_2

GLOSSARY

Abbreviation	Description
AEMO	Australian Energy Market Operator. The national market operator that succeeded IMO.
AFE	Approval for expenditure process
ALS	Australian Laboratory Services
AMP	Asset Management Plan
AMS	Asset Management System
BFP	Boiler feed pump
BoP	Balance of Plant
BW 1	Bluewaters Power 1 (Referred to as BP1 in the 2014 Audit.)
BW 2	Bluewaters Power 2 (Referred to as BP2 in the 2014 Audit.)
BWG	The Bluewaters group
BWPS	Bluewaters Power Services, the O&M operators
CCTV	Closed circuit TV
DCS	Distributed Control System
ERA	Economic Regulation Authority
FY	Financial year (Japanese April – March)
GAH	Gas air heater
GE	General Electric who took over the turbine/generator section of Alstom
GES	Geographe Environmental Services
HPECM	Hewlett Packard Enterprise Content Management software, upgrade version of HPRM, currently being populated
HPRM	Hewlett Packard Records Management software
ID	Induced draft
IHI	The boiler supplier
IMO	State Independent Market Operator; superseded by AEMO.
IT	Information Technology
KKS	Industry standard numbering system
KRA	Key Result Areas
MYOSH	Software used to record emissions and safety issues
O&M	Operations and Maintenance
OEM	Original equipment manufacturers
OSH	Occupational Safety and Health
P&L	Profit and loss
PA	Primary air
PF	Pulverised fuel
PLC	Programmable logic controller
RACC	Risk Assessment and Compliance Committee.
RATA	Calibration checks of emissions monitoring
RCA	Root cause analysis
SAP	Business management database system
SEMS	Emissions monitoring requirements
SWIS	South West Interconnected System
TRIM	Document management system used at start of reporting period
TUO	Take unit off line application
TWPS	Transfield Worley Power Services, the previous O&M operators
UPS	Uninterruptable power supply
WP	Western Power

This report is prepared by representatives of GES Pty Ltd in relation to the above named client's conformance to the nominated audit standard(s). Audits are undertaken using a sampling process and the report and its recommendations are reflective only of activities and records sighted during this audit process. GES Pty Ltd shall not be liable for loss or damage caused to or actions taken by third parties as a consequence of reliance on the information contained within this report or its accompanying documentation.

Quality Control Record

	CLIENT	DATE
REQUESTED BY	KEN CHONG	FEBRUARY 2018
PREPARED BY	NICOLE DAVIES	MARCH 2018
CHECKED BY	SIMON ASHBY	MARCH 2018
REVISION	1	16 APRIL 2018
REVISION	2	26 APRIL 2018

1 EXECUTIVE SUMMARY

The Licensee is Bluewaters Power 1 Pty Ltd

Asset Overview

Bluewaters Power Station is the first privately owned, coal fired power station in Western Australia and a key contributor to Western Australia's energy mix. It is located 4.5 kilometres north east of Collie, Western Australia.

The plant is a base load power station, consisting of Bluewaters Power 1 (EGL4) and Bluewaters Power 2 (EGL17), using sub critical technology to generate electricity to a capacity of 434 MegaWatts (2 x 217 MW).

The power station uses a high efficiency combustion process and employs emission control technology to reduce its emissions. While emissions cannot be entirely eliminated they will be continuously monitored and kept well within the regulatory limits and will be in the lowest quartile in Western Australia for coal fired power stations.

The primary plant at the power station consists of two IHI boilers and two Alstom (now GE) steam turbines and is connected to Western Power's SWIS via two 330kV transmission lines.

Ownership

Bluewaters Power Station is owned by Sumitomo Corporation & Kansai Electric Power Co. Ltd and is currently maintained and operated by Bluewaters Power Services, BWPS. During the audit period the power station was initially operated & maintained by Transfield Worley Power Services, TWPS, until 31/3/15 and from 1/4/15 by BWPS.

Bluewaters Power has engaged Geographe Environmental Services Pty Ltd to undertake its third Performance Audit and Asset Management System Review as required by the Economic Regulation Authority (ERA).

Bluewaters Power 1. was granted a Generation Licence (Licence Number EGL4) under the *Electricity Industry Act 2004* on 9th March 2006. Sections 13 and 14 of the Electricity Industry Act 2004 require as a condition of every licence that the licensee must, not less than once in every period of 24 months (or any longer period that the Authority allows) calculated from the grant of the licence, provide the Authority with a performance audit and an asset management system review report by an independent expert acceptable to the Authority.

Geographe Environmental Services has been approved by the Authority to undertake the works subject to development of an audit plan for the period 1st January 2014 to 31st December 2017 for a submission date of prior to the 31st March 2018 or as arranged with the Authority.

The Asset Management System Review and the Performance Audit have been conducted in order to assess the effectiveness of the Bluewaters Power 1 Power Station Asset Management Systems and level of compliance with the conditions of its Generation Licence EGL4. Through the execution of the Audit Plan, field work, assessment and testing of the control environment, the information system, control procedures and compliance attitude, the audit team members have gained reasonable assurance that Bluewaters Power 1 had an effective asset management system and has complied with its Generating Licence, with the exception of late payment of prescribe fees on 2 occasions and lack of formalised identification of operational risk during the audit period 1st January 2014 to 31st December 2017. Deficiencies in document control, records management, compliance and risk were noted and near the end of the review period responded to with additional resources, a new records management system and the AMS procedures and documentation being reviewed and revised with the assistance of outside consultants. This work is still in progress. Recommendations arising from this audit and review are detailed in Table 4 and Table 10.

The Licensee has implemented several of the recommendations of the previous audit report, however, the effectiveness of the actions is evident in the compliance history during the audit period (refer Table 3 and 9). Issues arising from change in operators, change in personnel and significant resource redirection due the extended unplanned outage have limited progress in these areas.

The site audit was conducted on the 13th of March 2018 with two subsequent visits to the Perth offices and this audit report is an accurate representation of the audit team's findings and opinions. The Auditors confirm that the Licensee provided full access as required by the Audit Guidelines (2014), in respect to; access to facilities and business premise, access to data, reports, minutes, documentation, correspondence and process control data. Additionally, the Licensee ensured the appropriate personnel were available and provided information where possible as requested for external persons relevant to the audit process.

Performance Audit Summary

The majority of licence requirements reviewed were found to be compliant during the audit, with the exception of Licence Conditions 4.1 and 5.1.

A two-dimensional rating scale (refer Section 11.4.1 of the Audit Guidelines) was used in the Audit report to summarise the compliance rating for each licence condition. Each obligation was rated for both the adequacy of existing controls and the compliance with the relevant licence obligation.

A comprehensive report of the audit findings is included in Appendix 1.

There were Generation Licence compliance elements that were not included in the scope of this audit because they did not eventuate in this audit period or have not been established within licence EGL4. These are defined in Table 1.

The performance audit was conducted in a period over March involving one visit to site and two

subsequent visits to the Perth Offices. The audit required 90 hours of Nicole Davies time.

TABLE: 1 Audit Compliant and Controls Rating Scales

Performance Audit Compliance & Controls Rating Scales			
Adequacy of Controls Rating		**Compliance Rating**	
Rating	**Description**	**Rating**	**Description**
A	Adequate controls – no improvement needed	1	Compliant
B	Generally adequate controls – improvement needed	2	Non-Compliant – minor impact on customers or third parties
C	Inadequate controls – significant improvement needed	3	Non-Compliant – moderate impact on customers or third parties
D	No controls evident	4	Non-Compliant – major impact on customers or third parties
NP	Not Performed	NR	Not rated – Determined Not Applicable during the audit period

Table 1A Performance Audit Compliance Summary

Compliance Obligation Reference No.	Licence Reference	Audit Priority	Adequacy of Controls Rating					Compliance Rating				
			A	B	C	D	NP	1	2	3	4	NR
SECTION 8: TYPE 1 REPORTING REQUIREMENTS												
THERE ARE NO TYPE 1 REPORTING REQUIREMENTS APPLICABLE TO EGL4												
SECTION 11: ELECTRICITY INDUSTRY ACT - LICENCE CONDITIONS AND OBLIGATIONS												
101	Electricity Industry Act section 13(1) Generation Licence condition 14.1	5		B				1				
102	Electricity Industry Act, section 14(1)(a) Generation Licence condition 20.1	5	A					1				
103	Electricity Industry Act, section 14(1)(b) Generation Licence condition 20.2 & 20.3	4	A					1				
104	Electricity Industry Act, section 14(1)(c)	5		B				1				

Compliance Obligation Reference No.	Licence Reference	Audit Priority	Adequacy of Controls Rating					Compliance Rating				
			A	B	C	D	NP	1	2	3	4	NR
	Generation Licence, condition 20.4											
105	Electricity Industry Act section 17(1) Generation Licence condition 4.1	3		B					2			
106	Electricity Industry Act section 31(3) Generation Licence condition 5.1	4		B					2			
107	Electricity Industry Act section 41(6) Generation Licence condition 5.1	4	A					1				
SECTION 12: ELECTRICITY LICENCES - LICENCE CONDITIONS AND OBLIGATIONS												
119	Electricity Industry Act section 11 Generation Licence condition 12.1	4	A					1				
120	Electricity Industry Act section 11 Generation Licence condition 13.4	5					NP					NR
121	Electricity Industry Act section 11 Generation Licence condition 14.2	4	A					1				
122	Electricity Industry Act section 11 Generation Licence condition 20.5	4	A					1				
123	Electricity Industry Act section 11 Generation Licence condition 15.1	4					NP					NR
124	Electricity Industry Act section 11 Generation Licence condition 16.1	4		B					2			
125	Electricity Industry Act section 11 Generation Licence condition 17.1 & 17.2	4					NP					NR
126	Electricity Industry Act section 11Generation Licence condition 18.1	4	A					1				
SECTION 14: ELECTRICITY INDUSTRY METERING CODE - LICENCE CONDITIONS AND OBLIGATIONS												
324	Electricity Industry Metering Code, Cl 3.3B	4	A					1				

Compliance Obligation Reference No.	Licence Reference	Audit Priority	Adequacy of Controls Rating					Compliance Rating				
			A	B	C	D	NP	1	2	3	4	NR
	Generation Licence, condition 5.1											
339	Generation Licence condition 5.1 Electricity Industry Metering Code Cl 3.27	4					NP					NR
364	Electricity Industry Metering Code Cl 3.27 Generation Licence condition 5.1	4					NP					NR
371	Electricity Industry Metering Code Cl 4.4(1) Generation Licence condition 5.1	5					NP					NR
372	Electricity Industry Metering Code Cl 4.5(1) Generation Licence condition 5.1	5					NP					NR
373	Electricity Industry Metering Code Cl 4.5(2) Generation Licence condition 5.1	4					NP					NR
388	Electricity Industry Metering Code Cl 5.4(2) Generation Licence condition 5.1	5					NP					NR
401	Electricity Industry Metering Code Cl 5.16 Generation Licence condition 5.1	4					NP					NR
402	Electricity Industry Metering Code Cl 5.17(1) Generation Licence condition 5.1	4					NP					NR
405	Electricity Industry Metering Code clause 5.18 Generation Licence condition 5.1	4					NP					NR
406	Electricity Industry Metering Code Cl 5.19(1) Generation Licence condition 5.1	5					NP					NR
407	Electricity Industry Metering Code Cl 5.19(2) Generation Licence condition 5.1	5					NP					NR
408	Electricity Industry Metering Code Cl 5.19(3) Generation Licence condition 5.1	5					NP					NR
410	Electricity Industry Metering Code Cl 5.19(6) Generation Licence condition 5.1	5					NP					NR

Compliance Obligation Reference No.	Licence Reference	Audit Priority	Adequacy of Controls Rating					Compliance Rating				
			A	B	C	D	NP	1	2	3	4	NR
416	Electricity Industry Metering Code Cl 5.21(5) Generation Licence condition 5.1	4					NP					NR
417	Electricity Industry Metering Code Cl 5.21(6) Generation Licence condition 5.1	4					NP					NR
435	Electricity Industry Metering Code Cl 5.27 Generation Licence condition 5.1	4					NP					NR
448	Electricity Industry Metering Code Cl 6.1(2) Generation Licence condition 5.1	4					NP					NR
451	Electricity Industry Metering Code Cl 7.2(1) Generation Licence condition 5.1	5	A					1				
453	Electricity Industry Metering Code Cl 7.2(4) Generation Licence condition 5.1	4					NP					NR
454	Electricity Industry Metering Code Cl 7.2(5) Generation Licence condition 5.1	4					NP					NR
455	Electricity Industry Metering Code Cl 7.5 Generation Licence condition 5.1	4					NP					NR
456	Electricity Industry Metering Code Cl 7.6(1) Generation Licence condition 5.1	4					NP					NR
457	Electricity Industry Metering Code Cl 8.1(1) Generation Licence condition 5.1	5					NP					NR
458	Electricity Industry Metering Code Cl 8.1(2) Generation Licence condition 5.1	5					NP					NR
459	Electricity Industry Metering Code Cl 8.1(3) Generation Licence condition 5.1	5					NP					NR
460	Electricity Industry Metering Code Cl 8.1(4) Generation Licence condition 5.1	4					NP					NR

Compliance Obligation Reference No.	Licence Reference	Audit Priority	Adequacy of Controls Rating					Compliance Rating				
			A	B	C	D	NP	1	2	3	4	NR
461	Electricity Industry Metering Code Cl 8.3(2) Generation Licence condition 5.1	5					NP					NR
SECTION 16: ELECTRICITY LICENCES - LICENSEE SPECIFIC CONDITIONS AND OBLIGATIONS												
THIS SECTION IS NOT APPLICABLE TO BLUEWATERS POWER 1 PTY LTD AS THERE HAVE BEEN NO SPECIFIC CONDITIONS AND OBLIGATIONS ATTACHED TO THE GENERATION LICENCE												

1.1 Asset Management System Review Summary

The asset management system was found to be satisfactory.

As required by section 11.4.2 of the Audit and Review Guidelines – Electricity and Gas Licences (April 2014) Table 2 summarises the auditor's assessment of both the process and policy definition rating and the performance rating for each key process in the licensees asset management system, using the scales described in Table 7 and Table 8 (refer Section 3.3 Asset Management Review Methodology). The rating was determined by the auditor's judgement based on the execution of the Audit Plan.

The process and policy and asset management system adequacy ratings are summarised below;

Table 2 Asset Management System: Effectiveness Summary

Asset Management System	Asset Management Process And Policy Definition Adequacy Rating	Asset Management Performance Rating
1. Asset planning	B	2
2. Asset creation/ acquisition	B	2
3. Asset disposal	B	2
4. Environmental analysis	B	2
5. Asset operations	B	2
6. Asset maintenance	A	1
7. Asset Management Information System	B	2
8. Risk management	B	2
9. Contingency planning	B	2
10. Financial planning	A	1
11. Capital expenditure planning	A	1
12. Review of AMS	A	2

The Audit and Review Guidelines – Electricity and Gas Licences (April 2014) require that auditors who have rated the adequacy of the process and policy definition process as C or D or the asset management performance as 3 or 4 also make recommendations to address the issue(s).

2 PERFORMANCE AUDIT

2.1 Performance Audit Scope

Follow-Up from Previous Audit Findings

This is the third audit of EGL4. The organisation has implemented the recommendations of the previous audit and as required by Section 11.3 of the Audit Guidelines (April 2014). Table 3 below details how all recommendations were resolved in the current audit period

Table 3 Previous Audit Non-compliances and Recommendations

Table of Previous Non-Compliances & Audit Recommendations				
A Resolved before end of previous audit period				
Reference (no./year)	**(Compliance rating/ Legislative Obligation/ details of the issue)**	**Auditors' Recommendation or action taken**	**Date Resolved**	**Further action required**
Not applicable				
B Resolved during the current audit period				
Reference (no./year)	**(Compliance rating/ Legislative Obligation/ details of the issue)**	**Auditors' Recommendation or action taken**	**Date Resolved**	**Further action required**
1/2014	**Non-Compliant 4 /123 & 469** The organisation is at risk of not understanding key Licence and subsidiary legislation requirements in relation to its generation licence.	BP1 develop simple guidance documents to assist in ensuring that relevant staff: • Are aware of BP1's obligations under the relevant Licence condition and Metering Code • Recognise instances which trigger those requirements, such as any new metering activity	31 July 2015	YES The Compliance with Electricity Retail and Generation Licence obligations procedure that was developed has not been reviewed, is obsolete in some obligations and is not comprehensive in nature, it applies to the metering code and the customer transfer code mainly although the title implies both generation and retail licence obligations are

		• Follow the correct procedures for complying with those requirements. .		covered. It is the auditors opinion that this document is cumbersome for the organisation to maintain and there are other processes they could utilise to ensure key tasks are imbedded into the operations, such as the use of SAP as scheduling, performance reviews etc. Incorporation of this task with the project the organisation is undertaking would be beneficial in ensuring the outcome is implemented and effective.
2/2014	**Compliant 4 /105 & 124** Lack of compliance scheduling process created risk to ensuring key Licence requirements are met.	BP1 will implement an Excel based compliance management process to capture key Licence compliance requirements (including relevant dates and actions required) and to track the completion of those actions.	31 July 2015	YES This excel spreadsheet was developed but has not been implemented and is not kept up to date. The process is external to the current business system controls and the organisation could incorporate it in the Compliance review project being undertaken currently to ensure the outcome is effective.
3/2014	**Compliant 4 /126 & 475** Organisation did not have effective records management and document control processes in place.	In its implementation of the TRIM document management system, BP1 will accommodate the requirement to maintain records of key documents and references relevant to its Licence obligations.	31 March 2015	YES Document Control continues to be an issue for the organisation and as such the licensee is currently changing over document control systems and updating the document structure for Corporate requirements. A new document control system is being implemented.

C Unresolved at the end of the current audit period				
Reference (no./year)	**(Compliance rating/ Legislative Obligation/ details of the issue)**	**Auditors' Recommendation or action taken**	**Date Resolved**	**Further action required**
Not Applicable				

2.2 Post Audit Implementation Plan

There are three audit non compliances identified that require the development of a post audit implementation plan. Recommendations made within the report are detailed below and will be reviewed and included in the post audit implementation plan by the licensee to ensure compliance with requirements.

Table 4 Current audit non-compliances and recommendations

CURRENT AUDIT NON COMPLIANCES/RECOMMENDATIONS			
A. RESOLVED DURING THE CURRENT AUDIT PERIOD			
MANUAL REF.	**Non Compliance/Controls Improvement (Rating/ Legislative Obligation/ Details of Non Compliance or Inadequacy of Controls)**	**Auditors Recommendation**	**Management action taken by end of Audit period**
There are no non compliances or recommendations raised and resolved during the audit period.			

B. UNRESOLVED AT END OF 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 Audit period**
1/2018	**Compliant/B1 /101,104** A compliance schedule is required to ensure key tasks are completed.	Ensure there is a Compliance Process established to ensure ongoing compliance. Could be linked to current project described by GM of HR to link accountabilities to performance review.	TBA
2/2018	**Compliant/ CONTROLS IMPROVEMENT /A1 /103/** The organisation is required to notify the ERA of the details of the AMS and any substantial changes.	Ensure the ERA are notified of the new asset management system currently being developed by consultants.	TBA

B. UNRESOLVED AT END OF CURRENT AUDIT PERIOD			
3/2018	**Non-Compliant/B2 /105** The licensee has not met the obligations in regards to payment of prescribed licence fees on 2 occasions during the audit period.	Ensure payment of and scheduling of payment for licence fees is captured in compliance or accounting systems. Noted that the previous 2 audits have flagged this issue of potential late payment of fees and the compliance scheduling system recommended in 2010 audit was developed but has not been well implemented. Single source reliance on staff diligence continues to give rise to the opportunity of non-compliance	The licensee has undertaken a Compliance Project under the directive of the CEO and is working towards implementing this system. In the interim period accounting procedures have been implemented where invoices are directed straight to the accounts team to ensure compliance.
4/2018	**Non-Compliant/B2/106** Risks are managed operationally and strategic risk are identified. However, the organization has yet to undertake a formal operational risk assessment. Elimination of risk to overlooking maintenance tasks scheduled to planned outages should be addressed in SAP.	The risk register kept and maintained with quarterly reviews by the RACC currently covers only strategic risks and not O&M risks in detail. Risks such as blade failure, generator circuit breaker fault, should be evaluated and a register maintained with regular review. There is a risk of overlooking maintenance tasks scheduled for outages. A review of the capability of SAP to incorporate the Priority Field as compulsory field could be considered or establishing a routine searching report to identify the unallocated task priorities to ensure identified maintenance tasks are included in the outage planning process.	TBA
5/2018	**Non-Compliant/B2/124** The Annual Compliance Reports were submitted after the 31st August requirement on a number of occasions. A Compliance Monitoring process is required.	As for 1/2018	TBA

3 ASSET MANAGEMENT SYSTEM EFFECTIVENESS REVIEW

3.1 AMS Review Scope

The scope of the AMS review includes an assessment of adequacy and effectiveness of Bluewaters Power 1 Power Station's asset management system by evaluating during the audit period 1st January 2014 to 31st December 2017 the following;

1. Asset Planning
2. Asset creation/acquisition
3. Asset disposal
4. Environmental analysis
5. Asset operations
6. Asset maintenance
7. Asset management information system
8. Risk management
9. Contingency planning
10. Financial planning
11. Capital expenditure planning
12. Review of asset management system

The review has been established as a requirement of the current Generating Licence issued by the Economic Regulation Authority to Bluewaters Power 1.

The asset management review follows the approved audit plan and uses;

- a risk based approach to auditing using the risk evaluation model set out in ISO31000:2009
- an overall effectiveness rating for an asset management process, based on a combination of the process and policy adequacy rating and the performance rating
- the format and content of the reviewer's report; and post- review plan as described in the Guidelines.

Table 5 Interviewed Personnel during the Review

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd

Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd
Phil Rosati	IT Infrastructure Manager	Bluewaters Power 2 Pty Ltd
Paul Arias,	Trading and Commercial Manager	Bluewaters Power 2 Pty Ltd
Tamra Sharp	GM Human Resources	Bluewaters Power 2 Pty Ltd
Andrew Sutherland	CEO	Bluewaters Power 2 Pty Ltd

The key documents and other information sources are detailed below and further in Appendix 2.

Table 6 Key Reference Documents

Ref #	Title
1-2	BW Strategic Plan on a Page - 171207.docx"
1-3	BW1 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-4	BW2 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-5	BW1 Network Access Agreement.pdf"
1-6	BW2 Electricity Transfer Access Contract.pdf"
1-7	Connection Point Schedule_Reconciled.XLSX"
1-8	BWPS Org Chart 140218.docx"
2-1	New Supplier Request Form BW-FA-FRM-009.pdf"
3-1	BW1 PJM MGT EMP DOC 0001 0002 Bluewaters I and II Decomissioning Plan FINAL DRAFT 210806.doc.DOC"
3-2	Request for Asset Disposal BWG-FA-FRM-001.docx"
4-1	BW1 ERA - 4001 Payments.xls"
4-2	BW2 ERA - 4002 Payments.xls"
4-3	2014_Bluewaters Power 2 ERA Licence Reporting Compliance Report (EGL17).pdf"
4-4	2014_Bluewaters Power ERA Licence Reporting Compliance Report (EGL4 and ERL12).pdf"
4-5	2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
4-6	2015_Signed compliance report for BW1.pdf"
4-7	2015_Signed compliance report for BW2.pdf"
4-8	Compliance monitoring spreadsheet 2017_18.xlsx"
4-9	Electricity Licence compliance procedure 2015.docx"
4-10	ERA Compliance Reporting Manual_Edited for site use.docx"
4-11	2016_Signed compliance reports.pdf"
4-12	2017_Signed compliance reports.pdf"

Ref #	Title
4-13	Internal correspondence.pdf"
5-0	Availability for monthly report.xlsx"
5-1	Approval to Take Unit Offline BWPS-FRM-OUT-001.pdf"
5-2	Plant Modification Application Form.xlsx"
5-3	Roles and Responsibilities - Outage EHS Coordinator.docx"
5-4	BW1 asset register 31 Dec 17.xlsx"
5-5	BW2 asset register 31 Dec 17.xlsx"
5-6	BWPS Employees - Training Matrix Report.xlsx"
5-7	Demonstration of SAP maintenance function
6-1	BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-2	CFRG036110 Bluewaters Unit 2 Rewind.pdf"
6-3	5 Year Maintenance Plan 2014-2019.pdf
6-4	5 Year Maintenance Plan 2015-2020, Final.xlsx
6-5	5 Year Maintenance Plan 2016-2020 18012016.pptx
7-0	Control of Governance Policy BW-COR-POL-002.pdf"
7-1	Document Control Process Chart BW-COR-FRM-004.pdf"
7-2	Document Style Guideline BW-COR-GDL-001.pdf"
7-3	Human Resource Management Policy BWG-HR-POL-001
7-4	Information Management Policy BWG-COR-POL-001.pdf"
7-5	Information Management Rules BWG-COR-RUL-001.pdf"
7-6	Policy Framework BWG-COR-FWK-001.pdf"
7-7	BWPS-ENG-PLN-0001 - BWPS Engineering Management Plan - Rev B.docx"
7-8	Enterprise Architecture Guiding Principles BW-IT-MAN-001.pdf"
7-9	Information Technology Steering Group Charter BW-IT-RUL-003.pdf"
7-10	IT back-up policy.pdf"
7-11	IT Equipment Audit Procedure BW-IT-PRO-002.pdf"
7-12	Record Retention Rules BW-COR-RUL-004.pdf"
7-13	Rules for Management Information Systems (MIS) Usage and Procedures BW-IT-RUL-001.pdf"
7-14	Interview with Tamra Sharp with various sample docs.
8-1	Bluewaters Risk Management Framework BW-COR-TMP-005 V1.1.docx"
8-2	Appendix I - 63144124-5ac-001 HAZOP Bluewaters PS Desander.pdf"
8-3	Bluewaters Risk Management Procedure BW-COR-TMP-005 v1.1.docx"
8-4	Bluewaters Risk Management Rules BW-COR-TMP-005 v1.1.docx"
8-5	Bluewaters Risk Scoring Guidelines BW-COR-TMP-005 v1.1.docx"
8-6	Copy of Bluewaters Risk and Compliance Register Suite v1.0.xlsx"
8-7	2009 34347 00C-K070901-0 Report for Hazop Risk Study and SIL Study.pdf"
8-8	Boiler Chemistry- Wet Rack - 1.1.1_TY Completed.doc
8-9	Bluewaters Risk Management Policy BW-COR-TMP-005 v1.1.docx"
8-10	Quarterly Risk Reports
8-11	Interview with Andrew Sutherland
9-1	Business Continuity Plan BW-COR-PLN-001.pdf"
9-2	Emergency Response Plan BWPS-PLN-HS-039.pdf"
10-2	2014-2015 Consolidated Bluewaters Power Monthly Phased Operating Budget (OPEX).pdf"
10-3	013-2014 Consolidated Bluewaters Monthly Phased Budget (OPEX).pdf"
10-4	2015-2016 Consolidated Bluewaters Power Operating (OPEX).pdf"
10-5	2016-2017 Consolidated Bluewaters Power Operating Budget (OPEX) detailed.pdf"
10-6	2017-2018 Consolidated Bluewaters Power Operating Budget (OPEX) Phasing.pdf"
10-7	2018-2019 Consolidated Bluewaters Power Operating Budget (OPEX) detailed phasing.pdf"
10-9	Bluewaters Power 1 Half Yearly Financial Statements 30 Sept 2017.pdf"

Ref #	Title
10-10	Bluewaters Power 2 Half Yearly Financial Statements 30 Sept 2017.pdf"
10-11	Bluewaters Power 1 Quarterly Performance Report 31 Dec 2017.pdf"
10-12	Bluewaters Power 2 Quarterly performance report 31 Dec 2017.pdf"
10-13	Accounting Rules BW-FA-RUL-002.pdf"
10-14	Accounting Verification Rules BW-FA-RUL-001.pdf"
10-15	Accounting Policy Property, Plant and Equipment BW-FA-POL-001.pdf"
10-16	Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf"
10-17	Financial Risk Management Rules BW-FA-RUL-003.pdf"
10-18	Sales and Purchase Check Procedure BW-COR-PRO-003.pdf"
10-19	Bluewaters Power 1 Financial Statements YE 31 March 2014.pdf"
10-21	Bluewaters Power 2 Financial Statements YE March 2014.pdf"
10-22	Bluewaters Power 2 Financial Statements YE 31 March 2015.pdf"
10-23	Bluewaters Power 1 Financial Statements YE 31 March 2016.pdf"
10-24	Bluewaters Power 2 Financial Statements YE 31 March 2016.pdf"
10-25	Bluewaters Power 1 Financial Statements YE 31 March 2017.pdf"
10-26	Bluewaters Power 2 Financial Statements YE 31 March 2017.pdf"
10-27	Base Case Updated Bluewaters Economic Model 23.02.18 updated19
11-1	2014-2015 Capital Expenditure Actual v Budget March (CAPEX).pdf"
11-2	2015-2016 Bluewaters Capital Expenditure Budget (CAPEX).pdf"
11-3	2016-2017 Bluewaters Power Capital Expenditure Budget (CAPEX).pdf"
11-4	2017-2018 Consolidated Bluewaters Power Capital Expenditure & Strategic Spares Budget (CAPEX).pdf"
11-5	2018-2019 Capital Expenditure & Strategic Spares Budget (CAPEX).pdf"
11-6	Ronald Faber - Finance Information Request.pdf
11-7	TUO BW1 011 - Unit 1 tube leak repairs.pdf
11-8	TUO BW0012 U1 MCV D.pdf
11-9	TUO U1 Generator Rewind Outage 2018_v1.0 signed.pdf
11-10	TUO 1672_001.pdf
11-11	TUO 1690_001.pdf
12-1	AMP 2014.docx"
12-2	AMP 2015, Final.docx"
12-3	AMP 2016 Final 29012016.pdf"
12-4	AMP 2017 Live 020317 FY17.pdf"
12-5	Monthly Reports January 2014 to March 2015.doc"
12-6	Monthly Report Feb 2014.pdf"
12-7	Bluewaters Monthly Report March 2014 Final.pdf"
12-8	Monthly Report April 14 New.docx"
12-9	Monthly Report May 14.docx"
12-10	10 June 2014.pdf"
12-11	Bluewaters July Monthly Report 2014 - final.pdf"
12-12	Bluewaters Monthly Report August 2014.pdf"
12-13	Monthly Report September 14.pdf"
12-14	Bluewaters October Monthly Report 2014.pdf"
12-15	Bluewaters November Monthly Report.pdf"
12-16	Bluewaters December 2014 Monthly Report.pdf"
12-17	Monthly Report Jan 2015 - final.pdf"
12-18	Bluewaters Monthly report Feb 2015.pdf"
12-19	Bluewaters Monthly Report March 2015.pdf"
12-20	Monthly report May 2015 - Finance.docx"

Ref #	Title
12-21	Monthly Reports May 2015 - Dec 2017.docx"
12-22	Monthly Report June 2015.docx"
12-23	Monthly Report July 2015.docx"
12-24	Monthly Report August 2015.docx"
12-25	Monthly Report September 2015.docx"
12-26	Monthly Report October 2015.docx"
12-27	Monthly Report November 2015.docx"
12-28	Monthly Report December 2015.docx"
12-29	Monthly Report January 2016.docx"
12-30	Monthly Report February 2016.docx"
12-31	Monthly Report March 2016.docx"
12-32	Monthly Report April 2016.docx"
12-33	Monthly Report May 2016.docx"
12-34	Monthly Report June 2016.docx"
12-35	Monthly Report July 2016.docx"
12-36	Monthly Report August 2016.docx"
12-37	Monthly Report September 2016.docx"
12-38	Monthly Report October 2016.docx"
12-39	Monthly Report November 2016.docx"
12-40	Monthly Report December 2016.docx"
12-41	Monthly Report January 2017.docx"
12-42	Monthly Report February 2017.docx"
12-43	Monthly Report March 2017.docx"
12-44	Monthly Report April 2017.docx"
12-45	Monthly Report May 2017.docx"
12-46	Monthly Report June 2017.docx"
12-47	Monthly Report July 2017.docx"
12-48	Monthly Report August 2017.docx"
12-49	Monthly Report September 2017.docx"
12-50	Monthly Report October 2017.docx"
12-51	Monthly Report November 2017.docx"
12-52	Monthly Report December 2017.docx"
12-53	February 2017 Consolidated Bluewaters Business Report Final.pdf - Shortcut.lnk
12-54	June 2017 Consolidated Bluewaters Business Report.pdf
12-55	December 2017 Consolidated Bluewaters Business Report.pdf

The review was conducted by Power & Energy Services on behalf of Geographe Environmental Services in conjunction with the Performance Audit during February-March 2018 and included desktop review, one day's audit on site and half a day in Bluewaters' Head Office to execute review plan, interview sessions and report writing. In total (for BW 1 and BW 2) the review required 90 hours of Simon Ashby's time.

3.2 Objective of the Asset Management System Review

The objective of the review is to examine the effectiveness of the processes used by Bluewaters Power 1 to deliver asset management, the information systems supporting asset management activities and the data and knowledge used to make decisions about asset management. These elements were examined from a life cycle perspective i.e. planning, construction, operation, maintenance, renewal, replacement and disposal using the guidelines developed by the Economic Regulation Authority.

3.3 Methodology for Asset Management System Review

The audit methodology detailed in the Audit Guidelines – Electricity and Gas Licences (April 2014) was used in the execution of the Asset Management System Review and is detailed in the Audit Plan.

Asset Management System Effectiveness Rating

The Audit Guidelines – Electricity and Gas Licences (April 2014) (section 11.4.2) states that the asset management review report must provide a table that summarises the auditor's assessment of both the process and policy definition rating and the performance rating for each key process in the licensee's asset management system using the scales described in Table 7 and Table 8. It is left to the judgement of the auditor to determine the most appropriate rating for each asset management process.

Table 7 Asset Management Process and Policy Definition Adequacy Ratings

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

Table 8 Asset Management Performance Ratings

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

3.4 Deviations from the Review Plan

None.

3.5 Follow Up Review Process

This is the third Performance Audit and Asset Management Review conducted since the issue of the licence. Review of actions taken in response to recommendations will form part of subsequent audit plans.

The license proposes that Bluewaters 1 Pty Ltd reports progress on the Post Audit Implementation Plan to the ERA in the annual Compliance Reports.

Follow-Up from Previous Review Findings

The organisation has implemented the recommendations of the previous review where possible and as required by Section 11.3 of the Audit Guidelines (April 2014). Table 9 below details how all recommendations were addressed and their status in the current review period.

Table 9 Ineffective components recommendations previous Review Implementation Plan

A Resolved before the end of the previous review period.				
Reference (no. /yr)	**(Asset management effectiveness rating / AMS Component & Criteria / details of issue)**	**Auditor's recommendation or action taken**	**Date resolved**	**Further action required (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable**
None				

B Resolved during the current review period.				
Reference (no. /yr)	**(Asset management effectiveness rating / AMS Component & Criteria / details of issue)**	**Auditor's recommendation or action taken**	**Date resolved**	**Further action required (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable**
1/2014	**B2 / 2.5** Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood **B2 / 4.1** Opportunities and threats in the system environment are assessed **B2 / 4.3** Compliance with statutory and regulatory requirements Although compliance with BP1's statutory and regulatory requirements (referenced at items 2.1, 4.1 and 4.3 is subject to periodic assessment, a formal management framework has not been established for clarifying roles and responsibilities for ensuring continual monitoring of compliance and changes in legislative requirements.	BP1 implement an effective statutory and regulatory management and compliance framework to enable: • All relevant staff to recognise: ○ Key compliance requirements ○ The impact of any breach or near breach of those compliance requirements ○ Key roles and responsibilities for meeting statutory and regulatory requirements • Key dates and actions required to be monitored and addressed • Any breach or near breach to be adequately investigated and any subsequent learnings to be applied to operational procedures to reduce the risk of the recurrence	Undated	YES A spreadsheet to monitor compliance was prepared as per the 2014 Action Plan but this has proved ineffective. (See 2018 Review B2.5 and 4.3)

B Resolved during the current review period.				
Reference (no. /yr)	**(Asset management effectiveness rating / AMS Component & Criteria / details of issue)**	**Auditor's recommendation or action taken**	**Date resolved**	**Further action required (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable**
		Formal periodic monitoring of statutory and legislative requirements for any changes.		
2/2014	**B2 / 8.1** Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system Although BP1's operational risk management activities appear to be generally understood and applied by BP1 and TWPS staff, BP1 has not applied a formal process to its risk management activities to ensure its risk management philosophies and approach are consistently applied. For example, a consistent timeframe has not been designed for reviewing risk treatment plans and reports, other than through the annual review of the Asset Management Plan (**AMP**) (which also refers to the use of TWPS's Risk Assessment Worksheet and Risk Action Plan).	BP1 formalise its processes for assessing risks, implementing treatment plans and monitoring status on a more frequent basis than the annual review of the AMP.	1/7/15	No Risk Assessment Compliance Committee, RACC, formed and report quarterly. Policy, Procedure, Rules and Scoring Guidelines issued July 2015 with biennial reviews.
3 / 2014	**B2 / 9.1** A number of contingency arrangements are in place, inherent within the design of the plant and within contractual arrangements. However an over-arching contingency plan has not been established to ensure all contingency arrangements have been clearly identified, documented and rigorously challenged and tested.	1. Establish a formal process for ensuring that emergency management plans and contingency arrangements in place for all key risks to the Unit's operations and availability (such as coal supply, water supply, water disposal and ash disposal) are rigorously challenged and tested 2. Prepare a clear over-arching "umbrella" document to capture all contingency plans in place for each of the key risks to each Unit's operations and availability.	Undated	Yes Undated Emergency Response Plan BWPS-PLN-HS-039-0 prepared and apparently not formally issued. Should be issued with document history and approval according to the document control procedures.
4/2014	**B2 / 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	BP1 establish a formal review process for ensuring the currency of its asset management system, including the	N/A	Yes The 2014 Action Plan considered review by TWPS to be adequate. Since then BPWS have taken over this role, they can no longer be considered independent and

B Resolved during the current review period.				
Reference (no. /yr)	**(Asset management effectiveness rating / AMS Component & Criteria / details of issue)**	**Auditor's recommendation or action taken**	**Date resolved**	**Further action required (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable**
	B2 / 12.2 Independent reviews (e.g. internal audit) are performed of the asset management system BP1's AMP, which is the main reference to the asset management system, is reviewed and updated (where necessary) on an annual basis. However, a formal process has not been established for ensuring the currency of the asset management system, including the need for independent review of the AMP and any other references which describe the asset management system, or feed into the AMP. We note that previous versions of the AMP had described the SAP computerised maintenance management systems deployed by TWPS (as a key aspect of the asset management system), however the current version of the AMP does not clearly reference the key components of BP1's asset management system.	relevant references (including but not restricted to the AMP), which make up that system. Such a review process should accommodate the need for a sufficient degree of independence in the review.		other independent review should be instigated.

C. Unresolved at end of the current review period			
Reference (no. /yr)	**(Asset management effectiveness rating / AMS Component & Criteria / details of issue)**	**Auditor's recommendation or action taken**	**Date resolved**
None			

3.6 2017 Post Review Implementation Plan

As stipulated in section 11.8 of the Audit Guidelines – Electricity and Gas Licences (April 2014), the Audit Team notes that the Asset Management Review Post Implementation Plan does not form part of the Audit Opinion. It is the responsibility of the licensee to ensure actions are undertaken as determined by Bluewaters Power 1.

3.7 2017 Review Asset System Deficiencies/Recommendations

Table 10 Current Review Asset System Deficiencies/Recommendations.

Table of Current Review Asset System Deficiencies/Recommendations			
A. Resolved during current Review period			
Ref.	**Asset System Deficiency (Rating / Asset Management System Component & Effectiveness Criteria / Details of Asset System Deficiency)**	**Date Resolved (& management action taken)**	**Auditors comments**
None			

B. Unresolved at end of current Review period			
Ref. (no./year)	**Asset System Deficiency (Rating / Asset Management System Component & Effectiveness Criteria / Details of Asset System Deficiency)**	**Auditors' Recommendation**	**Management action taken by end of Audit period**
01/2018	**B2** **Key Process – Asset Planning** 1.8 Likelihood and consequences of asset failure are predicted	Although risks are considered for funding applications and designs no overall O&M risk register is available with known and potential risks. A risk workshop to identify known and potential risks should be held to establish and maintain a risk register for O&M.	The recommendation has not been addressed yet.
02/2018	**B2** **Key Process - Asset creation/acquisition** 2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood **B2** **Key Process - Environmental analysis** 4.2 Performance standards (availability of service, capacity, continuity,	Corporate compliance prompting should be automated, address a "gateway" rather than an individual and kept "live" until completed. As above	Response to previous audit was a spreadsheet but this has not proved effective.

B. Unresolved at end of current Review period			
Ref. (no./year)	**Asset System Deficiency (Rating / Asset Management System Component & Effectiveness Criteria / Details of Asset System Deficiency)**	**Auditors' Recommendation**	**Management action taken by end of Audit period**
	emergency response, etc.) are measured and achieved		
03/2018	**B2** **Key process - Asset disposal)** 3.3 Disposal alternatives are evaluated	Consider review of the Decommissioning Plan and whether salvage value is realistic in light of the unpopularity of coal.	The recommendation has not been addressed yet.
04/2018	B2 **Key process - Asset Operations** 5.1 Operational policies and procedures are documented and linked to service levels required	Some inconsistences e.g. approval level for rules, procedures differ between refs Control of Governance Policy BW-COR-POL-002 and Policy Framework BWG-COR-FWK-001	The recommendation has not been addressed yet.
05/2018	B2 **Key process - Asset Operations** 5.2 Risk management is applied to prioritise operations tasks	Although risks are considered for funding applications and designs no overall O&M risk register is available with known and potential risks. A risk workshop to identify known and potential risks should be held to establish and maintain a risk register for O&M.	The recommendation has not been addressed yet.
06/2018	**B2** **Key process - Asset Management Information System (MIS)** 7.1 Adequate system documentation for users and IT operators 7.2 Input controls include appropriate verification and validation of data entered into the system 7.5 Data backup procedures appear adequate and backups are tested	1. Better documentation of the changes to the IT back up system is required, what, why, how and when is proposed, in progress and complete. 2. Tighter application of the document control policy required particularly with "Document History". 3. Consider applying "Uncontrolled document + date printed" to documents printed from the Intranet. 4. Consider consolidating or cross referencing Policies, Procedures, Rules, Frameworks etc for each discipline eg Risk Management, Financial Accounting, and a complete index of all Policies, Plans, Procedures etc. (this may already be in place on the Intranet) 5. A more formal way of testing back-ups and their restoration should be implemented.	The recommendation has not been addressed yet.
07/2018	**B2** **Key Process – Risk Management**		The recommendation has not been addressed yet.

B. Unresolved at end of current Review period			
Ref. (no./year)	**Asset System Deficiency (Rating / Asset Management System Component & Effectiveness Criteria / Details of Asset System Deficiency)**	**Auditors' Recommendation**	**Management action taken by end of Audit period**
	8.2 Risks are documented in a risk register and treatment plans are actioned and monitored	Risks, both strategic and O&M should be addressed in more detail and regularly reviewed.	
08/2018	**B2** **Key Process - Contingency Planning** 9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks,	1. Consider site specific requirements in contingency plans, e.g. bushfire buffer maintenance, more precise guidelines on when and who should evacuate site, what state the power station should be left in event of evacuation etc. The roles are defined; Incident Commander, Incident Controller etc. not how "who they are" is conveyed to staff on each shift.	The recommendation has not been addressed yet.
09/2018	**A2** **Key Process - Review of AMS** 12.2 Independent reviews (eg internal audit) are performed of the asset management system	The asset management system is being revised by outside consultants and when finalised should include routine independent reviews.	The recommendation has not been addressed yet.

APPENDIX 1

BLUEWATERS POWER 1 PTY LTD PERFORMANCE AUDIT MARCH 2018

Table 11 Performance Audit

REF*	LICENCE CONDITION	RELATED LEGISLATION	LEGISLATIVE/LICENCE REQUIREMENT	AUDIT PRIORITY	AUDITING FINDING ▪ RELATED DOCUMENTATION &/OR CONTROL SYSTEMS/AUDIT EVIDENCE → CORRECTIVE ACTION (CA) OPPORTUNITY FOR IMPROVEMENT	ADEQUACY OF CONTROLS	COMPLIANCE RATING
SECTION 8: TYPE 1 REPORTING REQUIREMENTS							
THERE ARE NO TYPE 1 REPORTING REQUIREMENTS APPLICABLE TO EGL4							
SECTION 9: ELECTRICITY INDUSTRY CUSTOMER TRANSFER CODE - PART 3 - CUSTOMER/ CONNECTION INFORMATION/DATA							
101	Generation Licence *condition 14.1*	*Electricity Industry Act section 13(1)*	A licensee must provide the ERA with a performance audit conducted by an independent expert acceptable to the ERA, not less than once every 24 months.	5	This is the third Audit conducted by an independent expert for the current licensee since the licence was granted in 9 March 2006. The requirement for the audit is monitored by the Financial Analyst. Additionally it is raised in email communications and correspondence with the Secretariat. GES was appointed, with the Authority's approval to undertake the performance audit for the audit period on the 13th February 2018 (ERA Reference D184408). The organisation has identified the requirement in the following documentation; ▪ Compliance Monitoring Spreadsheet. Note: This document is not implemented and is not updated. Detailed development but not	B	1

					integrated into the business processes. Site personnel not aware of it. ▪ Compliance with Electricity Retail and Generation Licence obligations procedure is obsolete does not reflect the current Electricity Compliance Reporting Manual obligations. It also does reflect the requirement for the performance audit in the compliance activities. ▪ O&M Contract reference to legislative compliance ▪ ERA correspondence ▪ Personnel interviewed; – GM Accounting & Finance – GM of HR – Financial Analyst **RECOMMENDATION 1/2018** **REF 101 – COMPLIANT (B1)** Ensure there is a Compliance Process established to achieve ongoing compliance. Processes established to identify changes to legislation. Capture changes in company system and ensure document control processes are implemented. A rationalisation of procedures established could also be considered. For example, Compliance with Electricity Retail and Generation Licence procedure may not be required however, a review		

					triggered by change to the document and update of actions and accountability on job descriptions may be another way to imbed the task into the organisations operational process. Project described by GM of HR to link accountabilities to performance review may be of benefit to achieve this.		
102	Generation Licence condition 20.1	*Electricity Industry Act, section 14(1)(a)*	A licensee must provide for an asset management system.	5	The licensee maintained an Asset Management System for the duration of the audit period which was continually monitored and updated in response to plant conditions. A change in operators occurred during the audit period. Transfield Worley Power Services, TWPS, operate the power station until 31/3/15 and from 1/4/15 by BWPS. Corporate procedures were removed in the changeover and the organisation has been establishing new systems and processes throughout the audit period. The asset management system is currently being revised by outside consultants and when finalised should include routine independent reviews. ▪ Asset Management Plans 2014, 2015, 2016, 2017	A	1
103	Generation Licence condition 20.2 and 20.3	*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 ERA.	4	During the audit period there have been no substantial changes to the Asset Management System which have required notification to the ERA. It is noted that AMS is being revised by external consultants and the resulting changes	A	1

					may need to be considered for notification. This is outside the scope of the audit period. **RECOMMENDATION 2/2018** **CONTROLS IMPROVEMENT** **REF 103 – COMPLIANT (A1)** Ensure the ERA are notified of the new asset management system currently being developed by consultants.		
104	Generation Licence, condition 20.4	*Electricity Industry Act, section 14(1)(c)*	A licensee must provide the ERA with a report by an independent expert about the effectiveness of its asset management system every 24 months, or such longer period as determined by the ERA.	5	GES was appointed, with the Authority's approval to undertake the asset management system review for the period on the 13th February 2018 (ERA Reference D184408). The technical aspects of the review have been addressed by Power & Energy Services, as detailed in the Audit Plan and approved by the Authority. This is the third review of the asset management system in accordance with licence EGL4. The 2014 asset management system review report was provided to the Authority in September 2014 and met the requirements of the Authority. ▪ Electricity Licence Compliance Procedure ▪ Compliance Monitoring Spreadsheet ▪ O&M Contract reference to legislative compliance **RECOMMENDATION 1/2018**	B	1

					REF 104 – COMPLIANT (B1) Ensure there is a Compliance Schedule established to ensure ongoing compliance. Processes established to identify changes to legislation. It is noted that the requirement for the Asset Management System Review is not identified in the Compliance Activities in the procedure Compliance with Electricity Retail and Generation Licence obligations procedure. Refer Recommendation 1/2018		
105	***Generation Licence condition 4.1***	**Electricity Industry Act section 17(1)**	A licensee must pay the prescribed licence fees to the ERA according to clauses 6, 7 and 8 of the Economic Regulation Authority (Licensing Funding) Regulations 2014.	**3**	The licence was granted on 9 March 2006 and the requirement is for the invoices to be paid by 9 April of each year. Annual Licence fees that were due to be paid within the audit period and were compliant and paid in accordance with requirements are as follows; - 2014-2015 ERA Invoice ERA 100124 (Issued on 14/03/14) and Paid 30/03/14 - 2015-2016 ERA Invoice ERA 100254 (Issued on 23/0/15) and Paid 19/03/15 - 2016-2017 ERA Invoice ERA100687 (Issued on 09/03/16) and Paid 24/03/16 - 2017-2018 ERA Invoice ERA100069 (Issued on 27/02/17) and Paid 07/03/17 In addition, the Standing Charge Fees, which were introduced in Quarter 1 of 2015 that were paid within the 30 Day requirement of date of issue and were paid as follows during the audit period.;	B	2

					Standing Charges 2015 - ERA Q1 2015 Invoice ERA100393 (Issued on 29/06/15) and Paid 23/07/15 - ERA Q2 2015 Invoice ERA100471 (issued on 26/08/15) and Paid 24/09/15 - ERA Q3 2015 Invoice ERA100574 (issued on 30/11/15) and Paid 24/12/15 - ERA Q4 Invoice ERA100635 (issued on 15/02/16) and Paid 10/03/16 Standing Charges 2016 - ERA Q1 2016 Invoice ERA100727 (issued on 05/05/16) and Paid 02/06/17 - ERA Q4 2016 Invoice ERA101024 (issued on 27/02/16) and Paid 24/03/16 Standing Charges 2017 - ERA Q1 2017 Invoice ERA101143 (issued on 31/05/17) and Paid 23/06/17 - ERA Q2 2017 Invoice ERA101262 (issued on 19/09/17) and Paid 02/10/17 - ERA Q3 2017 Invoice ERA101339 (issued on 13/11/17) and Paid 01/12/17 It is noted that all of the invoices above were paid in accordance with the compliance requirements. Although in some instances payment was very close to due date.		

					Annual Licence and Standing Charge fees that were due to be paid within the audit period that were non-compliant and paid as follows; Standing Charge Fee - ERA Q2 2016 Invoice ERA100840 (issued on 26/08/16) and Paid 30/09/2016 - ERA Q3 2016 Invoice ERA100947 (issued on 30/12/16) and Paid Late 17/02/17 [Note: Interest expense incurred ref ERA101010] ▪ Note" Both above no-compliances reported in July 2016 to June 2017 Compliance Report for BW1. ▪ CEO stated improvements in accounts payable process to ensure payments on time. ▪ Record of Payment in accounts system. **RECOMMENDATION 3/2018** **REF 105 – NON-COMPLIANT (B2**) Ensure payment of and scheduling of payment for licence fees is captured in compliance or accounting systems. Noted that the previous 2 audits have flagged this issue of potential late payment of fees and the compliance scheduling system recommended in 2010 audit was developed but has not been well implemented. Single source reliance on staff diligence continues to give rise to the opportunity of non-compliance.		

106	Generation Licence condition 5.1	*Electricity Industry Act section 31(3)*	A licensee must take reasonable steps to minimise the extent, or duration, of any interruption, suspension or restriction of the supply of electricity due to an accident, emergency, potential danger or other unavoidable cause.	4	The Licensee has established effective operational controls, preventative maintenance schedules and condition monitoring processes 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. During the site visit, examination of BW1 and BW2 operational processes further supported this such as; ▪ Condition Monitoring ▪ Emergency Response Plans and Training ▪ Commercial arrangements established with the market to ensure continuity of supply ▪ BW1 & BW2 run independently ▪ Contingencies engineered into plant ▪ Operational incidents are captured within the unit's Operational Incidents Register, which is communicated and managed daily. ▪ Outage planning Following the trip of BW2, the BW1 statutory outage was extended by 6 months. An inspection was performed during the BW1 statutory outage and a decision was made to perform a full rewind in June 2018. However, the operational controls are being applied the organisation has yet to establish a	B	2

					formal process to its risk management practices. It is understood that this has been identified internally and the CEO, and GM of Trading, Commercial & Regulatory (Daniel Kurz) are working with a Risk Audit and Compliance Committee (RACC) to further improve controls and implement risk mitigation strategies. Additionally it was noted that the Priority Rating system in SAP was stated as being a way of capturing maintenance tasks to be incorporated into outage planning. The field is tagged "OUTAGE". There is the opportunity for items to not be captured in this process as the field is not compulsory. ▪ Risk Register ▪ BW1 Pty Ltd Personnel interviewed; – CEO – General Manager of HR – GM Finance & Accounting – Station Manager – Financial Analyst **RECOMMENDATION 4/2018** **REF 106 – NON - COMPLIANT (B2)** The risk register kept and maintained with quarterly reviews by the RACC currently covers only strategic risks and not O&M risks in detail. Risks such as blade failure, generator circuit breaker fault, should be evaluated and a register maintained with regular review. A review of the		

					capability of SAP to incorporate the Priority Field as compulsory field could be considered.		
107	Generation Licence condition 5.1	*Electricity Industry Act section 41(6)*	A licensee must pay the costs of taking an interest in land or an easement over land.	4	The General Manager Finance & Accounting confirmed that during the period 1 January 2014 to 31 December 2017, BW1 ▪ Continued to lease the land on which its power plant is located ▪ Did not obtain any further interest or easement over land. As BW1 has not obtained ownership in or easement over land during the period subject to audit, there has been no requirement for BW1 to pay for the associated costs other than associated with lease agreement.	A	1
SECTION 12: ELECTRICITY LICENCES - LICENCE CONDITIONS AND OBLIGATIONS							
119	Generation Licence condition 12.1	*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.	4	The BW1 Pty Ltd financial reports have been prepared by third party accountants. Financial Report contain statement of compliance that the statements have been prepared in accordance with all Australian Accounting Standards and Interpretations. It is noted that the financial statements are prepared on a financial year ending 31st March due to statutory requirements. ▪ Bluewaters Power 1 Financial Statements YE 31 March 2014	A	1

					▪ Bluewaters Power 1 Financial Statements YE 31 March 2015 ▪ Bluewaters Power 1 Financial Statements YE 31 March 2016 ▪ Bluewaters Power 1 Financial Statements YE 31 March 2017 ▪ Bluewaters Power 1 Half Yearly Financial Statements 30 Sept 2017 Bluewaters Power 1 Quarterly Performance Report 31 Dec 2017 ▪ BW1 Pty Ltd Personnel interviewed - GM Finance & Accounting - Financial Analyst		
120	Generation Licence condition 13.4	*Electricity Industry Act section 11*	A licensee must comply with any individual performance standards prescribed by the ERA.	5	For the period 1 January 2014 to 31 December 2017, the licensee was not prescribed individual performance standards by the Authority. As, no activity has taken place to exercise the obligation during the audit period and this requirement has not been assessed.	NP	NR
121	Generation Licence condition 14.2	*Electricity Industry Act section 11*	A licensee must comply, and require its auditor to comply, with the ERA's standard audit guidelines for a performance audit.	4	Direct instructions from Licensee to Auditor to comply with the ERA guidelines. Copies of communications received from ERA relating to audit requirements sent by BW1 Pty Ltd through to Auditor to convey requirements specifically the undertaking of audits in compliance with the Audit & Review Guidelines: Electricity, Gas and Water Licences.	A	1

					▪ BW1 Pty Ltd Personnel interviewed - Financial Analyst		
122	Generation Licence condition 20.5	*Electricity Industry Act section 11*	A licensee must comply, and must require the licensee's expert to comply, with the relevant aspects of the ERA's standard audit guidelines for an asset management system review.	4	Direct instructions from Licensee to Auditor to comply with the ERA guidelines. Copies of communications received from ERA relating to audit requirements sent by BW1 Pty Ltd through to Auditor to convey requirements specifically the undertaking of audits in compliance with the Audit & Review Guidelines: Electricity, Gas and Water Licences. ▪ BW1 Pty Ltd Personnel interviewed - Financial Analyst	A	1
123	Generation Licence condition 15.1	*Electricity Industry Act section 1*	In the manner prescribed, a licensee must notify the ERA, if it is under external administration or if there is a significant change in the circumstances that the licence was granted which may affect the licensee's ability to meet its obligations.	4	Under Licence clause 15.1 the licensee is required to report relevant information to the Authority in the event that it: (a) Is under external administration (b) Experiences a change in its corporate, financial or technical circumstances upon which this license was granted; and that change may materially affect the licensee's ability to perform its obligations under this license (c) Changes its name, ABN or address. Confirmed that for the period 1 January 2014 to 31 December 2017, no such changes arose.	NP	NR

124	Generation Licence condition 16.1	*Electricity Industry Act section 11*	A licensee must provide the ERA, in the manner prescribed, with any information that the ERA requires in connection with its functions under the Electricity Industry Act.	1	During the Audit Period the Licensee has provided the Authority information it required in connection with its functions under the Electricity Industry Act. Every licensee is required to submit a compliance report to the Authority covering all of its type 1 and type 2 licence obligations for each financial year (1 July to 30 June inclusive) by 31 August immediately following the year that is the subject of the report. During the audit period the reports were submitted; - 2014 Report 15th September - 2015 Report 29th September - 2016 Report 30th August - 2017 Report on the 31st August ▪ Compliance Monitoring Spreadsheet ▪ BW1 Pty Ltd Personnel interviewed - Financial Analyst **RECOMMENDATION 1/2018** **REF 124 – NON-COMPLIANCE (B2)** The 2014 & 2015 Compliance Report were submitted after the specified date and has been noted in the 2016 Compliance Report. Explanation for the breach was due to staffing changeover, late receipt of invoice and a Compliance Monitoring Spreadsheet was established. It is noted that all other reports were submitted on or just before the August 31 due date. The Compliance Monitoring Spreadsheet is not implemented and maintained	B	2

					and as such ineffective. The organisation is currently addressing compliance under the directive of the CEO and it is recommended that this requirement is captured in this process to ensure ongoing compliance**.**		
125	Generation Licence condition 17.1 and 17.2	*Electricity Industry Act section 11*	A licensee must publish any information it is directed by the Authority to publish, within the timeframes specified.	4	The Authority has not directed any information to be published during the audit period, as such, assessment of compliance with this requirement cannot be made. ▪ Review ERA Website ▪ BW1 Pty Ltd Personnel interviewed - Financial Analyst	NP	NR
126	Generation Licence condition 18.1	*Electricity Industry Act section 11*	Unless otherwise specified, all notices must be in writing.	4	During the audit period notices received from the Authority have been in writing. Specific notices in relation to direction and communication are retained and have been reviewed as part of the audit. ▪ BW1 Pty Ltd Personnel interviewed - Financial Analyst	A	1
SECTION 14: ELECTRICITY INDUSTRY METERING CODE - LICENCE CONDITIONS AND OBLIGATIONS							

324 **[345]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code, clause 3.3B*	If a user is aware of bi-directional electricity flows at a metering point that was not previously subject to a bi-directional flows or any changes in a customer's or user's circumstances in a metering point that will result in bi-directional flows, the user must notify the network operator within 2 business days.	4	BW1 Pty Ltd confirmed that during the period 1 January 2014 to 31 December 2017, no metering installations became subject to bi-directional electricity flows. ▪ BW1 Pty Ltd Personnel interviewed - Financial Analyst **NOTE 1**: The Licensee has no meters and Western Power owns the meters at Bluewaters Power Station Terminal substation and is responsible for their quality control.	A	1
339 **[360]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 3.11(3)*	A Code participant who becomes aware of an outage or malfunction of a metering installation must advise the network operator as soon as practicable.	4	WPN has primary responsibility for the management and monitoring of meters. There were no outages or malfunctions identified during the audit period. Production staff monitor usage through production calculations and can generally identify an error. ▪ Review of communication with WPN ▪ BW1 Pty Ltd Personnel interviewed - Station Manager - Financial Analyst	NP	NR
364 **[385]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 3.27*	A person must not install a metering installation on a network unless the person is the network operator or a registered metering installation provider for the	4	The Licensee is not responsible for installing and managing all metering installations on the site. Additionally, the Licensee has not installed any metering installations on the network. The Network Operator has independent access to metering installations. Discussions with the	NP	NR

			network operator doing the type of work authorised by its registration.		Station Manager also confirmed no installation of meters. As such, no activity has taken place to exercise the obligation during the audit period and its requirement cannot be assessed.		
371 **[392]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 4.4(1)*	If there is a discrepancy between energy data held in a metering installation and in the metering database, the affected Code participants and the network operator must liaise to determine the most appropriate way to resolve the discrepancy.	5	Station Manager confirmed that during the audit period they were not aware of any discrepancy between energy data held in a metering installation and data held in the metering database. It is noted that although the metering database is not the Licensees responsibility they perform meter check calculations subject to error acceptance in order to confirm charges and balance production data. No discrepancies were identified during the audit period.	NP	NR
372 **[393]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 4.5(1)*	A Code participant must not knowingly permit the registry to be materially inaccurate.	5	Bluewaters Power 1 Pty Ltd does not maintain any standing data or energy data in relation to the metering installations captured under the Metering Code. These activities are managed by the Network Operator and are outside the control of the Licensee. As the Network operator maintains sole responsibility for the management of standing data within the registry and/or metering database, these obligations are not relevant to the Licensee's operations for the period 1 January 2014 to 31 December 2017.	NP	NR
373 **[394]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 4.5(2)*	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	4	As Above.	NP	NR

			the network operator and provide details of the change or inaccuracy within the timeframes prescribed.				
388 **[409]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.4(2)*	A user must, when reasonably requested by a network operator, use reasonable endeavours to assist the network operator to comply with the network operator's obligation.	5	Refer to note 1 in item 324 The network operator has not requested the assistance of Bluewaters Power 1 Pty Ltd with respect to their metering installation during the audit period.	NP	NR
401 **[422]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.16*	A user that collects or receives energy data from a metering installation must provide the network operator with the energy data (in accordance with the communication rules) within the timeframes prescribed.	4	Refer to note 1 in item 324 The network operator collects the energy data. This requirement is not applicable to the Licensee.	NP	NR
402 **[423]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.17(1)*	A user must provide standing data and validated (and where necessary substituted or estimated) energy data to the user's customer, to which that information relates, where the user is required by an enactment or an agreement to do so for billing purposes or for the purpose of providing metering services to the customer.	4	Refer to note 1 in item 324 As previously detailed, there are no meters maintained by the Licensee to collect information or data from billing. The Network Operator is responsible for metering installations.	NP	NR
405 **[426]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.18*	A user that collects or receives information regarding a change in the energisation status of a metering point must provide the network operator with the prescribed information, including the stated attributes, within the timeframes prescribed	4	Refer to note 1 in item 324 The network operator has access to their own metering installation. This obligation is not applicable to the Licensee.	NP	NR

406 **[427[**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.19(1)*	A user must, when requested by the network operator acting in accordance with good electricity industry practice, use reasonable endeavours to collect information from customers, if any, that assists the network operator in meeting its obligations described in the Code and elsewhere.	5	Refer to note 1 in item 324 Discussions with Financial Analyst confirm that there have been no requests during the audit period to collect information from customers.	NP	NR
407 **[428]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.19(2)*	A user must, to the extent that it is able, collect and maintain a record of the address, site and customer attributes, prescribed in relation to the site of each connection point, with which the user is associated	5	Refer to note 1 in item 324 The connection point is with the network operator and there are no meters from which to obtain such data.	NP	NR
408 **[429]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.19(3)*	A user must, after becoming aware of any change in a site's prescribed attributes, notify the network operator of the change within the timeframes prescribed.	5	Refer to note 1 in item 324 There is only one connection point with the Network Operator and there have been no changes in attributes during the audit period.	NP	NR
410 **[431]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.19(6)*	A user must use reasonable endeavours to ensure that it does not notify the network operator of a change in an attribute that results from the provision of standing data by the network operator to the user.	5	Refer to note 1 in item 324 During the audit period there has been no provision of standing data by the network operator to the user that resulted in the user notifying the network operator of a change in attributes.	NP	NR

416 **[437]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.21(5)*	A Code participant must not request a test or audit 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.	4	Refer to note 1 in item 324 No tests have been requested during the audit period, 1 January 2014 to 31 December 2017.	NP	NR
417 **[438]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.21(6)*	A Code participant must not make a test or audit request that is inconsistent with any access arrangement or agreement.	4	Refer to note 1 in item 324 As above	NP	NR
435 **[456]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 5.27*	Upon request, a current user must provide the network operator with customer attribute information that it reasonably believes are missing or incorrect within the timeframes prescribed.	4	Refer to note 1 in item 324 The network operator did not make any requests for customer attributes information during the audit period	NP	NR
448 **[469]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 6.1(2)*	A user must, in relation to a network on which it has an access contract, comply with the rules, procedures, agreements and criteria prescribed.	4	Refer to note 1 in item 324 Discussions with the Financial Analyst confirm that there have been no breaches of the rules, procedures, agreements and criteria during the audit period.	NP	NR
451 **[472]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 7.2(1)*	Code participants must use reasonable endeavours to ensure that they can send and receive a notice by post, facsimile and electronic communication and must notify the network operator of a telephone number for voice communication in connection with the Code.	5	Refer to note 1 in item 324 The Bluewaters Power 1 Pty Ltd site has well established communication processes such as a main telephone line & facsimile, mobile telephone coverage, remote system monitoring and wireless	A	1

					internet access. During the audit period, there have been no communication issues arising.		
453 **[474]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 7.2(4)*	A Code participant must notify its contact details to a network operator with whom it has entered into an access contract within 3 business days after the network operator's request.	4	Refer to note 1 in item 324 During the period 1 January 2014 to 31 December 2017, the network operator did not request the licensee to provide its contact details. There have been no changes made to Licensee's contact details.	NP	NR
454 **[475]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 7.2(5)*	A Code participant must notify any affected network operator of any change to the contact details it notified to the network operator at least 3 business days before the change takes effect.	4	Refer to note 1 in item 324 There has been no change in contact details during the audit period.	NP	NR
455 **[476]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 7.5*	A Code participant must 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.	4	Refer to note 1 in item 324 During the period 1 January 2014 to 31 December 2017, the Licensee was not required to disclose or permit the disclosure of confidential information in connection to the Code.	NP	NR
456 **[477]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 7.6(1)*	A Code participant must disclose or permit the disclosure of confidential information that is required to be disclosed by the Code.	4	Refer to note 1 in item 324 As above	NP	NR
457 **[478]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 8.1(1)*	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 under or in connection with the	5	Refer to note 1 in item 324 Under the Metering Code, 'disputes' refers to metering disputes between Bluewaters Power 1	NP	NR

			Electricity Industry Metering Code by negotiations in good faith		Pty Ltd as a generator, a Code Participant, another generator, the network operator , a user or the IMO. No disputes have arisen between Bluewaters Power 1 Pty Ltd and the network operator or the IMO/AEMO, during the period 1 January 2014 to 31 December 2017.		
458 **[479]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 8.1(2)*	If a dispute is not resolved within 10 business days after the dispute is referred to representative negotiations, the disputing parties must refer the dispute to a senior management officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith.	5	Refer to note 1 in item 324 As above	NP	NR
459 **[480]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 8.1(3)*	If the dispute is not resolved within 10 business days after the dispute is referred to senior management negotiations, the disputing parties must refer the dispute to the senior executive officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith.	5	Refer to note 1 in item 324 As above	NP	NR
460 **[481]**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 8.1(4)*	If the dispute is resolved by representative negotiations, senior management negotiations or CEO negotiations, the disputing parties must prepare a written and signed record of the resolution and adhere to the resolution.	4	Refer to note 1 in item 324 As above	NP	NR
461 **[482**	Generation Licence, condition 5.1	*Electricity Industry Metering Code clause 8.3(2)*	The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective of dispute resolution with as little formality and technicality and with as much expedition as the requirements of Part 8 of the Code	5	Refer to note 1 in item 324 As above	NP	NR

			and a proper hearing and determination of the dispute permit.				
SECTION 16: ELECTRICITY LICENCES - LICENSEE SPECIFIC CONDITIONS AND OBLIGATIONS							
THIS SECTION IS NOT APPLICABLE TO BLUEWATERS POWER 1 PTY LTD AS THERE HAVE BEEN NO SPECIFIC CONDITIONS AND OBLIGATIONS ATTACHED TO THE GENERATION LICENCE							

Note:
NP - not possible to provide a compliance rating because no activity has taken place to exercise the obligation during the audit period
NA - Not applicable to audit period and as such not assessed.

APPENDIX 2

BLUEWATERS POWER 1 PTY LTD

ASSET MANAGEMENT REVIEW MARCH 2018

Introduction

The power station consists of two identical generators, each with their own licence, EGL4 and EGL17. However, there are some common features such as the O&M Operators, coal supply, water supply and treatment, saline waste disposal and site security and the two cannot be considered as isolated units.

With high inertia base load power stations such as Bluewaters Power 1 outages should be minimised and where possible planned for the annual shutdown which is what BW 1 have been doing well during the review period.

Operations are well managed with condition monitoring, planning and managing the O&M to meet stakeholders' needs.

At the start of the review period Bluewaters had just come out of administration, this, and the failure and unplanned outage of the BW2 generator and associated efforts to mitigate risk of a similar failure of BW1 took up resources that would otherwise been applied to the AMS. Deficiencies in document control, records management, compliance and risk were noted and near the end of the review period responded to with additional resources, a new records management system and the AMS procedures and documentation being reviewed and revised with the assistance of outside consultants. This work is still in progress.

Although the staff were retained the change of operators from TWPS to BWPS involved changes in the AMS, document control from TRIM to HPRM and now to HEPCM and various other processes and this is still in process.

There are also changes to the IT and back-up system in progress.

Table 12 Effectiveness Criteria Descriptors

1	**Key Process - Asset Planning** *Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).*	**Outcome** *Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised.*
1.1	Asset management plan covers key requirements	
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	
1.3	Service levels are defined	
1.4	Non-asset options (e.g. demand management) are considered	
1.5	Lifecycle costs of owning and operating assets are assessed	
1.6	Funding options are evaluated	
1.7	Costs are justified and cost drivers identified	
1.8	Likelihood and consequences of asset failure are predicted	
1.9	Plans are regularly reviewed and updated	
2	**Key Process - Asset creation/acquisition** *Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay.*	**Outcome** *A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.*
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	
2.2	Evaluations include all life-cycle costs	
2.3	Projects reflect sound engineering and business decisions	
2.4	Commissioning tests are documented and completed	
2.5	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	
3	**Key process - Asset disposal** *Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms*	**Outcome** *Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.*
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	
3.3	Disposal alternatives are evaluated	
3.4	There is a replacement strategy for assets	
4	**Key Process - Environmental analysis** *Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.*	**Outcome** *The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements.*
4.1	Opportunities and threats in the system environment are assessed	
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	
4.3	Compliance with statutory and regulatory requirements	
4.4	Achievement of customer service levels	
5	**Key Process - Asset operations** *Operations functions relate to the day-to-day*	**Outcome** *Operations plans adequately document the processes*

	running of assets and directly affect service levels and costs.	*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	
5.2	Risk management is applied to prioritise operations tasks	
5.3	Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	
5.4	Operational costs are measured and monitored	
5.5	Staff resources are adequate and staff receive training commensurate with their responsibilities	
6	**Key process - Asset maintenance** *Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.*	**Outcome** *Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.*
6.1	Maintenance policies and procedures are documented and linked to service levels required	
6.2	Regular inspections are undertaken of asset performance and condition	
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	
6.5	Risk management is applied to prioritise maintenance tasks	
6.6	Maintenance costs are measured and monitored	
7	**Key process - Asset Management Information System (MIS)** *An asset management information system is a combination of processes, data and software that support the asset management functions.*	**Outcome -** *The asset management information system provides authorised, complete and accurate information for the day-to-date running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards.*
7.1	Adequate system documentation for users and IT operators	
7.2	Input controls include appropriate verification and validation of data entered into the system	
7.3	Logical security access controls appear adequate, such as passwords	
7.4	Physical security access controls appear adequate	
7.5	Data backup procedures appear adequate	
7.6	Key computations related to licensee performance reporting are materially accurate	
7.7	Management reports appear adequate for the licensee to monitor licence obligations	
8	**Key Process - Risk Management** *Risk management involves the identification of risks and their management within an acceptable level of risk.*	**Outcome** *An effective risk management framework is applied to manage risks related to the maintenance of service standards*
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	
8.2	Risks are documented in a risk register and treatment plans are actioned and monitored	
8.3	The probability and consequences of asset failure are regularly assessed	
9	**Key Process - Contingency Planning** *Contingency plans document the steps to deal with the unexpected failure of an asset.*	**Outcome-** *Contingency plans have been developed and tested to minimise any significant disruptions to service standards.*
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	
10	**Key Process - Financial Planning** *The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.*	**Outcome** *A financial plan that is reliable and provides for long-term financial viability of services*
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives	
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	

10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	
10.4	The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	
10.6	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	
11	**Key Process - Capital Expenditure Planning** *The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years.* *Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer.* *Projections over the next five years would usually be based on firm estimates.*	**Outcome -** *A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.*
11.1	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	
11.2	The plan provide reasons for capital expenditure and timing of expenditure	
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	
12	**Key Process - Review of AMS** *The asset management system is regularly reviewed and updated*	**Outcome** *Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency.*
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	
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	

Table 13 Audit Review Ratings and Recommendations

1.	**Key Process - Asset Planning** *Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).* **Outcome** *Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-2 BW Strategic Plan on a Page - 171207.docx"
1-3 BW1 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-4 BW2 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-5 BW1 Network Access Agreement.pdf"
1-6 BW2 Electricity Transfer Access Contract.pdf"
1-7 Connection Point Schedule_Reconciled.XLSX"
3-1 BW1 PJM MGT EMP DOC 0001 0002 Bluewaters I and II Decomissioning Plan FINAL DRAFT 210806.doc.DOC"
4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-3 5 Year Maintenance Plan 2014-2019.pdf
6-4 5 Year Maintenance Plan 2015-2020, Final.xlsx
6-5 5 Year Maintenance Plan 2016-2020 18012016.pptx
10-2 2014-2015 Consolidated Bluewaters Power Monthly Phased Operating Budget (OPEX).pdf"
10-3 013-2014 Consolidated Bluewaters Monthly Phased Budget (OPEX).pdf"
10-4 2015-2016 Consolidated Bluewaters Power Operating (OPEX).pdf"
10-5 2016-2017 Consolidated Bluewaters Power Operating Budget (OPEX) detailed.pdf"
10-6 2017-2018 Consolidated Bluewaters Power Operating Budget (OPEX) Phasing.pdf"

	10-7 2018-2019 Consolidated Bluewaters Power Operating Budget (OPEX) detailed phasing.pdf" 10-14 Accounting Verification Rules BW-FA-RUL-001.pdf" 10-15 Accounting Policy Property, Plant and Equipment BW-FA-POL-001.pdf" 10-16 Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf" 10-19 Bluewaters Power 1 Financial Statements YE 31 March 2014.pdf" 10-27 Base Case Updated Bluewaters Economic Model 23.02.18 updated19 11-6 Ronald Faber - Finance Information Request.pdf 11-7 TUO BW1 011 - Unit 1 tube leak repairs.pdf 11-8 TUO BW0012 U1 MCV D.pdf 11-9 TUO U1 Generator Rewind Outage 2018_v1.0 signed.pdf 11-10 TUO 1672_001.pdf 11-11 TUO 1690_001.pdf 12-1 AMP 2014.docx" 12-2 AMP 2015, Final.docx" 12-3 AMP 2016 Final 29012016.pdf" 12-4 AMP 2017 Live 020317 FY17.pdf" 12-5 Monthly Reports January 2014 to March 2015.doc" 12-20 Monthly report May 2015 - Finance.docx" 12-21 Monthly Reports May 2015 - Dec 2017.docx" 12-53 February 2017 Consolidated Bluewaters Business Report Final.pdf - 12-54 June 2017 Consolidated Bluewaters Business Report.pdf 12-55 December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy rating**	**Performance Rating**
1.1 Asset management plan covers key requirements	1-2, 3-1, 4-5, 6-1, 12-1, 12-2, 12-3, 12-4	The AMP, together with financial procedures and budgets cover the key requirements.	A	1
1.2 Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 3-1, 6-1, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	No significant new assets were planned during the reporting period. Full life and 5 year forecasts are used for planning for both O&M and Capital forecasts. Regular monitoring and reporting cover stakeholder requirements.	A	1
1.3 Service levels are defined	1-3, 1-4, 1-5, 1-6, 4-5, 6-1, 12-1, 12-2, 12-3, 12-4	System Management and the supply contracts define service levels. Service levels are incorporated in the O&M contract and reported in the monthly reports.	A	1
1.4 Non-asset options (e.g. demand management) are considered	Not Assessed	Demand management is not applicable to generators paid on energy dispatched.	Not Assessed	
1.5 Lifecycle costs of owning and operating assets are assessed	6-1, 10-27, 12-1, 12-2, 12-3, 12-4	Life cycle costing was employed for the original development and is maintained. Long term fuel and supply contract allow greater confidence and planned plant services are incorporated in costings.	A	2
1.6 Funding options are evaluated	1-2, 10-19	Re-financing is done every 5 years. Financial risk management rules are in place.	A	1
1.7 Costs are justified and cost drivers identified	4-5, 6-1, 10-14, 10-15, 10-16, 11-6, 11-7, 11-8, 11-9, 11-10, 11-11, 12-1, 12-2, 12-3, 12-4, 12-5, 12-20, 12-21, 12-53, 12-54, 12-55	Procurement process requires several quotes or tender for larger contracts. Policy requires submissions to have justification, risk assessment and cash flow.	A	1
1.8 Likelihood and consequences of asset failure are predicted	6-1, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	A strategic risk register is maintained but none for O&M was seen. Risk assessments are however carried out on individual cases.. Stockpile and plant on standby for interruption of coal supply. Additional sources of water being sought.	B	2

		Areas experiencing high rates of wear and tear are identified and addressed. e.g. duct erosion, gas air heater, BWS 1 generator rewind is planned following BW 2 failure. Additional critical spares such as HV motors requested and budgeted for.		
1.9 Plans are regularly reviewed and updated	4-5, 6-1, 6-3, 6-4, 6-5, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 12-1, 12-2, 12-3, 12-4, 12-5, 12-20, 12-21, 12-53, 12-54, 12-55	5yr maintenance plans are produced annually and detailed in the AMP. The AMP is continually monitored and updated annually. Current and planned works are included in monthly reports.	A	1

Comments & Recommendations
Although risks are considered for funding applications and designs no overall O&M risk register was available with known and potential risks. A risk workshop to identify known and potential risks should be held to establish and maintain a risk register for O&M.

2.	**Key Process - Asset creation/acquisition** *Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay.* **Outcome** *A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-3 BW1 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-4 BW2 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
4-6 2015_Signed compliance report for BW1.pdf"
4-7 2015_Signed compliance report for BW2.pdf"
4-8 Compliance monitoring spreadsheet 2017_18.xlsx"
4-9 Electricity Licence compliance procedure 2015.docx"
4-10 ERA Compliance Reporting Manual_Edited for site use.docx"
4-11 2016_Signed compliance reports.pdf"
4-12 2017_Signed compliance reports.pdf"
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-2 CFRG036110 Bluewaters Unit 2 Rewind.pdf"
6-3 5 Year Maintenance Plan 2014-2019.pdf
6-4 5 Year Maintenance Plan 2015-2020, Final.xlsx
8-7 2009 34347 00C-K070901-0 Report for Hazop Risk Study and SIL "
10-15 Accounting Policy Property, Plant and Equipment BW-FA-POL-001.pdf"
10-27 Base Case Updated Bluewaters Economic Model 23.02.18 updated19
12-1 AMP 2014.docx"
12-2 AMP 2015, Final.docx"
12-3 AMP 2016 Final 29012016.pdf"
12-4 AMP 2017 Live 020317 FY17.pdf"
12-2 AMP 2015, Final.docx"
12-3 AMP 2016 Final 29012016.pdf"
12-4 AMP 2017 Live 020317 FY17.pdf"
12-5 Monthly Reports January 2014 to March 2015.doc"
12-21 Monthly Reports May 2015 - Dec 2017.docx"
12-53 February 2017 Consolidated Bluewaters Business Report Final.pdf -

	12-54 June 2017 Consolidated Bluewaters Business Report.pdf 12-55 December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			**Post Review Rating**	
	Evidence Ref#	**Performance**	**Adequacy rating**	**Performance Rating**
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	1-3, 1-4, 6-1, 12-1, 12-2, 12-3, 12-4	No major assets were created during the review period. The rewind of BW 1 was evaluated similarly to creating an asset, justified with advice from OEM and other users on options, risk assessment and getting approval. Spare HV motors for PA and ID fans, CW pumps and the mills have been requested, justified with a risk assessment, approved and budgeted for in 2018-19.	A	1
2.2 Evaluations include all life-cycle costs	6-1, 10-15, 10-27, 12-1, 12-2, 12-3, 12-4	A detailed life–cycle cost model is maintained and used as part of the asset acquisition process and the maintenance management process.	A	1
2.3 Projects reflect sound engineering and business decisions	4-5, 6-1, 6-2, 6-3, 6-4, 8-7, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	The OEM and/or other reputable suppliers are normally involved with engineering decisions and implementation. Reverse engineering is applied when OEM will not provide data.	A	1
2.4 Commissioning tests are documented and completed	6-2, 8-7	Capacity tests are carried twice a year to meet System Management requirements and reported in the monthly reports. ALS analyse condition monitoring results. Test schedules and results are entered into SAP or MYOSH.	A	1
2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	4-5, 4-6, 4-7, 4-8, 4-9, 4-10, 4-11, 4-12, 6-1, 6-3, 6-4, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	O&M obligations are prompted from SAP and remain live until completed and "signed off". Corporate compliance requirements are prompted by spreadsheet and this does not appear effective for ERA elements that have repeatedly been submitted late despite this being an issue in earlier audits.	B	2
Comments & Recommendations				
Corporate compliance prompting should be automated, address a "gateway" rather than an individual and kept "live" until completed.				

3.	**Key process - Asset disposal** *Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms* **Outcome** *Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd

Relevant documentation:

3-1 BW1 PJM MGT EMP DOC 0001 0002 Bluewaters I and II Decomissioning Plan FINAL DRAFT 210806.doc.DOC"
3-2 Request for Asset Disposal BWG-FA-FRM-001.docx"
4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-3 5 Year Maintenance Plan 2014-2019.pdf
6-4 5 Year Maintenance Plan 2015-2020, Final.xlsx
12-1 AMP 2014.docx"
12-2 AMP 2015, Final.docx"
12-3 AMP 2016 Final 29012016.pdf"
12-4 AMP 2017 Live 020317 FY17.pdf"
12-5 Monthly Reports January 2014 to March 2015.doc"
12-21 Monthly Reports May 2015 - Dec 2017.docx"
12-53 February 2017 Consolidated Bluewaters Business Report Final.pdf -
12-54 June 2017 Consolidated Bluewaters Business Report.pdf
12-55 December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
3. 1 Under-utilised and under-performing assets are identified as part of a regular systematic review process	6-1, 6-2, 6-3, 6-4, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Performance is monitored by the DCS and reported monthly. Annual review is made in the AMP Plant Health Status Staff are on site 24/7 with daily toolbox meetings and are familiar with the plant. Deficiencies are entered into SAP and addressed.	A	1
3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	6-1, 6-2, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Internal expertise, OEM suppliers and consultants are used for root cause analysis and corrective action. e.g. High wear rates in ducting are addressed by de-sanding the fuel supply, improved duct materials and filtration.	A	1
3.3 Disposal alternatives are evaluated	3-1, 3-2	Decommissioning Plan in place but not revised since 2006. Life cycle costing assumes salvage value of power station will cover disposal and clean-up costs, this assumption should be justified. An asset disposal procedure is in place.	B	2
3.4 There is a replacement strategy for assets	4-5, 6-1, 6-3, 6-4, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	A stock of routine and vulnerable spares is held. Some parts are on rotation, being refurbished and put back into service; Parts are pre-ordered before service outages. Reverse engineering is applied when OEM details are not available, (notably with IHI).	A	1

Comments & Recommendations
Consider review of the Decommissioning Plan and whether salvage value is realistic in light of the unpopularity of coal.

4.	**Key Process - Environmental analysis** *Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.* **Outcome** *The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Paul Arias,	Trading and Commercial Manager	Bluewaters Power 2 Pty Ltd
Tamra Sharp	GM Human Resources	Bluewaters Power 2 Pty Ltd
Andrew Sutherland	CEO	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-2 BW Strategic Plan on a Page - 171207.docx"
1-3 BW1 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-4 BW2 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-5 BW1 Network Access Agreement.pdf"
1-6 BW2 Electricity Transfer Access Contract.pdf"
1-7 Connection Point Schedule_Reconciled.XLSX"
3-1 BW1 PJM MGT EMP DOC 0001 0002 Bluewaters I and II Decomissioning Plan FINAL DRAFT 210806.doc.DOC"
4-1 BW1 ERA - 4001 Payments.xls"
4-2 BW2 ERA - 4002 Payments.xls"
4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
4-6 2015_Signed compliance report for BW1.pdf"
4-7 2015_Signed compliance report for BW2.pdf"
4-8 Compliance monitoring spreadsheet 2017_18.xlsx"
4-9 Electricity Licence compliance procedure 2015.docx"
4-10 ERA Compliance Reporting Manual_Edited for site use.docx"
4-11 2016_Signed compliance reports.pdf"
4-12 2017_Signed compliance reports.pdf"
5-0 Availability for monthly report.xlsx"
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-3 5 Year Maintenance Plan 2014-2019.pdf
6-4 5 Year Maintenance Plan 2015-2020, Final.xlsx
7-14 Interview with Tamra Sharp with various sample docs.
8-11 Interview with Andrew Sutherland
10-11 Bluewaters Power 1 Quarterly Performance Report 31 Dec 2017.pdf"
10-12 Bluewaters Power 2 Quarterly performance report 31 Dec 2017.pdf"
10-14 Accounting Verification Rules BW-FA-RUL-001.pdf"
12-1 AMP 2014.docx"

	12-2	AMP 2015, Final.docx"
	12-3	AMP 2016 Final 29012016.pdf"
	12-4	AMP 2017 Live 020317 FY17.pdf"
	12-5	Monthly Reports January 2014 to March 2015.doc"
	12-21	Monthly Reports May 2015 - Dec 2017.docx"
	12-53	February 2017 Consolidated Bluewaters Business Report Final.pdf -
	12-54	June 2017 Consolidated Bluewaters Business Report.pdf
	12-55	December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
4.1 Opportunities and threats in the system environment are assessed	6-1	Increased penetration of renewables, coal and water supplies are considered major threats. Trading identifies opportunities in its pricing. The forced outages are managed to minimise penalties and meet contractual obligations. e.g. The BW 2 generator fault.	A	1
4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	1-3, 1-4, 1-5, 1-6, 4-5, 5-0, 6-1, 7-14, 8-11, 10-11, 10-12, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Performance standards are generally achieved with availability near budgeted and data is included in monthly and quarterly reports. Capacity and emissions tests have been successful. Performance standards data is included in monthly and quarterly reports. Capacity and emissions tests have been successful.	A	1
4.3 Compliance with statutory and regulatory requirements	1-5, 1-6, 1-7, 3-1, 4-1, 4-2, 4-5, 4-6, 4-7, 4-8, 4-9, 4-10, 4-11, 4-12, 6-1, 6-3, 6-4, 7-14, 8-11, 10-11, 10-12, 10-14, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Compliance requirements are appreciated but during the review period ERA compliance reports and payments were late despite this already being an issue in the 2010-14 Asset Review. SEMS, RATA and OSH requirements are monitored in MYOSH	B	2
4.4 Achievement of customer service levels	1-5, 1-6, 1-7, 4-1, 4-2, 4-5, 4-6, 4-7, 4-8, 4-9, 4-10, 4-11, 4-12, 6-1, 7-14, 8-11, 10-11, 10-12, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Customer service levels are mainly achieved and documented in the reports.	A	1

Comments & Recommendations
Corporate compliance prompting should be automated, address a “gateway” rather than an individual and kept “live” until completed.

5.	**Key Process - Asset operations** *Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.* **Outcome** *Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Tamra Sharp	GM Human Resources	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-2 BW Strategic Plan on a Page - 171207.docx"
1-3 BW1 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-4 BW2 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-5 BW1 Network Access Agreement.pdf"
1-6 BW2 Electricity Transfer Access Contract.pdf"
1-8 BWPS Org Chart 140218.docx"
4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
5-1 Approval to Take Unit Offline BWPS-FRM-OUT-001.pdf"
5-2 Plant Modification Application Form.xlsx"
5-3 Roles and Responsibities - Outage EHS Coordinator.docx"
5-3 Roles and Responsibities - Outage EHS Coordinator.docx"
5-4 BW1 asset register 31 Dec 17.xlsx"
5-5 BW2 asset register 31 Dec 17.xlsx"
5-6 BWPS Employees - Training Matrix Report.xlsx"
5-7 Demonstration of SAP maintenance function
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-2 CFRG036110 Bluewaters Unit 2 Rewind.pdf"
6-3 5 Year Maintenance Plan 2014-2019.pdf
6-4 5 Year Maintenance Plan 2015-2020, Final.xlsx
7-0 Control of Governance Policy BW-COR-POL-002.pdf"
7-3 Human Resource Management Policy BWG-HR-POL-001
7-4 Information Management Policy BWG-COR-POL-001.pdf"
7-5 Information Management Rules BWG-COR-RUL-001.pdf"

	7-6 Policy Framework BWG-COR-FWK-001.pdf" 7-7 BWPS-ENG-PLN-0001 - BWPS Engineering Management Plan - Rev B.docx" 7-9 Information Technology Steering Group Charter BW-IT-RUL-003.pdf" 7-10 IT back-up policy.pdf" 7-11 IT Equipment Audit Procedure BW-IT-PRO-002.pdf" 7-12 Record Retention Rules BW-COR-RUL-004.pdf" 7-14 Interview with Tamra Sharp with various sample docs. 8-6 Copy of Bluewaters Risk and Compliance Register Suite v1.0.xlsx" 8-7 2009 34347 00C-K070901-0 Report for Hazop Risk Study and SIL Study.pdf" 8-10 Quarterly Risk Reports 8-11 Interview with Andrew Sutherland 10-2 2014-2015 Consolidated Bluewaters Power Monthly Phased Operating Budget (OPEX).pdf" 10-3 013-2014 Consolidated Bluewaters Monthly Phased Budget (OPEX).pdf" 10-4 2015-2016 Consolidated Bluewaters Power Operating (OPEX).pdf" 10-5 2016-2017 Consolidated Bluewaters Power Operating Budget (OPEX) detailed.pdf" 10-6 2017-2018 Consolidated Bluewaters Power Operating Budget (OPEX) Phasing.pdf" 10-7 2018-2019 Consolidated Bluewaters Power Operating Budget (OPEX) detailed phasing.pdf" 10-11 Bluewaters Power 1 Quarterly Performance Report 31 Dec 2017.pdf" 10-12 Bluewaters Power 2 Quarterly performance report 31 Dec 2017.pdf" 10-14 Accounting Verification Rules BW-FA-RUL-001.pdf" 10-15 Accounting Policy Property, Plant and Equipment BW-FA-POL-001.pdf" 10-16 Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf" 10-17 Financial Risk Management Rules BW-FA-RUL-003.pdf" 10-18 Sales and Purchase Check Procedure BW-COR-PRO-003.pdf" 10-19 Bluewaters Power 1 Financial Statements YE 31 March 2014.pdf" 10-21 Bluewaters Power 2 Financial Statements YE March 2014.pdf" 10-22 Bluewaters Power 2 Financial Statements YE 31 March 2015.pdf" 10-23 Bluewaters Power 1 Financial Statements YE 31 March 2016.pdf" 10-24 Bluewaters Power 2 Financial Statements YE 31 March 2016.pdf" 10-25 Bluewaters Power 1 Financial Statements YE 31 March 2017.pdf" 10-26 Bluewaters Power 2 Financial Statements YE 31 March 2017.pdf" 10-27 Base Case Updated Bluewaters Economic Model 23.02.18 updated19

	11-6	Ronald Faber - Finance Information Request.pdf
	11-7	TUO BW1 011 - Unit 1 tube leak repairs.pdf
	11-8	TUO BW0012 U1 MCV D.pdf
	11-9	TUO U1 Generator Rewind Outage 2018_v1.0 signed.pdf
	12-1	AMP 2014.docx"
	12-2	AMP 2015, Final.docx"
	12-4	AMP 2017 Live 020317 FY17.pdf"
	12-5	Monthly Reports January 2014 to March 2015.doc"
	12-20	Monthly report May 2015 - Finance.docx"
	12-21	Monthly Reports May 2015 - Dec 2017.docx"
	12-53	February 2017 Consolidated Bluewaters Business Report Final.pdf -
	12-54	June 2017 Consolidated Bluewaters Business Report.pdf
	12-55	December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance rating**
5.1 Operational policies and procedures are documented and linked to service levels required	1-3, 1-4, 1-5, 1-6, 1-8, 4-5, 5-1, 5-2, 5-3, 6-3, 6-4, 7-0, 7-4, 7-5, 7-6, 7-7, 7-9, 7-10, 7-11, 7-12, 7-14, 8-6, 8-10, 10-14, 10-15, 10-16, 10-17, 10-18, 11-6, 11-7, 11-8, 11-9, 12-1, 12-2, 12-3, 12-4, 12-5	Operations are largely automated. System Management have visibility of availability, capacity etc. and normally control load. Highly experienced operators are on duty 24/7, many have been at Bluewaters since commissioning. Some inconsistences e.g. approval of rules, procedures differ between refs 7-0 and 7- 6. This is could be due to the current revising of the AMP	B	1
5.2 Risk management is applied to prioritise operations tasks	1-2, 6-1, 6-2, 8-6, 8-7, 8-10, 10-17, 12-1, 12-2, 12-3, 12-4	No O&M Risk Register was shown. Where possible outage tasks are deferred to planned outages, a priority level in SAP. Maintenance work is programmed through SAP based on historical performance, OEM recommendations and condition monitoring. OEM manufacturers provide updates on problems and improvements. Trading considers available capacity, coal supply etc. as well as price. Risk assessment of the rewind of BW 1 resulted in proceeding and bringing BW 1's service forward and deferring that for BW 2.	B	2
5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	4-5, 5-4, 5-5, 5-7, 7-4, 7-10, 10-16	Power Station assets are recorded using the KKS numbering system and stored on SAP together with maintenance records. Monthly rolling stocktakes are carried out. New assets are added to SAP. Asset condition is reported in the AMP	A	1
5.4 Operational costs are measured and monitored	10-26, 10-27, 12-1, 12-2, 12-3, 12-4, 12-5, 12-20, 12-21, 12-53, 12-54, 12-55	Operational costs are included in the Monthly Reports. Pre April 2015 TWPS invoiced monthly and similarly, since then, BWPS.	A	1

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance rating**
5.5 Staff resources are adequate and staff receive training commensurate with their responsibilities	4-5, 5-3, 5-6, 6-1, 7-3, 7-14, 12-5, 12-21, 12-53, 12-54, 12-55	Training is reported in the reports and recorded in MYOSH Operators have responded knowledgably and safely when required. KRA's are being implemented for all employees with review and response.	A	1

Comments & Recommendations
Some inconsistences e.g. approval level for rules, procedures differ between refs Control of Governance Policy BW-COR-POL-002 and Policy Framework BWG-COR-FWK-001 Although risks are considered for funding applications and designs no overall O&M risk register is available with known and potential risks. A risk workshop to identify known and potential risks should be held to establish and maintain a risk register for O&M

6.	**Key process - Asset maintenance** *Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.* **Outcome** *Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.*	**Asset management process and policy definition adequacy rating** **A**	**Asset management performance rating** **1**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd

Relevant documentation:

4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
5-0 Availability for monthly report.xlsx"
5-1 Approval to Take Unit Offline BWPS-FRM-OUT-001.pdf"
5-3 Roles and Responsibities - Outage EHS Coordinator.docx"
5-7 Demonstration of SAP maintenance function
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-2 CFRG036110 Bluewaters Unit 2 Rewind.pdf"
7-0 Control of Governance Policy BW-COR-POL-002.pdf"
7-4 Information Management Policy BWG-COR-POL-001.pdf"
7-5 Information Management Rules BWG-COR-RUL-001.pdf"
7-7 BWPS-ENG-PLN-0001 - BWPS Engineering Management Plan - Rev B.docx"
7-8 Enterprise Architecture Guiding Principles BW-IT-MAN-001.pdf"
7-12 Record Retention Rules BW-COR-RUL-004.pdf"
7-13 Rules for Management Information Systems (MIS) Usage and Procedures BW-IT-RUL-001.pdf"
8-1 Bluewaters Risk Management Framework BW-COR-TMP-005 V1.1.docx"
8-2 Appendix I - 63144124-5ac-001 HAZOP Bluewaters PS Desander.pdf"
8-2 Bluewaters Risk Management Policy BW-COR-TMP-005 v1.1.docx"
8-3 Bluewaters Risk Management Procedure BW-COR-TMP-005 v1.1.docx"
8-4 Bluewaters Risk Management Rules BW-COR-TMP-005 v1.1.docx"
8-5 Bluewaters Risk Scoring Guidelines BW-COR-TMP-005 v1.1.docx"
8-6 Copy of Bluewaters Risk and Compliance Register Suite v1.0.xlsx"
10-2 2014-2015 Consolidated Bluewaters Power Monthly Phased Operating Budget (OPEX).pdf"
10-3 013-2014 Consolidated Bluewaters Monthly Phased Budget (OPEX).pdf"
10-4 2015-2016 Consolidated Bluewaters Power Operating (OPEX).pdf"

	10-5 2016-2017 Consolidated Bluewaters Power Operating Budget (OPEX) detailed.pdf" 10-6 2017-2018 Consolidated Bluewaters Power Operating Budget (OPEX) Phasing.pdf" 10-7 2018-2019 Consolidated Bluewaters Power Operating Budget (OPEX) detailed phasing.pdf" 10-15 Accounting Policy Property, Plant and Equipment BW-FA-POL-001.pdf" 10-16 Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf" 11-7 TUO BW1 011 - Unit 1 tube leak repairs.pdf 11-8 TUO BW0012 U1 MCV D.pdf 11-9 TUO U1 Generator Rewind Outage 2018_v1.0 signed.pdf 11-10 TUO 1672_001.pdf 11-11 TUO 1690_001.pdf 12-2 AMP 2015, Final.docx" 12-3 AMP 2016 Final 29012016.pdf" 12-4 AMP 2017 Live 020317 FY17.pdf" 12-21 Monthly Reports May 2015 - Dec 2017.docx" 12-53 February 2017 Consolidated Bluewaters Business Report Final.pdf - 12-54 June 2017 Consolidated Bluewaters Business Report.pdf 12-55 December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
6.1 Maintenance policies and procedures are documented and linked to service levels required	4-5, 5-1, 7-0, 7-4, 7-5, 7-7, 7-8, 7-12, 7-13, 8-1, 8-2, 8-2, 8-3, 8-4, 8-5, 8-6, 11-7, 11-8, 11-9, 11-10, 11-11	Maintenance plans, policy and procedures are and are based on OEM recommendations, historical records and condition monitoring. A service agreement with GE is in place. Documentation is retained and issued with work orders and monitored via SAP.	A	1
6.2 Regular inspections are undertaken of asset performance and condition	5-0, 5-7, 6-1, 10-16, 12-1, 12-2, 12-3, 12-4	Performance and condition monitoring is monitored on the DCS. The station is manned 24/7 with regular inspections. Any Issues are logged (by any staff) on SAP and raised at daily toolbox meetings, given a priority and are "live" until cleared. AMP includes an annual plant condition report.	A	1
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	5-3, 5-7, 6-1, 11-7, 11-8, 11-9, 11-10, 11-11, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Work orders are monitored in SAP prioritised as; in 24hrs/ next meeting/ next planned outage and reported in monthly reports. Status of current, completed and planned work orders is summarised in monthly reports.	A	1
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary	6-1, 6-2, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Failures are analysed and responded to and reported in the monthly and quarterly reports. E.g. heater tube failures, duct erosion. Expert advice is called on as required. Maintenance and/or operational plans are modified as required eg swapping BW 1 and BW 2 outages to bring the rewind forward.	A	1
6.5 Risk management is applied to prioritise maintenance tasks	6-1, 12-1, 12-2, 12-3, 12-4	Risk management is applied to prioritise maintenance tasks.. eg Risk review resulting in swapping BW 1 and BW 2 outages to bring the BW 1 rewind forward	A	1
6.6 Maintenance costs are measured and monitored	4-5, 5-7, 6-1, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 10-15, 11-7, 11-8, 11-9, 11-10, 11-11, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Maintenance costs for materials and contractors are monitored in SAP and reported in monthly and quarterly reports with variances and explanation. O&M costs are "invoiced" to head office monthly.	A	1
Comments & Recommendations				

7.	**Key process - Asset Management Information System (MIS)** *An asset management information system is a combination of processes, data and software that support the asset management functions.* **Outcome** *The asset management information system provides authorised, complete and accurate information for the day-to-date running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Phil Rosati	IT Infrastructure Manager	Bluewaters Power 2 Pty Ltd
Tamra Sharp	GM Human Resources	Bluewaters Power 2 Pty Ltd
Andrew Sutherland	CEO	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-8	BWPS Org Chart 140218.docx"
4-1	BW1 ERA - 4001 Payments.xls"
4-2	BW2 ERA - 4002 Payments.xls"
4-6	2015_Signed compliance report for BW1.pdf"
4-7	2015_Signed compliance report for BW2.pdf"
4-8	Compliance monitoring spreadsheet 2017_18.xlsx"
4-9	Electricity Licence compliance procedure 2015.docx"
5-7	Demonstration of SAP maintenance function
7-1	Document Control Process Chart BW-COR-FRM-004.pdf"
7-2	Document Style Guideline BW-COR-GDL-001.pdf"
7-4	Information Management Policy BWG-COR-POL-001.pdf"
7-5	Information Management Rules BWG-COR-RUL-001.pdf"
7-6	Policy Framework BWG-COR-FWK-001.pdf"
7-7	BWPS-ENG-PLN-0001 - BWPS Engineering Management Plan - Rev B.docx"
7-8	Enterprise Architecture Guiding Principles BW-IT-MAN-001.pdf"
7-9	Information Technology Steering Group Charter BW-IT-RUL-003.pdf"
7-10	IT back-up policy.pdf"
7-12	Record Retention Rules BW-COR-RUL-004.pdf"
7-13	Rules for Management Information Systems (MIS) Usage and Procedures BW-IT-RUL-001.pdf"
7-14	Interview with Tamra Sharp with various sample docs.
8-11	Interview with Andrew Sutherland

	10-14	Accounting Verification Rules BW-FA-RUL-001.pdf"
	10-15	Accounting Policy Property, Plant and Equipment BW-FA-POL-001.pdf"
	10-16	Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf"
	10-19	Bluewaters Power 1 Financial Statements YE 31 March 2014.pdf"
	10-21	Bluewaters Power 2 Financial Statements YE March 2014.pdf"
	10-22	Bluewaters Power 2 Financial Statements YE 31 March 2015.pdf"
	10-23	Bluewaters Power 1 Financial Statements YE 31 March 2016.pdf"
	10-24	Bluewaters Power 2 Financial Statements YE 31 March 2016.pdf"
	10-25	Bluewaters Power 1 Financial Statements YE 31 March 2017.pdf"
	10-26	Bluewaters Power 2 Financial Statements YE 31 March 2017.pdf"
	12-5	Monthly Reports January 2014 to March 2015.doc"
	12-21	Monthly Reports May 2015 - Dec 2017.docx"
	12-53	February 2017 Consolidated Bluewaters Business Report Final.pdf -
	12-54	June 2017 Consolidated Bluewaters Business Report.pdf
	12-55	December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
7.1 Adequate system documentation for users and IT operators	7-1, 7-2, 7-4, 7-5, 7-6, 7-7, 7-8, 7-9, 7-12, 7-13	The IT system is currently being revised with improved data communication links between HO, site and the data centre. In house expertise and contractors are used. Details of the changes are not well documented and depend on the IT group's knowledge to some extent.	B	2
7.2 Input controls include appropriate verification and validation of data entered into the system	2-1, 5-7, 7-1, 7-2, 7-7, 7-8, 7-14, 8-11, 10-14, 10-15, 10-16	Data is collected by the DCS and reported. A historian retains historical power station data. Availability and capacity is broadcast to System Management via the DCS. O&M costs are collated into spreadsheet on site and sent to HO for input into SAP with a slight risk of corruption. A SAP Partner implements program revisions to SAP Consolidated Monthly reports do not appear to have gone through doc control and have no doc number or doc history. Prior to April 2015 TWPS listed document review in their monthly reports. Some inconsistences e.g. approval of rules, procedures differ between refs 7-0 and 7- 6. This is could be due to the current revising of the AMP Document control could be improved, many documents had incomplete document history.	B	2
7.3 Logical security access controls appear adequate, such as passwords	7-13	Computer access is limited to staff and passwords are in place. The power station control room is manned continuously. The DCS and its data acquisition system have tiered access protection and some checks to ensure validity of data entry. BW 1 and BW 2 DCS's are separate, both displayed in the control room but some balance of plant is shared. Firewalls and virus protection are in place.	A	1
7.4	7-13	The compound is fenced with controlled gates and turnstiles.	A	1

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
Physical security access controls appear adequate		The power station and security operate 24/7. CCTV is installed Access passes or keys are required for certain areas.		
7.5 Data backup procedures appear adequate and backups are tested	7-10	Computer back up with a mirrored server and daily to an off-site data centre, this is being updated to real time back up at the data centre. Power station data is backed up to server onsite and tapes. Tapes are taken off site in an ad hoc manner typically every 1-3 months. Some backups have been inadvertently tested following mistakes in programming.	B	2
7.6 Key computations related to licensee performance reporting are materially accurate	7-13	Monitoring of availability to System Management/AEMO is via the DCS. Electrical energy transfer between BW and the SWIS is with Western Power calibrated duplicate metering. Efficiency is monitored for performance and as a parity check.	A	1
7.7 Management reports appear adequate for the licensee to monitor licence obligations	1-8, 4-1, 4-2, 4-6, 4-7, 4-8, 4-9, 7-14, 8-11, 10-19, 10-21, 10-22, 10-23, 10-24, 10-25, 10-26, 12-5, 12-21, 12-53, 12-54, 12-55	Monthly, quarterly reports are comprehensive and include compliance, outage and budgets are presented in sufficient detail. Financial reports are also detailed.	A	1

Comments & Recommendations
Better documentation of the changes to the IT back up system is required, what, why, how and when is proposed, in progress and complete. A more formal way of testing back-ups and their restoration should be implemented. Tighter application of the document control policy required particularly with “Document History”. Consider applying “Uncontrolled document + date printed” to documents printed from the Intranet. Consider consolidating or cross referencing Policies, Procedures, Rules, Frameworks etc for each discipline eg Risk Management, Financial Accounting, and a complete index of all Policies, Plans, Procedures etc. (this may already be in place on the Intranet)

8.	**Key Process - Risk Management** *Risk management involves the identification of risks and their management within an acceptable level of risk.* **Outcome** *An effective risk management framework is applied to manage risks related to the maintenance of service standards*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd
Paul Arias,	Trading and Commercial Manager	Bluewaters Power 2 Pty Ltd
Tamra Sharp	GM Human Resources	Bluewaters Power 2 Pty Ltd
Andrew Sutherland	CEO	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-2	BW Strategic Plan on a Page - 171207.docx"
1-3	BW1 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
1-4	BW2 Amended and Restated Coal Supply Agreement_FINAL_Fuel Supply.pdf"
6-1	BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
7-14	Interview with Tamra Sharp with various sample docs.
8-6	Copy of Bluewaters Risk and Compliance Register Suite v1.0.xlsx"
8-8	Boiler Chemistry- Wet Rack - 1.1.1_TY Completed.doc
8-10	Quarterly Risk Reports
8-11	Interview with Andrew Sutherland
9-2	Emergency Response Plan BWPS-PLN-HS-039.pdf"
12-1	AMP 2014.docx"
12-2	AMP 2015, Final.docx"
12-3	AMP 2016 Final 29012016.pdf"
12-4	AMP 2017 Live 020317 FY17.pdf"

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
8.1 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	1-2, 6-1, 8-6, 8-8, 8-10, 8-11	Risk management is integral with the management and safety policies. Contingency planning, service contracts with GE, SAP Partner etc. Insurance is in place and was called upon for the BW 2 generator failure	A	1
8.2 Risks are documented in a risk register and treatment plans are actioned and monitored	7-14, 8-6, 8-8, 8-10, 8-11, 9-2	The risk register kept and maintained with quarterly reviews by the RACC covers only strategic risks and not O&M risks in detail. Known and potential risks such as blade failure, generator circuit breaker fault, should be evaluated and a register maintained with regular review.	B	2
8.3 The probability and consequences of asset failure are regularly assessed	1-3, 1-4, 6-1, 8-6, 8-10, 12-1, 12-2, 12-3, 12-4	The probability and consequences of asset failure are reviewed regularly.	A	1

Comments & Recommendations
Risks, both strategic and O&M should be addressed in more detail and regularly reviewed.

9.	**Key Process - Contingency Planning** *Contingency plans document the steps to deal with the unexpected failure of an asset.* **Outcome-** *Contingency plans have been developed and tested to minimise any significant disruptions to service standards.*	**Asset management process and policy definition adequacy rating** **B**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd
Phil Rosati	IT Infrastructure Manager	Bluewaters Power 2 Pty Ltd
Paul Arias,	Trading and Commercial Manager	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-2	BW Strategic Plan on a Page - 171207.docx"
1-5	BW1 Network Access Agreement.pdf"
1-6	BW2 Electricity Transfer Access Contract.pdf"
9-1	Business Continuity Plan BW-COR-PLN-001.pdf"
9-2	Emergency Response Plan BWPS-PLN-HS-039.pdf"

Criteria Effectiveness			**Post Review Rating**	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	1-2, 1-5, 1-6, 9-1, 9-2	The Emergency Response Plan is comprehensive but not tailored for site specific responses. Periodic evacuation drills are held. Interruption of coal supply has already been shown as a risk and has been addressed with the stockpile, alternative supplies and contractually.	B	2

Comments & Recommendations

Consider site specific requirements in contingency plans, e.g. bushfire buffer maintenance, more precise guidelines on when and who should evacuate site, what state the power station should be left in event of evacuation etc.

The roles are defined; Incident Commander, Incident Controller etc. not how "who they are" is conveyed to staff on each shift.

10.	**Key Process - Financial Planning** *The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.* **Outcome** *A financial plan that is reliable and provides for long-term financial viability of services*	**Asset management process and policy definition adequacy rating** **A**	**Asset management performance rating** **1**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd
Paul Arias,	Trading and Commercial Manager	Bluewaters Power 2 Pty Ltd
Andrew Sutherland	CEO	Bluewaters Power 2 Pty Ltd

Relevant documentation:

4-5 2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
8-11 Interview with Andrew Sutherland
10-2 2014-2015 Consolidated Bluewaters Power Monthly Phased Operating Budget (OPEX).pdf"
10-3 013-2014 Consolidated Bluewaters Monthly Phased Budget (OPEX).pdf"
10-4 2015-2016 Consolidated Bluewaters Power Operating (OPEX).pdf"
10-5 2016-2017 Consolidated Bluewaters Power Operating Budget (OPEX) detailed.pdf"
10-6 2017-2018 Consolidated Bluewaters Power Operating Budget (OPEX) Phasing.pdf"
10-7 2018-2019 Consolidated Bluewaters Power Operating Budget (OPEX) detailed phasing.pdf"
10-9 Bluewaters Power 1 Half Yearly Financial Statements 30 Sept 2017.pdf"
10-10 Bluewaters Power 2 Half Yearly Financial Statements 30 Sept 2017.pdf"
10-11 Bluewaters Power 1 Quarterly Performance Report 31 Dec 2017.pdf"
10-12 Bluewaters Power 2 Quarterly performance report 31 Dec 2017.pdf"
10-16 Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf"
10-17 Financial Risk Management Rules BW-FA-RUL-003.pdf"
10-18 Sales and Purchase Check Procedure BW-COR-PRO-003.pdf"
10-27 Base Case Updated Bluewaters Economic Model 23.02.18 updated19
11-6 Ronald Faber - Finance Information Request.pdf
11-7 TUO BW1 011 - Unit 1 tube leak repairs.pdf
11-8 TUO BW0012 U1 MCV D.pdf
11-9 TUO U1 Generator Rewind Outage 2018_v1.0 signed.pdf
11-10 TUO 1672_001.pdf
11-11 TUO 1690_001.pdf
12-5 Monthly Reports January 2014 to March 2015.doc"

	12-20	Monthly report May 2015 - Finance.docx"
	12-21	Monthly Reports May 2015 - Dec 2017.docx"
	12-53	February 2017 Consolidated Bluewaters Business Report Final.pdf -
	12-54	June 2017 Consolidated Bluewaters Business Report.pdf
	12-55	December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Adequacy Rating**
10.1 The financial plan states the financial objectives and strategies and actions to achieve the objectives	10-16, 10-17, 10-18, 10-27	Documented financial procedures and rules are in place. Project plan and costing based on 30 year life Financial budget prepared annually with a forward budget based on 5 years as basis. Long term contracts for coal and with customers offer some security in forecast	A	1
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent cost	4-5, 10-16, 10-17, 10-18, 10-27	Capital and O&M costs are internally funded. Re-financing is every 5 years. Budgets cover O&M, fuel, administration etc costs	A	1
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	10-16, 10-17, 10-18, 10-27	Financials are reported in monthly, quarterly, half yearly and annually, with operating costs and P&L and Balance in the latter two. Actuals are compared against budgeted and any variances are investigated. Annual financials are externally audited.	A	1
10.4 The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	10-16, 10-17, 10-18, 10-27	A 5 year rolling budget plan is kept considering O&M costs, planned outages and services, etc. A detailed life cycle (30 years) plan is maintained.	A	1
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 10-16, 10-17, 10-18, 10-27, 11-6, 11-7, 11-8, 11-9, 11-10, 11-11, 12-5, 12-20, 12-21, 12-53, 12-54, 12-55	Budgets are prepared annually, reviewed in Perth and submitted to Japan around December for approval. O&M, admin and overheads are incorporated in the plan together with forecast capital expenditure.	A	1
10.6	8-11, 10-9, 10-10, 10-11, 10-12, 10-16, 10-17, 10-18, 10-27	Financials are based on the Japanese FY which starts 1st April.	A	1

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Adequacy Rating**
Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary		Audited reports are prepared annually and there are unaudited half yearly reports and quarterly performance reports. Variances are identified and investigated. Informal weekly meetings are held together with minuted monthly senior management meetings and quarterly Board meetings. The Owner (Sumitomo) carries out financial audits.		
Comments & Recommendations				

11.	**Key Process - Capital Expenditure Planning** *The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years.* *Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates.* **Outcome -** *A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.*	**Asset management process and policy definition adequacy rating** **A**	**Asset management performance rating** **1**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Micheal Karpinski,	GM Finance & Accounting	Bluewaters Power 2 Pty Ltd

Relevant documentation:

1-2 BW Strategic Plan on a Page - 171207.docx"
6-1 BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
10-2 2014-2015 Consolidated Bluewaters Power Monthly Phased Operating Budget (OPEX).pdf"
10-3 013-2014 Consolidated Bluewaters Monthly Phased Budget (OPEX).pdf"
10-4 2015-2016 Consolidated Bluewaters Power Operating (OPEX).pdf"
10-5 2016-2017 Consolidated Bluewaters Power Operating Budget (OPEX) detailed.pdf"
10-6 2017-2018 Consolidated Bluewaters Power Operating Budget (OPEX) Phasing.pdf"
10-7 2018-2019 Consolidated Bluewaters Power Operating Budget (OPEX) detailed phasing.pdf"
10-9 Bluewaters Power 1 Half Yearly Financial Statements 30 Sept 2017.pdf"
10-10 Bluewaters Power 2 Half Yearly Financial Statements 30 Sept 2017.pdf"
10-16 Financial Closing and Reporting Procedure BW-FA-PRO-003.pdf"
10-17 Financial Risk Management Rules BW-FA-RUL-003.pdf"
10-18 Sales and Purchase Check Procedure BW-COR-PRO-003.pdf"
10-27 Base Case Updated Bluewaters Economic Model 23.02.18 updated19

	11-1 2014-2015 Capital Expenditure Actual v Budget March (CAPEX).pdf" 11-2 2015-2016 Bluewaters Capital Expenditure Budget (CAPEX).pdf" 11-3 2016-2017 Bluewaters Power Capital Expenditure Budget (CAPEX).pdf" 11-4 2017-2018 Consolidated Bluewaters Power Capital Expenditure & Strategic Spares Budget (CAPEX).pdf" 11-5 2018-2019 Capital Expenditure & Strategic Spares Budget (CAPEX).pdf" 11-6 Ronald Faber - Finance Information Request.pdf 11-7 TUO BW1 011 - Unit 1 tube leak repairs.pdf 11-8 TUO BW0012 U1 MCV D.pdf 11-9 TUO U1 Generator Rewind Outage 2018_v1.0 signed.pdf 11-10 TUO 1672_001.pdf 11-11 TUO 1690_001.pdf 12-1 AMP 2014.docx" 12-2 AMP 2015, Final.docx" 12-3 AMP 2016 Final 29012016.pdf" 12-4 AMP 2017 Live 020317 FY17.pdf" 12-5 Monthly Reports January 2014 to March 2015.doc" 12-20 Monthly report May 2015 - Finance.docx" 12-21 Monthly Reports May 2015 - Dec 2017.docx" 12-53 February 2017 Consolidated Bluewaters Business Report Final.pdf - 12-54 June 2017 Consolidated Bluewaters Business Report.pdf 12-55 December 2017 Consolidated Bluewaters Business Report.pdf

Criteria Effectiveness			Post Review Rating	
	Evidence Ref#	**Performance**	**Adequacy Rating**	**Performance Rating**
11.1 There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	1-2, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 10-16, 10-17, 10-18, 10-27, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 12-1, 12-2, 12-3, 12-4, 12-5, 12-20, 12-21, 12-53, 12-54, 12-55	Capital expenditure budgets are prepared annually, reviewed in Perth and submitted to Japan around December for approval.	A	1
11.2 The plan provide reasons for capital expenditure and timing of expenditure	6-1, 6-2, 10-16, 10-17, 10-18, 11-2, 11-3, 11-4, 11-5, 12-1, 12-2, 12-3, 12-4, 12-5, 12-20, 12-21, 12-53, 12-54, 12-55	The AMP provides justification for capital expenditure and more detail is given in the applications for expenditure, AFE or board application for higher cost items. Most expenditure is during the planned outages in April and October.	A	1
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	6-1, 6-2, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 10-16, 10-17, 10-18, 10-27, 11-1, 11-2, 11-3, 11-4, 11-5, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	The life cycle cost through to project closure is used for budgeting purposes. This includes major plant services to OEM recommendations.	A	1
11.4 There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	6-1, 6-2, 10-9, 10-10, 10-16, 10-17, 10-18, 10-27, 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, 11-7, 11-8, 11-9, 11-10, 11-11, 12-1, 12-2, 12-3, 12-4, 12-5, 12-21, 12-53, 12-54, 12-55	Budgets and maintenance plans are prepared and reported in monthly and quarterly reports with variances and responses	A	1
Comments & Recommendations				

12.	**Key Process - Review of AMS** *The asset management system is regularly reviewed and updated* **Outcome** *Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency.*	**Asset management process and policy definition adequacy rating** **A**	**Asset management performance rating** **2**

Interviewees:

Steve Deonck	Station Manager	Bluewaters Power Services Pty Ltd
Dave Marquis	Engineering Manager	Bluewaters Power Services Pty Ltd
Ronald Faber	Senior Site Accountant	Bluewaters Power Services Pty Ltd
Todd Shepherdson	Operations Manager	Bluewaters Power Services Pty Ltd
Stuart Hair	Maintenance and Outage Manager	Bluewaters Power Services Pty Ltd
Ken Chong	Financial Analyst	Bluewaters Power 2 Pty Ltd
Tamra Sharp	GM Human Resources	Bluewaters Power 2 Pty Ltd
Andrew Sutherland	CEO	Bluewaters Power 2 Pty Ltd

Relevant documentation:

4-5	2015 249 April 2015 O&M Agreement Between Bluewaters Power 1, Bluewaters Power 2 and Bluewaters Power Services.pdf"
6-1	BWPS-ASM-RPT-0001 - BWPS Asset Condition Report - Rev B.docx"
6-2	CFRG036110 Bluewaters Unit 2 Rewind.pdf"
7-14	Interview with Tamra Sharp with various sample docs.
8-11	Interview with Andrew Sutherland
12-1	AMP 2014.docx"
12-2	AMP 2015, Final.docx"
12-3	AMP 2016 Final 29012016.pdf"
12-4	AMP 2017 Live 020317 FY17.pdf"

Criteria Effectiveness			**Post Review Rating**	
	Evidence Ref#	**Performance**	**Adequacy rating**	**Performance Rating**
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	4-5, 6-1, 6-2, 7-14, 8-11, 12-1, 12-2, 12-3, 12-4	AMPs and associated documentation were revised each year during the review period	A	1
12.2 Independent reviews (eg internal audit) are performed of the asset management system	1-2, 4-5, 8-11	ERA requires AMS review as part of the licensing renewal. Insurance external engineering audits/reviews have been conducted. Since BWPS took over O&M they can no longer be considered to be independent reviewers.	A	2
Comments & Recommendations				
The asset management system is being revised by outside consultants and when finalised should include routine independent reviews.				

APPENDIX 3

AUDIT PLAN ASSET REVIEW PRIORITIES

Table 14 Effectiveness Criteria Pre-audit Review

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
1	Asset Planning	Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).					0	0	0	7	2	0
1.1		Asset management plan covers key requirements	2	C	MEDIUM	M				4		
1.2		Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	2	C	MEDIUM	M				4		
1.3		Service levels are defined	2	C	MEDIUM	M				4		
1.4		Non-asset options (eg demand management) are considered	1	B	LOW	M					5	
1.5		Lifecycle costs of owning and operating assets are assessed	2	C	MEDIUM	M				4		
1.6		Funding options are evaluated	2	C	MEDIUM	M				4		
1.7		Costs are justified and cost drivers identified	2	C	MEDIUM	M				4		
1.8		Likelihood and consequences of asset failure are predicted	2	C	MEDIUM	M				4		
1.9		Plans are regularly reviewed and updated	1	B	LOW	M					5	
2	Asset creation/ acquisition	Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay.					0	0	0	5	0	0

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
2.1		Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	2	C	MEDIUM	M				4		
2.2		Evaluations include all life-cycle costs	2	C	MEDIUM	M				4		
2.3		Projects reflect sound engineering and business decisions	2	C	MEDIUM	M				4		
2.4		Commissioning tests are documented and completed	2	C	MEDIUM	M				4		
2.5		Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	2	C	MEDIUM	M				4		
3	Asset disposal	Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms					0	0	0	3	1	0
3.1		Under-utilised and under-performing assets are identified as part of a regular systematic review process	2	C	MEDIUM	M				4		
3.2		The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	2	C	MEDIUM	M				4		
3.3		Disposal alternatives are evaluated	1	B	LOW	M					5	
3.4		There is a replacement strategy for assets	2	C	MEDIUM	M				4		
4	Environmental analysis	Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.					0	0	0	4	0	0

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
4.1		Opportunities and threats in the system environment are assessed	2	C	MEDIUM	M				4		
4.2		Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	2	B	MEDIUM	M				4		
4.3		Compliance with statutory and regulatory requirements	2	B	MEDIUM	M				4		
4.4		Achievement of customer service levels	2	C	MEDIUM	M				4		
5	Asset operations	Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.					0	0	0	5	0	0
5.1		Operational policies and procedures are documented and linked to service levels required	2	B	MEDIUM	M				4		
5.2		Risk management is applied to prioritise operations tasks	2	B	MEDIUM	M				4		
5.3		Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	2	B	MEDIUM	M				4		
5.4		Operational costs are measured and monitored	2	C	MEDIUM	M				4		
5.5		Staff receive training commensurate with their responsibilities	2	B	MEDIUM	M				4		
6	Asset maintenance	Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.					0	0	0	6	0	0
6.1		Maintenance policies and procedures are documented and linked to service levels required	2	B	MEDIUM	M				4		

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
6.2		Regular inspections are undertaken of asset performance and condition	2	B	MEDIUM	M				4		
6.3		Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	2	B	MEDIUM	M				4		
6.4		Failures are analysed and operational/maintenance plans adjusted where necessary	2	B	MEDIUM	M				4		
6.5		Risk management is applied to prioritise maintenance tasks	2	B	MEDIUM	M				4		
6.6		Maintenance costs are measured and monitored	2	C	MEDIUM	M				4		
7	Asset Management Information System	An asset management information system is a combination of processes, data and software that support the asset management functions.					0	0	0	5	2	0
7.1		Adequate system documentation for users and IT operators	1	B	LOW	M					5	
7.2		Input controls include appropriate verification and validation of data entered into the system	2	B	MEDIUM	M				4		
7.3		Logical security access controls appear adequate, such as passwords	2	B	MEDIUM	M				4		
7.4		Physical security access controls appear adequate	2	B	MEDIUM	M				4		
7.5		Data backup procedures appear adequate and backups are tested	2	C	MEDIUM	M				4		
7.6		Key computations related to licensee performance reporting are materially accurate	2	B	MEDIUM	M				4		

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
7.7		Management reports appear adequate for the licensee to monitor licence obligations	1	C	LOW	M					5	
8	Risk Management	Risk management involves the identification of risks and their management within an acceptable level of risk.					0	1	0	2	0	0
8.1		Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	2	B	MEDIUM	M				4		
8.2		Risks are documented in a risk register and treatment plans are actioned and monitored	2	B	MEDIUM	M				4		
8.3		The probability and consequences of asset failure are regularly assessed	3	B	HIGH	M		2				
9	Contingency Planning	Contingency plans document the steps to deal with the unexpected failure of an asset.					0	1	0	0	0	0
9.1		Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	3	B	HIGH	M		2				
10	Financial Planning	The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.					0	0	0	0	6	0
10.1		The financial plan states the financial objectives and strategies and actions to achieve the objectives	1	B	LOW	M					5	

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
10.2		The financial plan identifies the source of funds for capital expenditure and recurrent costs	1	C	LOW	M					5	
10.3		The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	1	C	LOW	M					5	
10.4		The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	1	C	LOW	M					5	
10.5		The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	1	B	LOW	M					5	
10.6		Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	1	C	LOW	M					5	
11	Capital Expenditure Planning	The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates					0	0	0	1	3	0
11.1		There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	2	C	MEDIUM	M				4		

Ref	Asset management system component	Details/Requirements	Consequence 1=minor, 2=moderate, 3=major	Risk Likelihood A=likely, B=probable, C=unlikely	Inherent Risk low, medium, high	Adequacy of existing controls S=strong, M=moderate, W=weak	Review Priority					
							1	2	3	4	5	N/A
11.2		The plan provide reasons for capital expenditure and timing of expenditure	1	C	LOW	M					5	
11.3		The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	1	C	LOW	M					5	
11.4		There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	1	B	LOW	M					5	
12	Review of AMS	The asset management system is regularly reviewed and updated.					0	0	0	2	0	0
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	2	B	MEDIUM	M				4		
12.2		Independent reviews (e.g. internal audit) are performed of the asset management system	2	B	MEDIUM	M				4		
TOTAL OF EACH PRIORITY							0	2	0	40	14	0