





# **Kemerton Power Station**

## Performance Audit & Asset Management System Review Report 2021 – EGL5

Audit Report	Authorisation	thorisation Name		Date	
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Version	Description of Revision	Prepared By	Reviewed By	Date
0	Initial Draft provided to RATCH-Australia	Nicole Davies Neema Premji	Nicole Davies	14/02/2022
1	Amended to reflect ERA review	Nicole Davies Neema Premji	Nicole Davies	16/02/2022
2	Amended overall AMS rating in accordance footnote 94 of the ERA Audit Guidelines	Nicole Davies Neema Premji	Nicole Davies	18/02/2022



## **GLOSSARY**

**AEMO** – Australian Energy Market Operator

AMP – Asset Management Plan

AMS - Asset Management System

**AMT** – Asset Management Team

**BOP** – Balance of Plant

**CMMS** – Computerised Maintenance Management System

**EGL5** – The Generation Licence for RATCH-Australia Kemerton Pty Ltd

**ERA** – Economic Regulation Authority

**ETAC** – Electricity Transfer Access Contract

**GES** – Geographe Environmental Services

GT - Gas Turbine

**MW** - MegaWatt

**OEM** – Original Equipment Manufacturer

**OMAA** – O&M Alliance Agreement

**O&M** – Operate and Maintain

**OSP** – Operations Systems Plan

**PAIP** – Post Audit Implementation Plan

**PPA** – Power Purchase Agreement

RACPL – RATCH-Australia Corporation Pty Ltd

**SCADA** - Supervisory Control And Data Acquisition

**SWIS** – South West Interconnected System

**TWPS** – TW Power Services (now Worley Power Services)

WPN - Western Power Networks



This report was prepared by representatives of GES Pty Ltd in relation to the above named client's conformance to the nominated audit standard(s). Audits were undertaken using a sampling process and the report and its recommendations were 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. The client had the opportunity for review to ensure no commercially sensitive information was disclosed.



## 1. EXECUTIVE SUMMARY

RATCH Australia Kemerton Pty Ltd is the holder of the Electricity Generation Licence issued by the ERA. For the purposes of this Audit & Review Report, the Power Station owned by RATCH Australia Kemerton Pty Ltd will be referred to as "Kemerton Power Station" throughout this document.

Kemerton Power Station (KPS) is wholly owned by RATCH-Australia and the power station is maintained and operated by Worley Power Services (previously TW Power Services) under an Operations and Maintenance Alliance Agreement (OMAA). For the purposes of this Audit & Review Report, Worley Power Services will be referred to as "TW Power Services" as the documentation reviewed still reflected TWPS.

A Power Purchase Agreement (PPA) has been entered into with Synergy and Connection Agreement executed. It is understood the Connection Agreement is terminated when the PPA is terminated. The current length of PPA is 25 years, which will expire on 1st November 2030. The Generation Licence expires on the 19<sup>th</sup> March 2036.

RATCH Australia and Synergy, lodged a formal proposal to install Black Start Capability at the Kemerton Power Station with AEMO that was accepted in October 2017. The core element of the proposal was to install 4 x 1.25MW diesel generators that, in the event of a complete black out in the SWIS could be used to independently start one of the 2 existing 150MW gas turbine generators at Kemerton. Once started these generators will then be used to energise the transmission system, which would then be used to restart other major power stations such as Muja, Pinjarra and Collie and restabilise the grid.

The project was completed during the audit period in October 2018 with the formal hand over of the Black Start Capability to AEMO on 22nd October 2018. The expected outcome of the project was to ensure ongoing stability for the SWIS, its customers and will contribute to the incentive to extend the PPA. Kemerton Operational life has been assessed as beyond 2040.

RATCH-Australia Kemerton Pty Ltd holds an Electricity Generation Licence (EGL5) issued by the Economic Regulation Authority under the Electricity Industry Act 2004. This performance audit and asset management review was conducted in accordance with the Audit and Review Guidelines issued by the Economic Regulation Authority (ERA) to assess the Licensee's level of compliance with the licence conditions and effectiveness of the asset management system.

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 (Ref: D239531 Date: 12/10/21) to undertake the works subject to an audit and review plan approved by the Authority.



The period for the audit and review is 1 November 2016 to 31 October 2021, and the report is due to be submitted to the Authority on or before 28 February 2022.

## **Asset Overview**

The Kemerton Power Station is located in the Kemerton Industrial Park approximately 20 kilometres north of Bunbury. The power station consists of two open cycle Siemens V94.2 gas turbine generator sets delivering a sent out capacity of a nominal 310 MW. The Kemerton Power Station operates in open cycle mode primarily on gas with liquid fuel as back up and has Black Start Capability as detailed previously.

Kemerton Power Station operates as a peaking power station, and as such is capable of meeting the short duration, high power demands for peak generation electricity requirements, to assist Synergy in meeting forecasted power generation needs for the South West Interconnected System (SWIS). The plant is also required to operate as spinning reserve. It is understood the Kemerton Power Station takes approximately five to six minutes to synchronise to the grid.

Minor inspection outages and major overhauls were conducted based upon the number of starts. There was a fluctuation in the number of starts throughout the audit and review period. Reduced number of starts were noted through the period 2018-2019 extended the next major overhaul to 3<sup>rd</sup> quarter 2022. However, increased demand within the WA electricity market place has increased the Kemerton units usage (starts) and this operational requirement was expected to continue. As such overhaul and maintenance planning may require review and is subject to change.

The natural gas fuel supply for the Power Station is taken from the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP). Electricity produced is exported to the SWIS through a 330kV tie line from the power station to Western Power's substation north of the Kemerton Industrial Park.

The Licensee has issued a Consultancy Brief to undertake its fifth Performance Audit and Asset Management System Review as required by the Economic Regulation Authority (ERA/the Authority). RATCH-Australia holds a Generation Licence (Licence Number EGL5) under the Electricity Industry Act 2004.



## 2. AUDIT OPINION

With regard to the Performance Audit, we have undertaken a reasonable assurance engagement on RATCH-Australia Kemerton Pty Ltd compliance, in all material respects, with the Electricity Generation Licence (EGL5) and all applicable obligations from the Electricity Compliance Reporting Manual versions relevant to the audit and review period, released June 2020, July 2018, July 2017, July 2016 (Licence Obligations) for the period from 1 November 2016 to 31 October 2021. The assurance engagement was undertaken in accordance with the Economic Regulation Authority's (ERA) 2019 Audit and Review Guidelines – Electricity and Gas Licences.

In respects of the Asset Management System Review, we have undertaken a limited assurance engagement on RATCH-Australia Kemerton Pty Ltd compliance with the Licence and the effectiveness criteria as defined by the 2019 Audit and Review Guidelines – Electricity and Gas Licences.

In our opinion, based on the procedures we have performed and the evidence we have obtained, except for the effects of the matters described in Basis for Qualified Opinion, RATCH-Australia Kemerton Pty Ltd has complied, in all material respects, with the Licence Conditions and has established and implemented an effective asset management system for the period from 1 November 2016 to 31 October 2021.

## **Basis for Qualified Opinion**

With respect to the audit period 1 November 2016 to 31 October 2021, as a result of identified control inadequacies, RATCH-Australia Kemerton Pty Ltd did not comply with the Licence Conditions as detailed in Table 1 below:

**TABLE 1 - Summary of Non-Compliances** 

Rating / Licence Obligation / Reference Number	Non-Compliance/ Recommendation
Economic Regulation Authority (Licensing Funding) Regulations 2014 Generation Licence, condition 4.2.1 (Ref 105) 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.	<ul> <li>01/2021 – The Licensee paid the Annual Licence fee late on 1 occasion and the Standing charges invoice late on 4 occasions during the audit period.</li> <li>Recommendation – Include the obligation to pay Annual Licence Fees and Standing Data charges is incorporated in the next revision of the AMP. Inclusion of the requirement as a routine in accounts software and specific budgeting reference to ensure compliance is monitored and does not rely just on tacit knowledge. Development of internal controls for emails received from the ERA Accounts department would further ensure compliance.</li> </ul>
B2 Industry Act, section 11 Generation Licence, condition 4.5.1 / Electricity (Ref 124)	<b>02/2021</b> - The Licensee did not accurately report all the compliance details with respect to the provision of information to the ERA. Specifically, the late payments of licence fees (Refer Table 12 and Appendix 1 for further detail).



Rating / Licence Obligation / Reference Number	Non-Compliance/ Recommendation
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.	integrity of reporting (i.e., the completeness and accuracy of the compliance reports provided to the ERA). Specifically, in order to capture all the required compliance obligations:
	o Include the requirements for Type 1 and 2 reportable obligations from the Electricity Compliance Reporting Manual in the Licensee and Contractors' compliance processes (i.e Environmental Legal Compliance Evaluation Othe Requirements Register and the CMMS (TWPS and RACPL MEM Worley Compliance obligations to ensure these are considered in the preparation of the Annual Compliance Report and form part of the internal audit process;  o Detail the scope of the requirements within the control procedures, such as, Asset Managemen Plan  ensure required personnel are aware of licence requirements for both the Licensee and the Contractor.

As required by the Audit Guidelines (refer section 5.3) the licensee must submit a post-audit implementation plan (PAIP), with the audit and review report. The PAIP must be a separate document and must be developed by the Licensee.

Recommendations to address the non-compliances raised are detailed in Table 4. The recommendations made by the Audit Team relate to organisational awareness to compliance requirements, as well implementing revised internal compliance and integrity of reporting processes. Opportunities for improvement identified that relate to the performance audit and review findings have been provided directly to the Licensee and have not been included in this document as required by the 2019 Audit and Review Guidelines – Electricity and Gas Licences section 5.1.8

It is the auditors' opinion that compliance systems, and integrity of reporting by the Licensee is considered well managed and is comprehensively detailed in Appendix 1. This is the fifth audit and review and as such issues arising from the previous audit and review report have been considered in the preparation of this report.

The site audit was conducted at the Kemerton Power Station on the 15<sup>th</sup> December 2021, with subsequent teams meeting held on the 20 December 2021. This audit and review report is an accurate representation of the audit team's findings and opinions. The Auditors confirm that the Licensee provided assistance to the Auditors, as required by Section 4.1 of the Audit Guidelines (2019).



## 3. PERFORMANCE AUDIT AND ASSET MANAGEMENT REVIEW SCOPE & OBJECTIVES

The scope of works of this audit and review included:

- Interviews with key staff from RATCH-Australia (the Licensee) and the TWPS (the contractor) to provide an:
  - Assessment of findings from the last audit and review the actions taken to address the recommendations from the previous audit / review (if applicable)
  - Assessment of performance against licence conditions for EGL5
  - o Assessment of performance against each asset management process for EGL5
- Reviews of documents, procedures and policy manuals in relation to financial management and planning, service performance standards, asset management, operations and maintenance functions and reporting
- Testing and assessment to determine whether the procedures and policies were followed and determine effectiveness
- Preparation of an audit and review report in accordance with the format outlined in the ERA Audit and Review Guidelines: Electricity and Gas Licences (April 2019).

The objectives of the audit and review were to provide to the Authority an independent assessment of Kemerton Power Station's compliance with all of the relevant obligations under the generation licence, provide the Authority with an independent assessment of the effectiveness of KPS's asset management system in relation to EGL5 and to provide recommendations to address any non-compliances and asset management system deficiencies observed.

#### 3.1 Performance Audit

## 3.1.1 Performance Audit Scope

The performance audit is an audit of the effectiveness of measures taken by the licensee to meet the performance criteria specified in the Licence (refer Section 13(2) of the Electricity Act 2004). Performance criteria are defined within Condition 1 of the Licence as:

- The terms and conditions of the Licence
- Any other relevant matter in connection with the applicable legislation that the ERA determines should be part of the performance audit.

Applicable legislation for Generation Licenses encompasses the following:

- 1. the Electricity Industry Act 2004 (WA)
- 2. the following Regulations:
  - i. Economic Regulation Authority (Licensing Funding) Regulations 2014;
  - ii. Electricity Industry (Licence Conditions) Regulations 2005;



## 3. the following Codes

i. Electricity Industry Metering Code 2012

There were a number of exclusions and these are detailed in section 3.1.3.

The audit encompassed an assessment of the following four key areas using a risk based approach (to ISO 31000:2009):

- 1. Process compliance: assessment of the effectiveness of systems and procedures
- 2. Outcome compliance: assessment of actual performance against the prescribed licence standards
- 3. Output compliance: assessment of records to indicate procedures are followed and controls are maintained
- 4. Integrity of reporting: assessment of the completeness and accuracy of the compliance and performance reports
- 5. Compliance with any individual licence conditions the actual performance against the requirements imposed on the specific licensee by the ERA or specific matters raised by the ERA.

## 3.1.2 Performance Audit Methodology

We have undertaken a document review, attended a site visit to interview personnel (refer as listed in table 6), executed the Audit and Review Plan as approved and were demonstrated the application of some key operational systems utilised by the Licensee.

The site audit was conducted at the Kemerton Power Station on 15 December 2021 with one subsequent teams meetings to ensure access to all personnel.

A two-dimensional rating scale (refer Section 5.1.6.1 of the Audit Guidelines and Table 2 below) was used in the Audit & Review 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. The methodology for the Audit has been clearly defined in the Audit & Review Plan.

**TABLE 2 Audit Compliant and Control Rating Scales** 

Adequacy of Controls Rating		Compliance Rating				
Rating	Description	Rating	Description			
Α	Adequate controls – no improvement needed	1	Compliant			
В	Generally adequate controls – improvement needed	2	Non-Compliant – minor impact on customers or third parties			
С	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			

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



## 3.1.3 Performance Audit Excluded Conditions

There were some Electricity Compliance Reporting Manual – June 2020 obligations for EGL5 that have been excluded from the audit because they are not applicable to Kemerton Power Station. There were no Type 1 reporting requirements applicable to EGL5. Excluded compliance obligations were detailed in the Audit & Review Plan.

TABLE 3 - Obligations Excluded from the Audit & Review Report

	Obligations Excluded from the Performance Audit
Ref*	Justification For Exclusion
107	Not Applicable – Licensee has not acquired land under Part 9 of the Land Administration Act 1997 and as such incurred no costs and expenses for taking an interest or an easement over the land.
120	Not Applicable – Individual performance standards have not been prescribed by the Authority.
401	Not Applicable – The Network Operator collects the energy data.
402	Not Applicable to Generators (Electricity Compliance Manual to be amended as advised by ERA)
405	Not Applicable – The network operator has access to their own tariff meters.
406	Not Applicable to Generators (Electricity Compliance Manual to be amended as advised by ERA)
407**	Not Applicable to Generators (Electricity Compliance Manual January 2022 amended)
408**	Not Applicable to Generators (Electricity Compliance Manual January 2022 amended)
410**	Not Applicable to Generators (Electricity Compliance Manual January 2022 amended)
435	Not Applicable to Generators (Electricity Compliance Manual to be amended as advised by ERA).

<sup>\*</sup> Electricity Compliance Reporting Manual – June 2020

The Generation Licence compliance elements that were included in the scope of this audit are as defined in Table 4 and are further detailed in Appendix 1.

## 3.1.4 Performance Audit Summary of Findings

Three licence obligations reviewed were found to be non-compliant during the audit period (refer Table 5 and Appendix 1). Following the audit period, the organisation has established some processes to address these non-compliances and as such, compliance requirements were considered to be adequate for obligation 105 and no further recommendations were made. However, a further suggestion to improve the effectiveness of the actions taken in relation to obligations 123 and 124 has been detailed in Table 12.

Specifically, obligation 105 was non-compliant in relation to one late payment of the five due annual payments and the late payment on 4 occasions of the 21 standing charges fees due during the audit and

<sup>\*\*</sup> Variation to Audit Plan as detailed in Electricity Compliance Reporting Manual – January 2022



review period. Similarly, obligation 124 was in relation to the omission of the reporting late payments and late submission of standing data in the subsequent Annual Compliance Reports.

## **TABLE 4 Performance Audit Compliance Summary**

Compliance Obligation	Licence Reference	Audit	Audit Adequacy of Controls Rating Priority					Compliance Rating				
Reference No.		Titlotity	А	В	С	D	NP	1	2	3	4	NR
SECTION 8: TY	PE 1 REPORTING REQUIREMENTS											
THERE ARE N	O TYPE 1 REPORTING REQUIREMENTS APPLIC	ABLE TO E	GL5									
SECTION 12: E	LECTRICITY INDUSTRY ACT - LICENCE CONDI	TIONS AND	OBLIG	ATION	S							
101	Electricity Industry Act section 13(1) Generation Licence, condition 5.3.1	4					NP	1				
102	Electricity Industry Act section 14(1)(a) Generation Licence, condition 5.1.1	5					NP	1				
103	Electricity Industry Act section 14(1)(b)	4					NP					NR
104	Generation Licence, condition 5.1.2 and 5.1.3 Electricity Industry Act section 14(1)(c)	4					NP	1				
105	Generation Licence, condition 5.1.4  Electricity Industry Act section 17(1)	3		В					2			
106	Generation Licence, condition 4.2.1 Electricity Industry Act section 31(3)	5					NP	1				
SECTION 13: F	Generation Licence, condition 4.1.1 ELECTRICITY LICENCES - LICENCE CONDITION	JS AND OBL	IGATIO	NS								
119	Electricity Industry Act section 11	4					NP	1				
121	Generation Licence, condition 4.3.1  Electricity Industry Act section 11	4					NP	1				
	Generation Licence, condition 5.3.2											
122	Electricity Industry Act section 11 Generation Licence, condition 5.1.5	4					NP	1				
123	Electricity Industry Act section 11 Generation Licence, condition 4.4.1	4					NP	1				
124	Electricity Industry Act section 11 Generation Licence, condition 4.5.1	3		В					2			
125	Electricity Industry Act section 11 Generation Licence, condition 3.8.1 and 3.8.2	4					NP					NR
126	Electricity Industry Act section 11 Generation Licence, condition 3.7.1	4					NP	1				
SECTION 14: E	ELECTRICITY INDUSTRY METERING CODE - LIC	CENCE CON	IDITION	s and	OBLI	GATIO	NS					
324	Electricity Industry Metering Code CI 3.3B Generation Licence, condition 4.1.1	4					NP					NR
339	Electricity Industry Metering Code Cl 3.11(3) Generation Licence, condition 4.1.1	4					NP					NR
371	Electricity Industry Metering Code CI 4.4(1) Generation Licence, condition 4.1.1	5					NP					NR
372	Electricity Industry Metering Code CI 4.5(1) Generation Licence, condition 4.1.1	5					NP					NR



373	Electricity Industry Metering Code CI 4.5(2)	4		NP		NR
	Generation Licence, condition 4.1.1					
388	Electricity Industry Metering Code CI 5.4(2)	4		NP		NR
300	Generation Licence, condition 4.1.1					
416	Electricity Industry Metering Code CI 5.21(5)	4		NP		NR
110	Generation Licence, condition 4.1.1					
417	Electricity Industry Metering Code CI 5.21(6)	4		NP		NR
	Generation Licence, condition 4.1.1					
448	Electricity Industry Metering Code CI 6.1(2)	4		NP	1	
	Generation Licence, condition 4.1.1					
451	Electricity Industry Metering Code Cl 7.2(1)	4		NP	1	
450	Generation Licence, condition 4.1.1			VID.		ND
453	Electricity Industry Metering Code CI 7.2(4) Generation Licence, condition 4.1.1	4		NP		NR
454	Electricity Industry Metering Code CI 7.2(5)	4		NP		NR
404	Generation Licence, condition 4.1.1	4		NE		IVIX
455	Electricity Industry Metering Code CI 7.5	4		NP		NR
455	Generation Licence, condition 4.1.1	7		VI		IVIX
456	Electricity Industry Metering Code CI 7.6(1)	4		NP		NR
,,,,	Generation Licence, condition 4.1.1					
457	Electricity Industry Metering Code CI 8.1(1)	5		NP		NR
	Generation Licence, condition 4.1.1					
458	Electricity Industry Metering Code CI 8.1(2)	5		NP		NR
	Generation Licence, condition 4.1.1					
459	Electricity Industry Metering Code CI 8.1(3)	5	1	NP		NR
	Generation Licence, condition 4.1.1					
460	Electricity Industry Metering Code CI 8.1(4)	4		NP		NR
	Generation Licence, condition 4.1.1					
461	Electricity Industry Metering Code CI 8.3(2)	5		NP		NR
	Generation Licence, condition 4.1.1					

As required by the Audit Guidelines Section 5.1.6.1, Table 5 lists the number of licence obligations that were given each combination of compliance and controls ratings. The table allows licensees and the ERA to confirm the auditor has rated all relevant licence obligations and provides a simple summary of the licensee's compliance during the audit period.



**TABLE 5 Compliance and Controls Ratings Summary Table** 

		Complian	ce Rating				
		1	2	3	4	N/R	TOTAL
	Α	-	-	-	-	-	-
ing	В	-	2	-	-	-	2
Rat	С	-	-	-	-	-	-
S	D	-	-	-	-	-	-
Controls Rating	N/P	11	-	-	-	19	30
	TOTAL	11	2	-	-	19	32

## 3.2 Asset Management System Review

## 3.2.1 AMS Review Scope

The scope of the AMS review included an assessment of adequacy and effectiveness of the Kemerton Power Station Asset Management System by evaluating during the audit period 1<sup>st</sup> November 2016 to 31<sup>st</sup> October 2021 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 was established as a requirement of the current Generation Licence issued by the Economic Regulation Authority to Kemerton Power Station.

The asset management review followed the ERA approved audit plan and used;

- a risk based approach to auditing using the risk evaluation model set out in ISO31000:2018
- 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.
- the Asset Management System Review has been carried out as a 'limited assurance engagement'.



## TABLE 6 List of Personnel Who Participated In Audit & Review

ITEM	NAME	COMPANY	TITLE
1	Wayne Roberts	Worley Power Services	Site Manager Kemerton Power Station
2	Rob Dunston	RATCH-Australia	Executive General Manager Asset Management & Asset Development
3	Peter Sprott	Worley Power Services	Worley Power Services

The Review was conducted in conjunction with the Performance Audit during October - December 2021 and included desktop review and one day audit on site to execute the review plan, interview sessions and report writing. In total the audit and review required 70 hours of each of the Audit Team member's time.

## 3.2.2 Methodology for Asset Management System Review

The audit methodology detailed in the Audit and Review Guidelines – Electricity and Gas Licences (March 2019) was used in the execution of the Asset Management System Review and was further detailed in the Audit & Review Plan.

The Audit and Review Guidelines – Electricity and Gas Licences (March 2019) (section 5.1.6.2) 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	<ul> <li>Processes and policies are documented.</li> <li>Processes and policies adequately document the required performance of the assets.</li> <li>Processes and policies are subject to regular reviews and updated where necessary.</li> <li>The asset management information system(s) are adequate in relation to the assets being managed.</li> </ul>
В	Requires some improvement	<ul> <li>Processes and policies require improvement.</li> <li>Processes and policies do not adequately document the required performance of the assets.</li> <li>Reviews of processes and policies are not conducted regularly enough.</li> </ul>



RATING	DESCRIPTION	CRITERIA
		The asset management information system(s) requires minor improvements (taking into consideration the assets being managed).
С	Requires substantial improvement	<ul> <li>Processes and policies are incomplete and require substantial improvement.</li> <li>Processes and policies do not document the required performance of the assets.</li> <li>Reviews of processes and policies are considerably out of date.</li> <li>The asset management information system(s) requires substantial improvements (taking into consideration the assets being managed)</li> </ul>
D	Inadequate	<ul> <li>Processes and policies are not documented.</li> <li>The asset management information system(s) is not fit for purpose (taking into consideration the assets being managed).</li> </ul>

## **TABLE 8 Asset Management Performance Ratings**

RATING	DESCRIPTION	CRITERIA
1	Performing effectively	<ul> <li>The performance of the process meets or exceeds the required levels of performance.</li> <li>Process effectiveness is regularly assessed and corrective action taken where necessary.</li> </ul>
2	Improvement required	<ul> <li>The performance of the process requires some improvement to meet the required level.</li> <li>Process effectiveness reviews are not performed regularly enough.</li> <li>Recommended process improvements are not implemented</li> </ul>
3	Corrective action required	<ul> <li>The performance of the process requires substantial improvement to meet the required level.</li> <li>Process effectiveness reviews are performed irregularly or not at all.</li> <li>Recommended process improvements are not implemented</li> </ul>
4	Serious action required	<ul> <li>Process is not performed or the performance is so poor the process is considered to be ineffective.</li> </ul>

## 3.2.3 Asset Management Review Summary of Findings

The asset management system was found to be appropriate and meets the requirements of the Audit and Review Guidelines – Electricity and Gas Licences (2019). There were no findings where the review performance rating or process and policy rating required recommendations to be made (refer section 5.1.8 of the Audit and Review Guidelines).

As required by section 5.1.6.2 of the Audit & Review Guidelines (March 2019) Table 10 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 9 (refer Section 3.3, Methodology for Asset Management Review).

## **TABLE 9 Rating Scale Reviews - Process & Policy and Performance**



Process And Policy Rating Scale		Performance Rating Scale	
Rating	Description	Rating Description	
Α	Adequately defined	1	Performing effectively
В	Requires some improvement	2	Improvement required
С	Requires substantial improvement	3	Corrective action required
D	Inadequate	4	Serious action required
NR	Not rated	NR	Not rated

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

## **TABLE 10 Asset Management System Effectiveness Summary**

ASSET MANAGEMENT SYSTEM	PROCESS & POLICY RATING	PERFORMANCE RATING
A LOCET DI MININO	A	1
1. ASSET PLANNING	,,	
1.1 Asset management plan covers the processes in this table	A	1
1.2 Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	A	1
1.3 Service levels are defined in the asset management plan	А	1
1.4 Non-asset options (e.g. demand management) are considered	А	1
1.5 Lifecycle costs of owning and operating assets are assessed	А	1
1.6 Funding options are evaluated	А	1
1.7 Costs are justified and cost drivers identified	А	1
1.8 Likelihood and consequences of asset failure are predicted	А	1
1.9 Asset management plan is regularly reviewed and updated	А	1
2. ASSET CREATION AND ACQUISITION	А	1
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non- asset options	А	1
2.2 Evaluations include all life-cycle costs	А	1
2.3 Projects reflect sound engineering and business decisions	А	1
2.4 Commissioning tests are documented and completed	А	1
2.5 Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	А	1
3. ASSET DISPOSAL		1
3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process	А	1
3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	A	1
3.3 Disposal alternatives are evaluated	А	1
3.4 There is a replacement strategy for assets	А	1
4. ENVIRONMENTAL ANALYSIS	А	1



ASSET MANAGEMENT SYSTEM	PROCESS & POLICY RATING	PERFORMANCE RATING
4.1 Opportunities and threats in the asset management system environment are assessed	А	1
4.2 Performance standards (availability of service Capacity, continuity, emergency response, etc.) are measured and achieved	А	1
4.3 Compliance with statutory and regulatory requirements	А	1
4.4 Service standard (customer service levels etc) are measured and achieved.	А	1
5. ASSET OPERATIONS	А	1
5.1 Operational policies and procedures are documented and linked to service levels required	А	1
5.2 Risk management is applied to prioritise operations tasks	А	1
5.3 Assets are documented in an asset register including asset type, location, material, plans of components and an assessment of assets' physical/ structural condition	В	1
5.4 Accounting data is documented for assets	А	1
5.5 Operational costs are measured and monitored	А	1
5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities.	A	1
6. ASSET MAINTENANCE		
6.1 Maintenance policies and procedures are documented and linked to service levels required	В	1
6.2 Regular inspections are undertaken of asset performance and condition	А	1
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	А	1
6.4 Failures are analysed and operational / maintenance plans adjusted where necessary	А	1
6.5 Risk management is applied to prioritise maintenance tasks	А	1
6.6 Maintenance costs are measured and monitored	А	1
7. ASSET MANAGEMENT INFORMATION SYSTEM		
7.1 Adequate system documentation for users and IT operators	А	1
7.2 Input controls include suitable verification and validation of data entered into the system	А	1
7.3 Security access controls appear adequate such as passwords	А	1
7.4 Physical security access controls appear adequate	А	1
7.5 Data backup procedures appear adequate and backups are tested	В	1
7.6 Computations for licensee performance reporting are accurate	А	1
7.7 Management reports appear adequate for the licensee to monitor licence obligations	А	1
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	А	1
8. RISK MANAGEMENT	А	1



	BBCCECC C BCLICV	DEDECRIANCE
ASSET MANAGEMENT SYSTEM	PROCESS & POLICY RATING	PERFORMANCE RATING
8.1 Risk management policies and procedures exist and are applied to minimise internal and external risks	А	1
8.2 Risks are documented in a risk register and treatment plans are implemented and monitored	А	1
8.3 Probability and consequences of asset failure are regularly assessed	А	1
9. CONTINGENCY PLANNING		
9.1 Contingency plans are documented understood and tested to confirm their operability and to cover higher	А	1
10. FINANCIAL PLANNING	А	1
10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve those	А	1
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs	А	1
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	А	1
10.4 The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	А	1
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	А	1
10.6 Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	А	1
11. CAPITAL EXPENDITURE PLANNING	А	1
11.1 There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	А	1
11.2 The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	А	1
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	А	1
11.4 There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	А	1
12. REVIEW OF AMS	А	1
12.1 A review process is in place to ensure the asset management plan and the asset management system described in it remain current	А	1
12.2 Independent reviews (e.g. internal audit) are performed of the asset management system	А	1



## 4. PERFORMANCE AUDIT FINDINGS

## 4.1 Performance Audit Follow-Up from Previous Audit Findings

There were no non-compliances identified in the previous audit for EGL5. As such, recommendations from the previous audit as required by Section 11.3 of the Audit Guidelines (March 2019) were not applicable.

**TABLE 11 Status of Recommendations Addressing Non-Compliances from the Previous Audit** 

A Resolved during current audit period					
Recommendation Reference (no./year)	Licence Obligation Reference Number  Controls and Compliance Rating	Auditors' Recommendation	Date Resolved	Further Action Required (Yes/No/Not Applicable)	
	Legislative Obligation  Details of Inadequate Controls and/or Non-Compliance			Details of Further Action Required (Including Current Recommendation Reference, if Applicable)	

There were no Non-Compliance's identified in the previous audit for EGL5. As such there were no previous audit recommendations that were resolved during the current audit period

## B Unresolved at end of current audit period

**Details of Inadequate Controls and/or Non-Compliance** 

There were no Non-Compliance's identified in the previous audit for EGL5. As such there were no previous audit recommendations that were unresolved during the current audit period



## 4.2 Performance Audit Recommendations and Action Plans

Recommendations made within the report are detailed below (if applicable) and will be reviewed and included in the post audit implementation plan (if required) by the licensee to ensure compliance with requirements.

**TABLE 12 Recommendations to Address Current Non-Compliances and Control Deficiencies** 

A Resolved during the current audit period						
Recommendation Reference (no./year)	Licence Obligation Reference Number  Controls and Compliance Rating  Legislative Obligation  Details of Inadequate Controls and/or Non-Compliance	Auditors' Recommendation	Date Resolved & Action Taken by the Licensee	Auditors Comments		
	There were no audit recommendations that were resolved du	ring the current audit period				

B Unresolved during the current audit period				
Recommendation Reference (no./year)	Licence Obligation Reference Number  Controls and Compliance Rating  Legislative Obligation	Auditors' Recommendation	Action taken by the licensee by end of review period	



	etails of Inadequate Controls and/or Non- ompliance		
01/2021	B 2  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.  Late payment Annual Licence fees 2021  Standing Data Charges were paid outside the required payment terms on 4 occasions during the audit period.	Include the obligation to pay Annual Licence Fees and Standing Data charges is incorporated in the next revision of the AMP. Inclusion of the requirement as a routine in accounts software and specific budgeting reference to ensure compliance is monitored and does not rely just on tacit knowledge. Development of internal controls for emails received from the ERA Accounts department would further ensure compliance.	No action taken. Refer PAIP
02/2021	B 2  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  The Licensee did not accurately report all the compliance details with respect to the provision of information to the ERA, specifically:  2019 Annual Compliance Report did not report the non-compliance for late of payment of the 2018 September Quarter Standing Charges.  2020 Annual Compliance Report did not report late payment of the 2019 December Quarter Standing Charges  2021 Annual Compliance Report did not report late payment of the 2020 September, December Quarter Standing Charges or the 2021 Annual Licence Fee.  A non-compliance was noted in relation to the Licensee's operational controls in relation to the accurate provision of information and awareness to compliance requirements.	Review and develop the control procedures and processes for compliance reporting to ensure integrity of reporting (i.e., the completeness and accuracy of the compliance reports provided to the ERA). Specifically, in order to capture all the required compliance obligations:  o Include the requirements for Type 1 and 2 reportable obligations from the Electricity Compliance Reporting Manual in the Licensee and Contractors' compliance processes (i.e. Environmental Legal Compliance Evaluation Other Requirements Register and the CMMS (TWPS) and RACPL MEM Worley Compliance obligations) to ensure these are considered in the preparation of the Annual Compliance Report and form part of the internal audit process; o Detail the scope of the requirements within the control procedures, such as, Asset Management Plan o Ensure required personnel are aware of licence requirements for both the Licensee and the Contractor.	No action taken. Refer PAIP

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## 5. ASSET MANAGEMENT SYSTEM EFFECTIVENESS REVIEW FINDINGS

## 5.1 Asset Management Review Follow-Up from Previous Review Findings

The previous review found no AMS deficiencies, as such, there were no recommendations from the previous review.

## **TABLE 13 Ineffective Components Recommendations, Previous Review Implementation Plan**

A Resolved during current review period					
Recommendation Reference (no./year)	Rating  Asset Management Process and Effectiveness Criterion	Auditors' Recommendation	Date Resolved	Further Action Required (Yes/No/Not Applicable)	
	Details of Deficiency Details of Inadequate Controls and/or Non- Compliance			Details of Further Action Required (Including Current Recommendation Reference, if Applicable)	

The previous Review found no AMS deficiencies. There were no recommendations made from the previous review.

## B Unresolved at end of current review period

The previous Review found no AMS deficiencies. There were no recommendations made from the previous review.



## 5.2 Asset Management System Recommendations and Action Plans

As stipulated in section 5.3 of the Audit and Review Guidelines – Electricity and Gas Licences (March 2019), the Audit Team noted that the Asset Management Review Post Implementation Plan does not form part of the Audit Opinion. There were no recommendations made from the current review that required post review implementation plans.

## 5.3 Review Asset System Deficiencies/Recommendations

## **TABLE 14 Recommendations to Address Current Asset System Deficiencies**

A Resolved during current review period									
Recommendation Reference (no./year)	Rating  Asset Management Process and Effectiveness Criterion  Details of Deficiency Details of Inadequate Controls and/or Non-Compliance	Action Taken by Licensee	Date Resolved	Auditor's Comments					

The current Review found no AMS deficiencies. There were no recommendations made from the current review.

## B Unresolved during current review period

The current Review found no AMS deficiencies. There were no recommendations made from the current review.



## 6. DEVIATION FROM THE AUDIT & REVIEW PLAN

As required by section 5.1.4 of the Audit and Review Guidelines – 2019, Auditors must identify any licence obligations or effectiveness criteria that were assessed after the approval of the audit and review plan by the ERA, as 'not applicable' or if the auditor has revised the audit priority for one or more licence obligations, the auditor must identify this in the report. The following deviations from the Audit and Review Plan were undertaken following the review of the Electricity Compliance Manual January 2022.

**TABLE 15 Deviations from the Audit and Review Plan** 

	Deviation from the Performand	e Audit & AMS Review Plan
Ref*		Justification For Exclusion
407**	A user must, to the extent that it is able, collect and maintain a record of the prescribed information in relation to the site of each connection point with which the user is associated.	
408**	Subject to subclauses 5.19(3A) and 5.19(6), the user must, within 1 business day after becoming aware of any change in an attribute described in subclause 5.19(2), notify the network operator of the change.	Not Applicable to Generators, as these obligations relate to Integrated Regional and Retail Licensee's only.  (Noted that Electricity Compliance Manual January 2022 was amended outside the audit period and further supports this exclusion).
410**	The user must use reasonable endeavours to ensure that it does not notify the network operator of a change in an attribute described in subclause 5.19(2) that results from the provision of standing data by the network operator to the user	



# APPENDIX 1- KEMERTON POWER STATION PERFORMANCE AUDIT

**DECEMBER 2021** 



## **TABLE 26 Performance Audit**

No.	AUDIT REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION			
101	OBLIGATION: Generation Licence, condition 5.3.1 / Electricity Industry Act, section 13(1)		Controls Rating:	Compliance Rating:
Type [2]	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.	4	NP	1
[2]	Finding –. This was the fifth Audit conducted by an independent auditor for the current licensee since the licence was detailed in the Environmental Legal Compliance Evaluation & Other Requirements Register, RACPL MEM Worley of reporting processes. Additionally, it was raised in email communications and correspondence with the Secretariat. performance audit for the audit period on the 12 October 2021 (Authority Document Ref: D239531). The audit confirm March 2017 for the audit period of 43 months from 1 April 2013 to 31 October 2016.  Documents/Evidence – Interview with Station Manager – Kemerton Power Station (TWPS), 55, 74, 75  Observations:  Licensee had implemented compliance processes to monitor Performance Audit obligation.  Various communication between licensee and the Authority  Audit & Review Plan developed and approved in accordance with Audit Guidelines  Previous Audit Period 1 April 2013 to 31 October 2016. Report was provided and the report dated 22/3/2017 November 2016 to 31 October 2021.  The ERA increased the audit and review period from 43 to 60 months for the current audit period.	Compliance obliga GES was appoin ned the previous P	tions, the AMP and the ted with the Authority's erformance Audit report	E Licensee's and Contractors approval to undertake the was provided to the ERA in
	Recommendation:		Action:	
			• Nil	
	• Nil		"	
102	Nil  OBLIGATION: Generation Licence, condition 5.1.1 / Electricity Industry Act, section 14(1)(a)	Audit Priority	Controls Rating:	Compliance Rating:



[NR]

Finding – The licensee provided for, developed and implemented an effective Asset Management System for Kemerton Power Station. The Asset Management System (AMS) manual was comprehensive and incorporated the Asset Management Plan (AMP) developed by TWPS and reviewed by RATCH-Australia. The AMS and AMP documentation addressed the Audit Guideline requirements. The Licensee ensured compliance with regards to the AMS elements. Further detail is referenced in Appendix 2.

Documents/Evidence – 2,6,9,10,38,39,55,79 and Site Interview Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Management and Asset Development

#### Observations:

- The business processes were defined within the AMS and were mapped and applied to the KPS in specific linked policies, workflow procedures, instructions, forms, performance measures, position descriptions, training material and engineering tools and manuals.
- The Generation Plan used for developing the AMP was based on MWh's and the number of unit starts.
- The OMAA required TWPS to compile and maintain an AMP (refer clause B14.3)
- The CMMS was an integral part of the overall maintenance strategy. It was implemented in accordance with the OMAA, TWPS OSP and the TWPS Asset Management System (AMS).
- The OMAA defined the expectations of all parties, and these were reflected in the AMS and AMP.
- This AMS was structured to align with both the framework requirements of the Economic Regulation Authority (ERA) and the asset management standards of AS ISO 55001.
- TWPS had an overarching corporate ISO55000 Strategic Asset Management Framework which the KPS Asset Management Plan sat under.

	Recommendation:  • Nil		Action:  • Nil			
103	OBLIGATION: Generation Licence, condition 5.1.2 and 5.1.3 / Electricity Industry Act, section 14(1)(b)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [2]	A licensee must notify details of the asset management system and any substantial changes to it to the ERA.		NP	NR		
[2]	Finding – The Station Manager - Kemerton Power Station confirmed that there had been no substantial changes to the AMS during the audit period.					
	Documents/Evidence – 2,6,9,10,38,39,55,79 and Site Interview Station Manager - Kemerton Power Station (TWPS)					
	Observations:					
	Compliance monitored at the site and management level. Evidence of consideration of EGL5 compliance requirements.	uirements was sig	hted during the audit.			



	Recommendation:		Action:					
	• Nil		• Nil	T				
104	OBLIGATION: Generation Licence, condition 5.1.4 / Electricity Industry Act, section 14(1)(c)	Audit Priority	Controls Rating:	Compliance Rating:				
Type [2]	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	4	NP	1				
	Licensee's and Contractor reporting processes. Additionally, it was 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 12 October 2021 (Authority Document Ref: D239531). The audit confirmed the previous Performance Audit report was provided to the ERA in March 2017 for the audit period of 43 months from 1 April 2013 to 31 October 2016.							
	Documents/Evidence – Interview with Station Manager – Kemerton Power Station (TWPS), 55, 74, 75							
	Observations:							
	Observations:  • Licensee had implemented compliance processes to monitor Performance Audit obligation.							
	Licensee had implemented compliance processes to monitor Performance Audit obligation.							
	<ul> <li>Licensee had implemented compliance processes to monitor Performance Audit obligation.</li> <li>Various communication between licensee and the Authority</li> </ul>	was published on	the Authority's Website	. Current Audit Period 1				
	<ul> <li>Licensee had implemented compliance processes to monitor Performance Audit obligation.</li> <li>Various communication between licensee and the Authority</li> <li>Audit &amp; Review Plan developed and approved in accordance with Audit Guidelines</li> <li>Previous Audit Period 1 April 2013 to 31 October 2016. Report was provided and the report dated 22/3/2017</li> </ul>	was published on	the Authority's Website	. Current Audit Period 1				
	<ul> <li>Licensee had implemented compliance processes to monitor Performance Audit obligation.</li> <li>Various communication between licensee and the Authority</li> <li>Audit &amp; Review Plan developed and approved in accordance with Audit Guidelines</li> <li>Previous Audit Period 1 April 2013 to 31 October 2016. Report was provided and the report dated 22/3/2017 November 2016 to 31 October 2021.</li> </ul>	was published on	the Authority's Website  Action:	. Current Audit Period 1				
	<ul> <li>Licensee had implemented compliance processes to monitor Performance Audit obligation.</li> <li>Various communication between licensee and the Authority</li> <li>Audit &amp; Review Plan developed and approved in accordance with Audit Guidelines</li> <li>Previous Audit Period 1 April 2013 to 31 October 2016. Report was provided and the report dated 22/3/2017 November 2016 to 31 October 2021.</li> <li>The ERA increased the audit and review period from 43 to 60 months for the current review period.</li> </ul>	was published on	,	. Current Audit Period 1				
105 Type	<ul> <li>Licensee had implemented compliance processes to monitor Performance Audit obligation.</li> <li>Various communication between licensee and the Authority</li> <li>Audit &amp; Review Plan developed and approved in accordance with Audit Guidelines</li> <li>Previous Audit Period 1 April 2013 to 31 October 2016. Report was provided and the report dated 22/3/2017 November 2016 to 31 October 2021.</li> <li>The ERA increased the audit and review period from 43 to 60 months for the current review period.</li> </ul> Recommendation:	was published on	Action:	. Current Audit Period 1  Compliance Rating:				



Finding - The Licensee paid the Annual Licence fee late on 1 occasion and the Standing charges invoice late on 4 occasions during the audit period.

It was noted that the 2019, 2020 and 2021 Annual Compliance Reports did not report the late payments as required by obligation 124.

Documents/Evidence - ERA INVOICES, ERA Licence Fee Report, 51,55 and Site Interview Station Manager - Kemerton Power Station (TWPS), 70, 71, 73

#### Observations:

- Standing Data charges 21 Invoices applicable to the audit period. Noted 4/21 were late in payment, as such, approximately 80% were paid within terms.
- Annual Licence fee invoices applicable to the audit period. Noted 1/5 were late in payment as such 80% were paid within terms.
- The requirement to pay the Licence fees was referenced in the RACPL MEM Worley Compliance obligations. Monitoring of compliance was reliant on the TWPS site manager. It was understood the payment of the fees was undertaken by RATCH-Australia.
- Provision for regulatory fees were not specifically detailed in the budget CY2021
- The AMP did not specifically refer to the Annual Licence Fees or Standing Data Charges.
- Compliance for annual fees were monitored by the Station Manager and the accounts department.

	Recommendation:  01/2021 – Include the obligation to pay Annual Licence Fees and Standing Data charges is incorporated in the next revi Inclusion of the requirement as a routine in accounts software and specific budgeting reference to ensure compliance i does not rely just on tacit knowledge. Development of internal controls for emails received from the ERA Accounts de further ensure compliance.	s monitored and	Action:  • Refer Post A	Audit Implementation Plan		
106	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Act, section 31(3)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [NR]	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.	5	NP	1		
	Finding – The Licensee and its contractor had undertaken risk assessment and the Licensee had taken significant measures to ensure the plant performance both contractually and operationally. Well established accident and emergency procedures were developed and implemented.					
	Evidence – Site Interview Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Mar	nagement and Ass	et Development , CAMN	NS, 6, 17, 21, 19, 53, 79		



#### Observations:

- RATCH-Australia conducted a risk assessment with respect to OMAA with TWPS.
- Lifecycle Costing incorporated risk analysis as defined in the AMP.
- Limited impact experienced from Covid-19 driven supply chain issues.
- Asset failure risks were covered by TWPS and evident in site risk registers
- The Black Start plant was operational and attracted revenue payments, monthly test starts of individual gen-sets were performed.
- KPS is a Gas Turbine power plant that is used for peak load. The power plant runs on dual-fuel. The primary fuel being used to power the plant was natural gas. In case of shortage of natural gas the plant can also run on Liquid Fuel (i.e., diesel).
- Systems and processes noted with respect to Emergency Response Plans, condition monitoring systems, detailed outage planning, reciprocal arrangements with Kemerton Industrial Park parties.

Recommendation:	Action:
• Nil	• Nil

## 13 Electricity Licences - Licence Conditions and Obligations

119	OBLIGATION: Generation Licence, condition 4.3.1 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:
Type	A licensee and any related body corporate must maintain accounting records that comply with the Australian	ā	ND.	_
[2]	Accounting Standards Board Standards or equivalent International Accounting Standards.	4	NP	1

Finding – The RATCH-Australia Corporation Limited consolidated special purpose financial statements for the financial years ending 30 June were audited by independent third-party accountants and assessed compliance with Australian financial reporting standards. The Financial Reports contain statement of compliance that the financial statements were prepared in accordance with the relevant Australian Accounting Standards and Interpretations as related to the Licensee

Evidence - Site Interview Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Management and Asset Development, 67

#### Observations:

- RATCH-Australia Corporation Limited audited financial statements FY2017-2021
- Accounting were records maintained for the audit period



	Recommendation:		Action:			
	• Nil		• Nil			
121	OBLIGATION: Generation Licence, condition 5.3.2 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:		
Type [2]	A licensee must comply, and require its auditor to comply, with the ERA's standard audit guidelines for a performance audit	4	NP	1		
	Finding – The Licensee engaged the Auditor through a quotation process that required the Auditor to comply with the	Economic Regulat	ion Authority's 2019 Aud	lit and Review Guidelines.		
	Documents/Evidence – ERA and Licensee communication, 71, 72, 73					
	Observations:					
	Copies of communications received from the Authority relating to audit requirements were sent by Licensee through to Auditor to convey requirements specifically the undertak of audits in compliance with the Audit & Review Guidelines: Electricity Gas and Water Licences.					
	Recommendation:		Action:			
	• Nil		• Nil			
122	OBLIGATION: Generation Licence, condition 5.1.5 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:		
Type [2]	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	NP	1		
	Finding – The Licensee engaged the Auditor through a quotation process that required the Auditor to comply with the Economic Regulation Authority's 2019 Audit and Review Guidelines.					
	Documents/Evidence – ERA and Licensee communication, 71, 72, 73					
	Observations:					
	Copies of communications received from the Authority relating to audit requirements were sent by Licensee through to Auditor to convey requirements specifically the undertaking of audits in compliance with the Audit & Review Guidelines: Electricity Gas and Water Licences.					
	Recommendation:		Action:			
	• Nil		• Nil			
123	OBLIGATION: Generation Licence, condition 4.4.1 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:		



Type [2]	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	NP	1			
	Finding – The Licensee confirmed there has not been any external administration events during the audit period; or any significant change in RATCH-Australia's corporate, financial or technical circumstances upon which the licence was granted which may affect its ability to meet its obligations.  Documents/Evidence – Interview with and Site Interview Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Management and Asset Development						
	Observations –  Noted the Licensee undertook internal audits of the KPS as detailed in the AMP. This was limited during 2020-2021 due to COVID and WA border restrictions.						
	Recommendation:  • Nil		Action:  • Nil				
124	OBLIGATION: Generation Licence, condition 4.5.1 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:			
Type [2]	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.	3	В	2			
	Finding – During the Audit Period the Licensee provided the Authority with Annual Compliance Reports which were required to be submitted by the 31 <sup>st</sup> August annually and they were noted to have been submitted within the specified timeframe. Standing data was recorded as being submitted by the 30 <sup>th</sup> September annually as required.						
	However, the Licensee did not accurately report all the compliance details with respect to the provision of information to the ERA, specifically:						
	<ul> <li>2019 Annual Compliance Report did not report the non-compliance for late of payment of the 2018 September Quarter Standing Charges.</li> <li>2020 Annual Compliance Report did not report late payment of the 2019 December Quarter Standing Charges</li> <li>2021 Annual Compliance Report did not report late payment of the 2020 September, December Quarter Standing Charges or the 2021 Annual Licence Fee.</li> </ul>						
	A non-compliance was noted in relation to the Licensee's operational controls in relation to the accurate provision of information and awareness to compliance requirements.						
	Evidence – Annual Compliance Reports 2017- 2021, email communications from ERA, Interview with and Site Interview Station Manager - Kemerton Power Station (TWPS)						
	Observations:						
	<ul> <li>Licence Standing Charge Data for Kemerton Power Station (EGL5) emails were sighted</li> <li>Noted that the AMP did not include details of the submission of Standing Charges Data.</li> </ul>						



	Recommendation:		Action:		
	<b>02/2021</b> - Review and develop the control procedures and processes for compliance reporting to ensure integrity of reporting (i.e., the completeness and accuracy of the compliance reports provided to the ERA). Specifically, in order to capture all the required compliance obligations:			udit Implementation Plan	
	<ul> <li>Include the requirements for Type 1 and 2 reportable obligations from the Electricity Compliance Report Licensee and Contractors' compliance processes (i.e. Environmental Legal Compliance Evaluation Oth Register and the CMMS (TWPS) and RACPL MEM Worley Compliance obligations) to ensure these are preparation of the Annual Compliance Report and form part of the internal audit process;</li> <li>Detail the scope of the requirements within the control procedures, such as, Asset Management Plan</li> <li>Ensure required personnel are aware of licence requirements for both the Licensee and the Contractor.</li> </ul>	er Requirements			
125	OBLIGATION: Generation Licence, condition 3.8.1 and 3.8.2 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:	
Type [2]	A licensee must publish any information as directed by the ERA to publish, within the timeframes specified.	4	NP	NR	
	Evidence – Review of ERA website and confirmation during interview with Station Manager - Kemerton Power Station (TWPS)  Observations:  Nil				
	Recommendation:		Action:		
	• Nil		• Nil		
126	OBLIGATION: Generation Licence, condition 3.7.1 / Electricity Industry Act, section 11	Audit Priority	Controls Rating:	Compliance Rating:	
	All notices must be in writing, unless otherwise specified.	4	NP	1	
с Туре [2]		Finding – During the audit period the Licensee maintained records of communication with the Authority, primarily via mail or email communication to the Generation Licence were reviewed as part of the audit.			



	Evidence – Communications with ERA, Interview with Station Manager - Kemerton Power Station (TWPS), 46					
	Observations:  • Examples of communications provided refer Appendix 4					
	Recommendation:		Action:			
	• Nil		• Nil			
15 Electric	city Industry Metering Code – Licence Conditions and Obligations					
324	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 3.3B	Audit Priority	Controls Rating:	Compliance Rating:		
Type [2]	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	NP	NR		
	<b>Finding</b> – Meters at the KPS were subject to bi-directional flows. There was no change with respect to bi-directional flom Synergy as required.	ows during the au	udit period. The License	e continued to import power		
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS)					
	Observations:					
	<ul> <li>There was no requirement to notify the network operator.</li> <li>Black Start capability reliant on continual import of power from the grid to enable auto detection of black grid</li> </ul>	environment.				
	Recommendation:		Action:			
	• Nil		• Nil			
339	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 3.11(3)	Audit Priority	Controls Rating:	Compliance Rating:		
Туре	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	NP	NR		

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[NR]	Finding – The network operator is responsible for metering installations and manages all aspects of the metering services. A verification check is undertaken by the Licensee using the SCADA and DCS to confirm data provided by the Network Operator. The Power Station Manager confirmed that during the period 1 November 2016 to 31 October 2021, no metering installation malfunctions were identified.							
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS), 46							
	Observations:							
	<ul> <li>The Connection Agreement noted that compliance with Technical Rules and the Metering Code.</li> <li>Title to the metering equipment passed to Western Power when WPN approved the installation of the Metering Equipment.</li> <li>It was noted that Western Power were responsible for installing and operating all meters located within the premises of the Kemerton Power Station.</li> </ul>							
	Recommendation:		Action:					
	• Nil		• Nil					
371	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 4.4(1)	Audit Priority	Controls Rating:	Compliance Rating:				
Type [NR]	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	NP	NR				
	Finding – Kemerton Power 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.							
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS)							
	Observations:							
	• Nil							
	Recommendation:		Action:					
	• Nil		• Nil					

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372	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 4.5(1)	Audit Priority	Controls Rating:	Compliance Rating:		
Туре	Code participant must not knowingly permit the registry to be materially inaccurate.	5	NP	NR		
[NR]	Finding – The Licensee did not maintain any standing data or energy data in relation to the metering installations captured under the Metering Code. These activities were managed by the Network Operator and were outside the control of the Licensee. The Network operator maintained sole responsibility for the management of standing data within the registry and/or metering database of these obligations for the period 1 November 2016 to 31 October 2021;					
	<ul> <li>Maintenance and operation of the meters</li> <li>Energy Data maintained in the metering database</li> <li>Standing Data in the metering registry</li> <li>All obligations defined in the Metering Code and the Technical Rules.</li> </ul>					
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS)					
	Observations:					
	• Nil					
	Recommendation:		Action:			
	• Nil		• Nil			

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Subject to subclause 5.19(6), if a Code participant, other than a network operator, becomes aware of a change to, or inaccuracy in, an item of standing data in the registry, then it must notify the network operator and provide details of the change or inaccuracy within the timeframes prescribed.

373	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 4.5(2)	Audit Priority	Controls Rating:	Compliance Rating:
Type [NR]	Subject to subclause 5.19(6), if a Code participant, other than a network operator, becomes aware of a change to, or inaccuracy in, an item of standing data in the registry, then it must notify the network operator and provide details of the change or inaccuracy within the timeframes prescribed.	4	NP	NR
	As per finding against obligation 372			
	Recommendation:		Action:	
	• Nil		• Nil	
388	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 5.4(2)	Audit Priority	Controls Rating:	Compliance Rating:
Type [2]	A user must, when reasonably requested by a network operator, assist the network operator to comply with the network operator's obligation under subclause 5.4(1).	4	NP	NR
	Note: The Licensee has no access to meters and the Western Power meters located at the Kemerton Power Station w <b>Evidence</b> – Interview with Station Manager - Kemerton Power Station (TWPS)	ere secured.		
	Observations:			
	Nil			
	Recommendation:		Action:	
	• Nil		• Nil	
416	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 5.21(5)	Audit Priority	Controls Rating:	Compliance Rating:
Type [2]	A Code participant must not request a test or audit under subclause 5.21(1) unless the Code participant is a user and the test or audit relates to a time or times at which the user was the current user or the Code participant is the IMO.	4	NP	NR



	Finding – No tests were requested during the audit period 1 November 2016 to 31 October 2021.					
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS)					
	Observations:  • Nil					
	Recommendation:  • Nil		Action:  • Nil			
417	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 5.21(6)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [2]	A Code participant must not make a request under subclause 5.21(1) that is inconsistent with any access arrangement or agreement.	4	NP	NR		
	As per finding against obligation 416					
	Recommendation:  Nil		Action:  • Nil			
448	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 6.1(2)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [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	NP	1		
	Finding – The Licensee had a Connection Agreement and has complied as required with the Transmission Regulation Power outlined the obligations of both parties in relation to metering equipment and activities. The metering obligation relevant communications with Western Power and to provide any required access to its premises.					
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS), 46					
	Observations:  • Evidence of compliance with this requirement provided and confirmed in discussions with management.  • A draft Generator Operating Protocol has been developed between the Licensee and Western Power					



	Recommendation:		Action:				
	Nil		• Nil				
451	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 7.2(1)	Audit Priority	Controls Rating:	Compliance Rating:			
Type [NR]	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.	4	NP	1			
	<b>Finding</b> – The Kemerton Power Station site had well established communication processes such as a main telephologous internet access. Further operating arrangements defined in the Connection Agreement with Western Power are the audit period there were no communication issues arising.			,			
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS), 46						
	Observations:  • Internet was available, however, internet speed was sub-optimal.						
			Action:				
	Internet was available, however, internet speed was sub-optimal.		Action:  • Nil				
453	Internet was available, however, internet speed was sub-optimal.  Recommendation:	Audit Priority		Compliance Rating:			
453 Type [2]	<ul> <li>Internet was available, however, internet speed was sub-optimal.</li> <li>Recommendation:</li> <li>Nil</li> </ul>	Audit Priority	• Nil	Compliance Rating:			
Туре	Internet was available, however, internet speed was sub-optimal.  Recommendation:     Nil  OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 7.2(4)  If requested by a network operator with whom it has entered into an access contract, the Code participant	4	Nil Controls Rating: NP	NR			
Туре	<ul> <li>Internet was available, however, internet speed was sub-optimal.</li> <li>Recommendation:         <ul> <li>Nil</li> </ul> </li> <li>OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 7.2(4)</li> <li>If requested by a network operator with whom it has entered into an access contract, the Code participant must notify its contact details to a network operator within 3 business days after the request.</li> <li>Finding – During the period 1 November 2016 to 31 October 2021 the network operator did not request the licensee to</li> </ul>	4	Nil Controls Rating: NP	NR			



	Recommendation:		Action:				
	Nil		• Nil				
454	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 7.2(5)	Audit Priority	Controls Rating:	Compliance Rating:			
Type [2]	A Code participant must notify any affected network operator of any change to the contact details it notified to the network operator under subclause 7.2(4) at least 3 business days before the change takes effect.	4	NP	NR			
	Finding – There were no changes in contact details for the Licensee during the audit period 1 November 2016 to 31 Oc	ctober 2021.					
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS)						
	Observations:						
	• Nil						
	Recommendation:		Action:				
	• Nil		• Nil				
455	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 7.5	Audit Priority	Controls Rating:	Compliance Rating:			
Type [2]	A Code participant must subject to subclauses 5.17A and 7.6 not disclose, or permit the disclosure of, confidential information provided to it under or in connection with the Code and may only use or reproduce confidential information for the purpose for which it was disclosed or another purpose contemplated by the Code	4	NP	NR			
	Finding – During the period 1 November 2016 to 31 October 2021 the Licensee was not required to disclose or permit the disclosure of confidential information in connection to the Code.						
	<b>Evidence</b> – Interview with Station Manager - Kemerton Power Station (TWPS), 46						
	Observations:						
	Observations:						



	Recommendation:		Action:			
	• Nil		• Nil			
456	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 7.6(1)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [2]	A Code participant must disclose or permit the disclosure of confidential information that is required to be disclosed by the Code.	4	NP	NR		
	As per finding against obligation 455					
•	Recommendation:		Action:			
	• Nil		• Nil			
457	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 8.1(1)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [NR]	If any dispute arises between any Code participants then (subject to subclause 8.2(3)) representatives of disputing parties must meet within 5 business days after a notice given by a disputing party to the other disputing parties and attempt to resolve the dispute by negotiations in good faith.	5	NP	NR		
	Finding – There were no disputes arising during the audit period with Western Power or any other applicable Code Participants.					
	Evidence – Interview with Station Manager - Kemerton Power Station (TWPS)					
	Observations:					
	• Nil					
•	Recommendation:		Action:			
	• Nil		• Nil			
458	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 8.1(2)	Audit Priority	Controls Rating:	Compliance Rating:		
Type [NR]	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	NP	NR		
	As per finding against obligation 457					



	Recommendation:  • Nil		Action:  • Nil	
459	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 8.1(3)	Audit Priority	Controls Rating:	Compliance Rating:
Type [NR]	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	NP	NR
	As per finding against obligation 457			
	Recommendation:		Action:	
	• Nil		• Nil	
460	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 8.1(4)	Audit Priority	Controls Rating:	Compliance Rating:
Type [NR]	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	NP	NR
	As per finding against obligation 457			
	Recommendation:		Action:	
	• Nil		• Nil	
461	OBLIGATION: Generation Licence, condition 4.1.1 / Electricity Industry Metering Code, clause 8.3(2)	Audit Priority	Controls Rating:	Compliance Rating:
Type [NR]	The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective in subclause 8.3(1).	5	NP	NR
	As per finding against obligation 457			
	Recommendation:		Action:	
	• Nil		• Nil	

Note:

NP - not possible to provide a controls rating because no activity has taken place to exercise the obligation during the audit period

NR - It was applicable, however there was no activity during the audit period and as such compliance was not assessed



# APPENDIX 2 – KEMERTON POWER STATION ASSET MANAGEMENT REVIEW

**DECEMBER 2021** 



# **TABLE 17 Audit Review Ratings and Recommendations**

Note: Process & Policy Rating\* (reads abbreviated as P&P\* Rating)

1. ASS	1. ASSET PLANNING		PERFORMANCE RATING
☐ Asse ☐ Asse ☐ Asse Key P service	ess the adequacy of the asset planning process ess the adequacy of the asset management plan ess whether the asset management plan is up-to-date and implemented in practice ess whether the asset management plan clearly assigns responsibilities and whether these have been applied in practice ess whether the asset management plan clearly assigns responsibilities and whether these have been applied in practice erocess – Asset planning strategies focuses on meeting customer needs in the most effective and efficient manner (delivering the right er at the right price).  eme – Asset planning is integrated into operational or business plans, providing a framework for existing and new assets to be effectively end and their service optimised.	A	1
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
1.1	OBLIGATION: Asset management plan covers the processes in this table	P&P* Rating:	Performance Rating:
	Findings – The Asset Management Plan (AMP) was comprehensive, developed and reviewed by TW Power Services and presented to RAT addressed the Audit Guideline requirements.  Documents/Evidence – 2,6,9,10,38,39,55	CH-Australia. The AMP	documentation
	Observations:		
	<ul> <li>AMP was comprehensive and covers all requirements in the Audit Guidelines</li> <li>The AMP clearly delineated the roles, responsibilities and business relationship between TW Power Services and RATCH-Australia</li> <li>The AMPs were revised annually and formed the lead document in the operation and maintenance of the power station.</li> <li>The power plant was a peaking plant and operated as expected during the audit period.</li> <li>The Generation Plan was used for developing the AMP and was based upon a short-term forecast of 12 months. The Capital and 0 view of 5 years.</li> </ul>		d upon a longer-term
	Recommendation:	Action:	
	None	• Nil	

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1.2	OBLIGATION: Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	P&P* Rating:	Performance Rating:				
	Findings – Asset Planning and subsequent development of the AMP consulted with Synergy (who in turn consulted with AEMO). RATCH-Australia was incorporated into operational and business planning processes. There was engagement with stakeholders from the operations on the ground to the Board level.						
	Documents/Evidence –2,6,9,10,38,39,55,79 and Site Interview Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Management and Asset Development						
	Observations:  Stakeholders including Synergy, landowners, Local and State government, local businesses, and Industry Associations were consulted.  In ensuring the operating life of the Kemerton Power Station, RATCH-Australia identified OPEX and CAPEX projects in consultation with their O&M contractors.  TW Power Services were successful in EOI of Black starts to Synergy. This was in response to external stakeholders needs for the Southern Regional of SWIS.  TWPS had an overarching corporate ISO55000 Strategic Asset Management Framework which the KPS Asset Management Plan sat under.						
	Recommendation:  None	Action: Nil					
1.3	OBLIGATION: Service levels are defined in the Asset Management Plan	P&P* Rating:	Performance Rating:				
1.3	OBLIGATION: Service levels are defined in the Asset Management Plan  Findings –. Service levels were defined in the AMP as required by the OMAA and PPA. There were comprehensive reporting requirements	A	1				
1.3	<u> </u>	A	1				
1.3	Findings –. Service levels were defined in the AMP as required by the OMAA and PPA. There were comprehensive reporting requirements	A	1				
1.3	Findings –. Service levels were defined in the AMP as required by the OMAA and PPA. There were comprehensive reporting requirements  Documents/Evidence 2,6,9,10,36,38,39,55,and Site Interview Station Manager - Kemerton Power Station (TWPS)	A on a monthly and quarte	<b>1</b> rly basis established.				
1.3	Findings –. Service levels were defined in the AMP as required by the OMAA and PPA. There were comprehensive reporting requirements  Documents/Evidence 2,6,9,10,36,38,39,55,and Site Interview Station Manager - Kemerton Power Station (TWPS)  Observations:  Service levels were well defined in the contracts and reported on in monthly reports  RATCH-Australia entered into a long-term PPA with the Synergy for the peaking supply of all the energy generated by power station  TW Power Services, as O&M Operator had service level obligations to RATCH-Australia around plant availability and generation p	A on a monthly and quarte	<b>1</b> rly basis established.				

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1.4	OBLIGATION: Non-asset options (e.g. demand management) are considered	P&P* Rating:	Performance Rating:				
	Caracteristic (org. administration, and condition	Α	1				
	Findings – Since Kemerton Power Station was a peaking plant, non-asset options for demand management were not a consideration. PPA	was in place with Synerg	y until 2030.				
	Documents/Evidence – 6,26, 36, 46						
	Observations:						
	Comprehensive processes established for asset planning were evidenced, responsibilities were well defined.						
	Connection Contract was established with Western Power.						
	Recommendation:	Action:					
	• None	• Nil					
1.5	ORUGATION: Life and a case of aurina and appreting assets are assets	P&P* Rating:	Performance Rating:				
	OBLIGATION: Lifecycle costs of owning and operating assets are assessed	A	1				
	Findings – Life cycle costs of the initial construction of power station were developed and was utilised for planning and projecting costs until of the development of the annual AMP.	2046. This was moniton	red and reviewed as part				
	Documents/Evidence – 2,6, 80 and Interviews Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Manager - Kemerton (TWPS) and RATCH-Australia, EGM, Asset Ma	agement and Asset Dev	relopment				
	Observations:						
	O&M had comprehensive maintenance schedules.						
	Contractual arrangements were established for the maintenance and operating costs.						
	Maintenance contracts ensured equipment was kept in good operating condition.						
	Monthly reports monitored the O&M costs and annual reports on a yearly basis.						
	OMAA specified reporting requirements for monthly and quarterly reports.						
	Financial KPIs were established as defined in the annual operations and maintenance budget.						
	Recommendation:	Action:					
	• None	• Nil					



OBLIGATION: Funding options are evaluated	P&P* Rating:	Performance Rating:
Findings – AMP outlined the process by which CAPEX was approved and set out the financial justification model and process by which any net to RATCH-Australia. The decision was made by the Board.	w assets was to be eval	uated and was presented
Documents/Evidence: 6,38,39,51,57,67		
Observations:  AMP was reviewed and updated accordingly to reflect current OPEX and CAPEX processes to RATCH-Australia.  The base case financial model for the power plant projected revenue, operational costs and EBITDA.  Annual financial audited statements and notes provided transparency to the funding within RATCH-Australia.		
Recommendation:  • None	Action: Nil	
OBLIGATION: Costs are justified and cost drivers identified	P&P* Rating:	Performance Rating:
Findings – Costs were well identified and justified. Costs and cost drivers were monitored vigilantly and reported all the way to the Board. Var investigations conducted.	iances were identified a	s part of the process and
Documents/Evidence – 6,38,39,51,57,67 and Site Interviews with RATCH-Australia, EGM, Asset Management and Asset Development.		
Observations: Costs were monitored through monthly meetings and reports Costs were audited annually against annual projections as per O&M agreement OMAA specified reporting requirements for monthly and quarterly reports. Financial KPIs were established as defined in the annual operations and maintenance budget.		
Recommendation:  None	Action:  Nil	
8 OBLIGATION: Likelihood and consequences of asset failure are predicted	P&P* Rating:	Performance Rating:

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Findings – Asset failure risks were identified and thoroughly investigated. Any asset failures were duly recorded in monthly reports and investigations were included with remedial actions identified and scheduled into maintenance plan and future AMPs.

**Documents/Evidence** – 6,38,39,51,57,67 and Site Interviews Station Manager - Kemerton Power Station (TWPS) and RATCH-Australia, EGM, Asset Management and Asset Development. Risk registers were viewed on site.

#### Observations:

- TW Power Services, with GT OEM investigated asset failures, for example the Argus Actuators and U12 generator repairs. This was recorded in monthly reports, CAPEX project reports and AMPs.
- O&M contractors continued to meet performance targets as established in their contracts
- Covid-19 had minimum impact on the power station operations and capability of delivering electricity.
- Availability of spares was well monitored. For example, strategic spares were identified and purchased, for example Siemens Thyristor reversing switch module.
- Risk registers were maintained at site and project level and contingency plans were considered in planning and annually reviewed
- TW Power Services utilised "Betterways", continuous improvement initiative to mitigate potential asset failures.

١	Recommendation:  None	Action: • Nil	
(	OBLIGATION: Asset management plan is regularly reviewed and updated	P&P* Rating:	Performance Rating:
ı	Findings – The Kemerton Power Station AMP was reviewed annually and updated.		
ı	Documents/Evidence – 2,6,38,55		
-   (	Observations:		
	AMP scheduled was reviewed every year.		
	AMP formed the basis of operating and maintaining the power station		
	OMAA required annual review of the AMP.		
	All versions of the AMP applicable to the review period were provided to the Audit Team		
Ī	Recommendation:	Action:	
	. None	. NIII	



2. AS	SET CREATION AND ACQUISITION	PROCESS & POLICY RATING*	PERFORMANCE RATING
□ Sel	sess the adequacy of policies and procedures covering the creation and acquisition of assets ect a sample of asset creations/ acquisitions over the review period and confirm adequate procedures have been followed and actual costs are edicted		
Key F	Process – Asset creation/acquisition is the provision or improvement of assets.	Α	1
	ome – The asset acquisition framework is economic, efficient and cost-effective; it reduces demand for new assets, lowers service costs and ves service delivery.		
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
2.1	OBLIGATION: Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	P&P* Rating:	Performance Rating:
	Findings – The Kemerton Power Plant initial project and projected Life Cycle Costs to 2046 has had full project evaluation to end of life, inc project was assessed with its own business case and full financial analysis was carried out.  Documents/Evidence –6,38,39,51,57,80 and Site Interviews Station Manager - Kemerton Power Station (TWPS).	cluding CAPEX, OPEX a	and Asset Disposal. Each
	Observations:  • TW Power Services and RATCH-Australia had in place a full project evaluation process and financial model. These had been pres	ented to Board.	
	Recommendation:  None	Action: Nil	
2.2	OBLIGATION: Evaluations include all life-cycle costs	P&P* Rating:	Performance Rating:
	Findings – The original power plant was constructed in 2004 with the Commercial Operations date being July 2006. A detailed life cycle cos and asset disposal costs to 2046.	ting was developed inclu	uding OPEX, CAPEX
	Documents/Evidence – 6,38,39,51,57,80 and Site Interviews Station Manager - Kemerton Power Station (TWPS).		



	Worley Power Services and RATCH-Australia conducted financial analysis, including refurbishment and replacement costs as det	ermined by the mainten	ance regime.	
	Recommendation:  None	Action: Nil		
2.3	OBLIGATION: Projects reflect sound engineering and business decisions	P&P* Rating:	Performance Rating:	
	Findings – TW Power Services, as O&M contractor demonstrated sound risk and engineering basis for deciding Projects. RATCH-Australia was responsible for including business and risk aspects into the evaluation of projects.			
	Documents/Evidence –6,38,39,51,57,80 and Site Interviews Station Manager - Kemerton Power Station (TWPS)			
	TW Power Services had very good asset management, business and engineering experience which is utilized to ensure decisions and resourced, for example Purchase Mixing Chambers, Argus Actuators, U12 generator repairs.     The project evaluation included technical analysis, economic analysis, project risks, financial modelling and review and authorisation.     OEM and reputable suppliers were also used in providing external engineering expertise and advice.	·	e thoroughly researched	
	Recommendation:  None	Action: Nil		
2.4	OBLIGATION: Commissioning tests are documented and completed	P&P* Rating:	Performance Rating:	
	Findings – Commissioning test data was retained on site in hard copies. During the review period commission tests were undertaken in rela capability.  Documents/Evidence – 6 and viewed on Site and Site Interviews Station Manager - Kemerton Power Station (TWPS), 100		the black start	
	Observations:     Original commissioned documentation was viewed.     Black Start capability for the station was installed 2018. The installation consisted 4 small diesel gensets which were programmed internal electricity supply and were designed to start automatically if black grid conditions were detected. It was understood the programmed to connect to the black grid and await for the Market Operator to acknowledge black start conditions and proceed as per material.	ocess was to take the G	•	

# Performance Audit and Asset Management System Review Report RATCH-Australia Kemerton Pty Ltd – EGL5



	<ul> <li>External engineering provider was engaged to undertake installation and commissioning tests and commissioning data was kept on</li> </ul>	n site.	
	Further commissioning tests were completed with KPS and AEMO. A commercial letter was provided to confirm commissioning state	tus.	
	Recommendation:	Action:	
	None	• Nil	
2.5	OBLIGATION: Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	P&P* Rating:	Performance Rating:
		Α	1
	<b>Findings</b> – O&M agreements and Asset Management Plans addressed obligations and these were reflected in procedures and comprehelegal/environmental and safety obligations and proactively managed these requirements. These obligations are documented in Compliance requirements and any relapse was elevated immediately to upper management levels.	. •	
	Documents/Evidence – 6,9,10,17,19,21,38,39,55, and viewed CAMMS on site. Site Interviews Station Manager - Kemerton Power Station (T	TWPS)	
	Observations:		
	CAMMS used on site to monitor risks.		
	Monthly reports and AMT meeting also addressed this obligation		
	TW Power Services utilized an online SharePoint Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality, Safety & Environmental Management System that fulfilled the intent of a Quality is safety & Environmental Management System that fulfilled the intent of a Quality is safety & Environmental Management System that fulfilled the intent of a Quality is safety & Environmental Management System that fulfilled the intent of a Quality is safety & Environmental Management System that System that System the System that System the System than System that System that System the System that System that System that System the System that System		
	<ul> <li>Environmental Legal Compliance Evaluation &amp; Other Requirements Register used to monitor environmental, safety and generation I years 2019-2021 of the audit and review period.</li> </ul>	licence requirements. N	lote applicable for the
	<ul> <li>The Corporate Operational System Plan (OSP) described legal requirements, all areas of the work to be carried out and outlined howensure they conform to all legal, regulatory and company requirements.</li> </ul>	w work activities were t	o be performed to
	The OSP ensured conformance to contract requirements through assigning specific responsibility, system details and the practices to	that were used on TWF	S sites.
	<ul> <li>HSEQ audits were carried out internally by TW Power Services (in accordance with the OSP) every 12 months and followed through Australia at Monthly AMT meetings.</li> </ul>	n. Outcomes were pres	ented to RATCH-
	An Environmental Management Plan was developed to manage the environmental requirements of the KPS.		
	Recommendation:	Action:	
	None	• Nil	



3. AS	SET DISPOSAL	PROCESS & POLICY RATING*	PERFORMANCE RATING
strate Det Sel	sess the adequacy of policies and procedures covering the identification of under-performing assets, disposal of assets and replacement gy ermine whether a regular review of the performance of assets is undertaken ect a sample of disposals over the review period and confirm adequate procedures have been followed  Process – Asset disposal is the consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets.  The asset management framework minimises holdings of surplus and underperforming assets and lowers service costs.  The asset management framework minimises holdings of surplus and underperforming assets and lowers service costs.	A	1
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
3.1	OBLIGATION: Under-utilised and under-performing assets are identified as part of a regular systematic review process	P&P* Rating:	Performance Rating:
	Documents/Evidence – 6,38,39,57.  Observations:  Power Plant has been well established and operating. There were no asset disposed during the audit period. TW Power Services and RATCH-Australia through monthly reports monitored performance of assets and replace accordingly. Asset Management Plans projected CAPEX projects for the next 5 years on a rolling basis.	·	
	Recommendation:  • None	Action:  Nil	
3.2	OBLIGATION: The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	P&P* Rating:	Performance Rating: 1
	Findings – Monthly reports document performance and actions. Faulty equipment were either replaced or maintenance actions undertaken.  Documents/Evidence –6,38,39,57		



#### Observations:

- TW Power Services reported on a monthly basis. All under performances / utilisations are discussed in detail and corrective actions taken. These are monitored on an on-going daily basis
- TW Power Services personnel were on site.
- During the O&M period TW Power Services investigated and provided options of component(s) disposal (that was either recycled/scrapped) or refurbished, utilizing engineering
  and technical expertise.

# Recommendation: None OBLIGATION: Disposal alternatives are evaluated Findings – RATCH-Australia had considered disposal and had made allowance in its Life-cycle financial costing model. Disposal was not a consideration during the audit period as power plant life is to 2046. Documents/Evidence 6,38,93

# Observations:

- Consumables and spares were observed while on site.
- No assets were disposed during the audit period.

Recommendation:	Action:	
• None	• Nil	
OBLIGATION: There is a replacement strategy for assets	P&P* Rating:	Performance Rating:

Findings – RATCH-Australia has developed life cycle financial model for the power station and has made allowance for potential CAPEX and have identified OPEX.

**Documents/Evidence** – 6,38,39,51,57,80 and site interviews

#### Observations:

3.4

- · Comprehensive maintenance schedules and asset management plans outline replacement/refurbishment of assets.
- · Operation and maintenance of power station was reported to RATCH-Australia with performance targets clearly defined.

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Recommendation:	Action:
None	• Nil



4. EN	VIRONMENTAL ANALYSIS	PROCESS & POLICY RATING*	PERFORMANCE RATING
□ Inve	riew achievement of performance and service standards over the review period estigate any statutory or regulatory breaches and assess corrective action taken riew the adequacy of reporting and monitoring tools		
	rocess – Environmental analysis examines the asset management system environment and assesses all external factors affecting the asset gement system.	A	1
	me – The asset management system regularly assesses external opportunities and threats and identifies corrective action to maintain mance requirements.		
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
4.1	OBLIGATION: Opportunities and threats in the asset management system environment are assessed	P&P* Rating:	Performance Rating:
	Findings – TW Power Services have used a risk-based approach to the gas turbines and transformers in the AMPs. Both the O&M Con implementing Black Starts.  Documents/Evidence – 6,25,28,31,36,38,39,46,57	nacion and IVATOTI-Ade	ualia were successful ili
	Observations:  PPA and O&M contracts are well defined and implemented. Good relations with stakeholders Good response to equipment failures by O&M Contractors. Good use of Betterways as a continuous improvement initiative. The OMAA required TWPS to establish processes to identify, monitor and report opportunities and threats in the AMS environment Alliance Board and the Asset Management Team.	t. Monitored through inte	rnal audits and by the
	Recommendation:  None	Action:  Nil	



OBLIGA	ATION: Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and	P&P* Rating:	Performance Rating:
achieve	d	Α	1
Finding	s – Performance standards were monitored and reported in O&M monthly reports.		
Docum	ents/Evidence - 6,17,19,21,25,28,31,36,38,39,57,93		
Observ	ations:		
•	O&M Contractor had extensive plans and systems in place to ensure performance standards are measured, monitored and any disru These were submitted in monthly reports to RATCH-Australia.	otions to the continuity o	f performance minimised
•	The AMP also referenced performance standards developed from the OMAA, Prudent Power Station Practice, legal obligations, C Management Strategy, annual budgets, dispatch instructions and business management systems.	DEM requirements/recor	mmendations, Equipment
Recom	mendation:	Action:	
• No	ne	• Nil	
		P&P* Rating:	Performance Rating
OBLIGA	ATION: Compliance with statutory and regulatory requirements	Α	1
_	s – Compliance with statutory and regulatory requirements was monitored and reported throughout TW Power Services and RATCH	-Australia	
	ents/Evidence 6,19,21,25,28,36,38,39,55,,93		
Observ			
•	A spreadsheet was used primarily to monitor statutory and regulatory compliances (i.e., (2019-2020-2021) Environmental Legal Co Register)	ompliance Evaluation O	ther Requirements
•	Good relation with customers and regulatory authorities.		
•	TWPS documentation was shared on the "Operating Systems Plan " e-share platform.		
•	TWPS utilised a centralised on-line system (SCRIM), to record and manage all safety incidents and corrective actions for the Keme QA and HSE Audits and to provide comprehensive reporting of HSEQR activities/statistics.	erton site. The system w	as also used to capture

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	Recommendation:  None	Action:  Nil	
4.4	OBLIGATION: Service standard (customer service levels etc.) are measured and achieved.	P&P* Rating:	Performance Rating:
	Findings – SCADA system recorded performance, as does WPC, no major issues were identified. Customer services levels are well define generator. Contractual and performance criteria have been met or exceeded. Customer service levels were measured and achieved and reports to RATCH-Australia		
	Documents/Evidence – 6,36,38,39		
	Customers have raised no issues or concerns     Service levels were well defined in the contracts and reported on in monthly reports     TW Power Services, as O&M Operator had service level obligations to RATCH-Australia around plant availability and generating Agreements.	on performance that we	ere specified in the O&M
	Recommendation:  None	Action: Nil	



5. AS	SET OPERATIONS	PROCESS & POLICY RATING*	PERFORMANCE RATING
☐ Ass ☐ Cor procee	sess the adequacy of policies and procedures covering operations functions sess the adequacy of staff resourcing and training and training infirm the policies and procedures have been followed during the review period by examining the asset register, observing operational dures, analysing costs, etc. sess the significance of exceptions identified and whether adequate corrective action has been taken  Process – Asset operations is the day-to-day running of assets (where the asset is used for its intended purpose).	A	1
	ome – The asset operation plans adequately document the processes and knowledge of staff in the operation of assets so service levels can nsistently achieved.		
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
5.1	OBLIGATION: Operational policies and procedures are documented and linked to service levels required	P&P* Rating:	Performance Rating:
	Findings – Operational Policies and procedures for the power plant were well documented, easily accessed, reviewed and linked to service The Kemerton Power Station operated under two agreements, one being the PPA with Synergy and second being the Operations and Ma RATCH-Australia and Transfield Worley Power Services (TWPS).  Documents/Evidence – 6,33,36,38 and documentation viewed on site and on OSP	•	•
	The KPS station had a dispatch protocol in place that defined the communications between System Management and station pers     Noted that the station could be started either locally or remotely and load changes could be made remotely once unit minimum loa     Operating incident investigation and reporting processes were established and described within the AMP.     Documentation was shared on the "Operating Systems Plan" (OSP) e-share platform.     The requirement of maintaining and documenting operational policies were linked to the PPA and OMAA KPIs.     The AMP was developed based on the review of previous operational data, marketplace knowledge and forecast operation data from	d was reached.	-Australia.
	Recommendation:  None	Action: Nil	

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ORUGATION. Bish was a support in analysis to a section of the sect	P&P* Rating:	Performance Rating:
OBLIGATION: Risk management is applied to prioritise operations tasks	Α	1
Findings – Operational tasks on site are minimum. Risk management was applied and demonstrated at the operational, maintenance and	management levels.	
Documents/Evidence – 6,25,28,33,38,39,viewed CAMMS and site interviews.		
Observations:		
CAMMS (Risk management software) viewed on site.		
<ul> <li>Through the SCADA exported operational report and carried out prioritised operational tasks.</li> </ul>		
<ul> <li>OEM manufacturers and GT users Group provided regular updates on similar GT's performance and issues.</li> </ul>		
Annually insurers carried out risk assessments to insure minimum risk to the operation.		
Recommendation:	Action:	
None	• Nil	
*****	1	
		Performance Rating:
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar	P&P* Rating:	Performance Rating:
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset com	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset com	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comorders. This included an assessment of the assets physical/structural condition and location	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comorders. This included an assessment of the assets physical/structural condition and location	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comorders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comorders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comorders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47  Observations:	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comporders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47  Observations:  • The access to the asset register was not easily obtained as had to use work orders to get details.  • Microsoft AX CMMS has replaced previous SAP system.	P&P* Rating:  B conents through the use of	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comporders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47  Observations:  • The access to the asset register was not easily obtained as had to use work orders to get details.  • Microsoft AX CMMS has replaced previous SAP system.	P&P* Rating:	1
OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comporders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47  Observations:  • The access to the asset register was not easily obtained as had to use work orders to get details.  • Microsoft AX CMMS has replaced previous SAP system.	P&P* Rating:  B conents through the use of	1
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OBLIGATION: Assets are documented in an asset register including asset type, location, material, plans of components, and ar assessment of assets' physical/structural condition  Findings – The asset register for the Licensee was accessed through Microsoft AX. The CMMS: Microsoft AX systems, detailed asset comporders. This included an assessment of the assets physical/structural condition and location  Documents/Evidence – 6,47  Observations:  • The access to the asset register was not easily obtained as had to use work orders to get details.  • Microsoft AX CMMS has replaced previous SAP system.  Recommendation:	P&P* Rating: B conents through the use of	1

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Decuments/Evidence 6.12.29.20.47.51.57.67		
Documents/Evidence – 6,12,38,39,47,51,57,67		
Observations:		
<ul> <li>Financial information well recorded and reported to RATCH-Australia and Board</li> </ul>		
<ul> <li>Annual audited accounts and accompanying notes detailed accounting information and explanations.</li> </ul>		
Recommendation:	Action:	
• None	• Nil	
OBLIGATION: Operational costs are measured and monitored	P&P* Rating:	Performance
	A	1
Documents/Evidence - 6,12,38,39,51,57		
Observations:		
Observations:  O&M costs were incorporated in the AMP.		
Observations:  O&M costs were incorporated in the AMP. Unscheduled O&M costs were monitored and reported in monthly and annual reports		
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Observations:  O&M costs were incorporated in the AMP. Unscheduled O&M costs were monitored and reported in monthly and annual reports Small workforce required for operational and maintenance purposes. Financials were reported and budgeted in financial reports and audited annually. OMAA specified reporting requirements for monthly and quarterly reports.	Action:	
Observations:  O&M costs were incorporated in the AMP. Unscheduled O&M costs were monitored and reported in monthly and annual reports Small workforce required for operational and maintenance purposes. Financials were reported and budgeted in financial reports and audited annually. OMAA specified reporting requirements for monthly and quarterly reports. Financial KPIs were established as defined in the annual operations and maintenance budget.	Action: • Nil	
Observations:  O&M costs were incorporated in the AMP. Unscheduled O&M costs were monitored and reported in monthly and annual reports Small workforce required for operational and maintenance purposes. Financials were reported and budgeted in financial reports and audited annually. OMAA specified reporting requirements for monthly and quarterly reports. Financial KPIs were established as defined in the annual operations and maintenance budget.  Recommendation:		Performance

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Findings – Employees and Contractors were competent and familiar with the operations and plant requirements. Training and resourcing considerations were evident. Training records were reviewed and are referenced below

**Documents/Evidence** – 6,38,39,53 and Site interviews.

#### Observations:

- Training register clearly monitored individual training records and refreshers.
- O&M Agreements stated training needs.
- TW Power Services managed its resourcing requirements as per the OMAA. TWPS had access to staff globally for additional knowledge.
- Toolbox talks were presented and available on OSP.
- Training included e-learning and face to face training. Annual first aid and fire training. Code of Conduct conducted on e-learning.

Training included e-learning and race to lace training. Affidial hist and and the training.	
Recommendation:	Action:
None	• Nil



6. ASS	ET MAINTENANCE	PROCESS & POLICY RATING*	PERFORMANCE RATING			
□ Con	ess the adequacy of policies and procedures covering maintenance functions firm the policies and procedures have been followed during the review period by examining maintenance schedules, analysing costs, etc. ess the significance of exceptions identified and whether adequate corrective action has been taken					
Key P	rocess – Asset maintenance is the upkeep of assets.	Α	1			
Outco	me – The asset maintenance plans cover the scheduling and resourcing of the maintenance tasks so work can be done on time and on cost.					
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION					
6.1	OBLIGATION: Maintenance policies and procedures are documented and linked to service levels required	P&P* Rating:	Performance Rating:			
		В	1			
	<b>Documents/Evidence</b> – 6,9,10,38,39,57 , viewed Microsoft AX on site and Site interviews  Observations:					
	Observations:					
	<ul> <li>Comprehensive monthly reports provided to RATCH-Australia reported on service levels as detailed in the OMAA.</li> <li>O&amp;M contractor utilised its historical experience and was backed up the support of reputable OEM suppliers to ensure comprehensive maintenance procedures and practices in place.</li> </ul>					
	<ul> <li>Maintenance was continuous and aimed at keeping plant as reliable.</li> <li>TW Power Services utilised Microsoft AX for work orders, cost tacking and Human resource requirements.</li> </ul>					
	<ul> <li>The CMMS was an integral part of the overall maintenance strategy. It was implemented in accordance with the OMAA, TWPS OSI (AMS).</li> </ul>	P and the TWPS Asset	Management System			
	Good control of maintenance documentation.					
	Harp copies of maintenance documentation kept on site.					
	Inspection frequencies were based upon machine starts.					
	Recommendation:	Action:				
	• None	• Nil				

OBLIGATION: Regular inspections are undertaken of asset performance and condition P&P\* Rating: Performance Rating: Α Findings - Maintenance inspections and procedures were well documented and undertaken within the time frames. Hard copies were kept on site and in Microsoft AX. Asset performance was monitored with SCADA and reported upon in monthly reports. Documents/Evidence - 6,12,38,39,51,57, viewed Microsoft AX on site and Site interviews Observations: Regular on-site inspections and continuous condition and performance monitoring ensured performance. Maintenance activities rescheduled to maximise generation capacity. Maintenance schedules for inspections were scheduled to 2026. Changes to maintenance schedules expected due to increase in the amount of renewables within the WA electricity market (i.e., increased starts may bring forward next major overhaul) Balance of Plant had 100% redundancy. Recommendation: Action: None Nil 6.3 OBLIGATION: Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule P&P\* Rating: Performance Rating: Findings - Maintenance was well documented and processes for the continuous review of maintenance practices were established. Maintenance activities were monthly to RATCH-Australia incorporating future maintenance activities and resources. Documents/Evidence - 6,12,38,39,51,57, viewed Microsoft AX on site and Site interviews Observations: Monthly meetings were held between RATCH-Australia and O&M contractor. Detailed maintenance schedules developed annually and reviewed on an on-going basis. Routine Maintenance work orders were maintained in Microsoft AX. Gas Turbine and Transformer maintenance schedule monitored through Excel spreadsheets. Routine Maintenance incorporated in annual AMPs TW Power Services implemented "SMART Condition Assessment of Assets as its maintenance philosophy. Trigger points for major overhauls were based upon the number of unit starts. As such, maintenance plans were subject to continual monitoring, review and changes as required.

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	Recommendation:	Action:				
	None	• Nil				
6.4	OBLIGATION: Failures are analysed and operational/maintenance plans adjusted where necessary	P&P* Rating:	Performance Rating:			
	Findings – Failures were recorded instantly and investigated by O&M Contractor and reported to RATCH-Australia. Corrective actions were		ined in the AMP. Monthly			
	Reports contained detailed history of failures and amendments to operational and maintenance plans.					
	Documents/Evidence – 6,12,21,38,39,51,57, viewed Microsoft AX on site and Site interviews					
	Observations:					
	TW Power Services utilised Continuous Improvement Program, Betterways, to record and investigate failures. Projects were then published subsequent implementation. O&M Contractor carried out internal Health, Safety, Environmental and Quality Audits annually.	proposed to RATCH-Au	stralia for approval and			
	Scheduled works aligned with WPC outages times as agreed by Synergy and AEMO.					
	Recommendation:	Action:				
	• None	• Nil				
6.5	OBLIGATION: Risk management is applied to prioritise maintenance tasks	P&P* Rating:	Performance Rating:			
		Α	1			
	Findings – Risk management processes for the prioritisation of maintenance tasks were applied using historical maintenance data. All incident reports and projects included risk assessments.					
	Documents/Evidence – 6,12,21,25,28,38,39,57, viewed Microsoft AX and CAMMS on site and Site interviews					
	Observations:					
	The Microsoft AX maintenance system used by Maintenance Team to raise work orders which permitted prioritisation.					
	Contract schedule maintenance as per O&M and technical and engineering expertise tasks (in that order)					
	Comprehensive monthly reports to RATCH-Australia in monthly AMT meetings.					
	Recommendation:	Action:				
	None	• Nil				

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i	OBLIGATION: Maintenance costs are measured and monitored	P&P* Rating:	Performance Rating:
		Α	1
	Findings – Maintenance costs were measured, recorded, monitored and reported on a monthly basis.		
	Documents/Evidence -6,12,38,39,51,57,67 and site interviews		
	Observations:		
	O&M costs were incorporated in the O&M Contracts		
	<ul> <li>Unscheduled O&amp;M costs are were and reported in monthly and annual reports</li> </ul>		
	Small workforce required for operational and maintenance purposes.		
	Financials were reported and budgeted in financial reports and audited annually O&M costs were incorporated in the O&M Contract	ts	
	<ul> <li>Maintenance costs and budgets recorded monthly for first 12 months with additional 4 years.</li> </ul>		
	<ul> <li>OMAA specified reporting requirements for monthly and quarterly reports.</li> </ul>		
	<ul> <li>Financial KPIs were established as defined in the annual operations and maintenance budget.</li> </ul>		
	Recommendation:	Action:	
	• None	• Nil	



7. AS	SET MANAGEMENT INFORMATION SYSTEM	PROCESS & POLICY RATING*	PERFORMANCE RATING
mana  □ Cor obliga  Key F functi  Outco	sess the adequacy of policies and procedures covering the general control and security of the computer systems used to provide gement information on compliance with service standards / licence obligations infirm management reports on service standards / licence obligations are reviewed and substantial exceptions to service standards / licence attions are promptly followed up and implemented  Process – An asset management information system is a combination of processes, data and software supporting the asset management ons.  The asset management information system provides authorised, complete and accurate information for the day-to-day running of the management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on the standards.	A	1
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
7.1	OBLIGATION: Adequate system documentation for users and IT operators	P&P* Rating:	Performance Rating:
	Findings –The O&M Contractors had detailed well understood IT systems in place. TW Power Services engaged reputable software supplemented on site. OVATION was the operating control system utilised on site.	oliers that provided good	support to the systems
	Documents/Evidence – 6,38,33,39 and on-site OSP and OVATION systems viewed and training manuals.		
	Observations:  Staff were conversant with systems in place and refresher training and e learning are scheduled timely.  SCADA was automated  IT documents were easily accessible on site.		
	Recommendation:  None	Action: Nil	



7.2	OBLIGATION: Input controls include suitable verification and validation of data entered into the system	P&P* Rating:	Performance Rating:  1		
	Findings – Data entry, acquisition and reporting was automated and cross checked by other parties				
	Documents/Evidence 6,38,39  Observations:  Reporting based on outputs from SCADA systems O&M statistical reports automated. Financial reporting automated. Synergy cross checks data for verification.				
	Recommendation:  None	Action: • Nil			
7.3	OBLIGATION: Security access controls appear adequate, such as passwords	P&P* Rating:	Performance Rating:		
	Findings – Security controls were upgraded to DUO two-factor authentication and separate VPN  Documents/Evidence – 6,38,39 and site interviews.  Observations:  • Firewall and password protections were in place • Demonstrated effective resilience analysis and contingency planning when experienced a cyber-attack in December 2019. New conceptor systems. Operations re-established promptly with assistance from Emerson.	mputer was installed and	d back up utilised to		
	Recommendation:  None	Action: • Nil			
7.4	OBLIGATION: Physical security access controls appear adequate	P&P* Rating:	Performance Rating:		



Findings – Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  • Microsoft AX was backed by Corporate RATCH-Australia.  • Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds.  • OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies.  • Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system  • Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore		Α	1		
Observations:  Entry to site was gate controlled. The site was remote and there have been no break ins or vandalism at the power station. Physical security consists of a wide perimeter fire break, double fencing (one electrified) and locked gates. CCTV was installed. Employees and Contractors were routinely present Remoteness reduced people accessing site. Local landowners and businesses were aware of normal activity and report unusual activity if observed.  Recommendation: None  Action: Nil  P&P* Rating: B 1  Findings - Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. OEM Manuals were backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. Mintenance data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. Maintenance data was backed up on a Ghosted hard drive with two partitions of 5GB. New computer was installed and back up utilised to restore.  B 1 A transfer of the computer was installed and back up utilised to restore.	Findings – Access was restricted and locked when unattended.				
<ul> <li>Entry to site was gate controlled.</li> <li>The site was remote and there have been no break ins or vandalism at the power station.</li> <li>Physical security consists of a wide perimeter fire break, double fencing (one electrified) and locked gates.</li> <li>CCTV was installed.</li> <li>Employees and Contractors were routinely present</li> <li>Remoteness reduced people accessing site.</li> <li>Local landowners and businesses were aware of normal activity and report unusual activity if observed.</li> </ul> Recommendation: <ul> <li>None</li> <li>Action:</li> <li>Nil</li> </ul> P&P* Rating: <ul> <li>Performance Rat</li> <li>B</li> <li>1</li> </ul> Findings – Back-ups were carried out on site and at Corporate Offices. Documents/Evidence 6,38,39,57 and site interviews Observations: <ul> <li>Microsoft AX was backed by Corporate RATCH-Australia.</li> <li>Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds.</li> <li>OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies.</li> <li>Maintenance data was backed up electronically, three hard copies available with Siemens also having copies.</li> <li>Maintenance date was backed up on Sharepoint and 50% in a hard filing system</li> <li>Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore</li> </ul>	Documents/Evidence – 6,38 and viewed security on site.				
The site was remote and there have been no break ins or vandalism at the power station.  Physical security consists of a wide perimeter fire break, double fencing (one electrified) and locked gates.  CCTV was installed.  Employees and Contractors were routinely present.  Remoteness reduced people accessing site.  Local landowners and businesses were aware of normal activity and report unusual activity if observed.  Recommendation:  None    Action:   Ni	Observations:				
<ul> <li>Physical security consists of a wide perimeter fire break, double fencing (one electrified) and locked gates.</li> <li>CCTV was installed.</li> <li>Employees and Contractors were routinely present</li> <li>Remoteness reduced people accessing site.</li> <li>Local landowners and businesses were aware of normal activity and report unusual activity if observed.</li> </ul> Recommendation: <ul> <li>None</li> <li>Action:</li> <li>Nil</li> </ul> PBP* Rating: <ul> <li>Performance Rate</li> <li>B</li> <li>1</li> </ul> Findings – Back-ups were carried out on site and at Corporate Offices. Documents/Evidence 6,38,39,57 and site interviews Observations: <ul> <li>Microsoft AX was backed by Corporate RATCH-Australia.</li> <li>Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds.</li> <li>OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies.</li> <li>Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system</li> <li>Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore</li> </ul>	Entry to site was gate controlled.				
CCTV was installed. Employees and Contractors were routinely present Remoteness reduced people accessing site. Local landowners and businesses were aware of normal activity and report unusual activity if observed.  Recommendation: None  Action: Nil  P&P* Rating: B 1  Findings — Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies. Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore	<ul> <li>The site was remote and there have been no break ins or vandalism at the power station.</li> </ul>				
Employees and Contractors were routinely present     Remoteness reduced people accessing site.     Local landowners and businesses were aware of normal activity and report unusual activity if observed.  Recommendation:     None  Action:     Nil  OBLIGATION: Data backup procedures appear adequate and backups are tested P&P*Rating: B Tindings — Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. Site data was backed up electronically, three hard copies available with Siemens also having copies. Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore	<ul> <li>Physical security consists of a wide perimeter fire break, double fencing (one electrified) and locked gates.</li> </ul>				
Recommendation: None  Action: Nil  OBLIGATION: Data backup procedures appear adequate and backups are tested  P&P* Rating: B 1  Findings — Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds.  Microsoft AX was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies. Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore	CCTV was installed.				
Local landowners and businesses were aware of normal activity and report unusual activity if observed.  Recommendation: None  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups and corporate Rations.  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups and corporate Rations.  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backups are tested  OBLIGATION: Data backup procedures appear adequate and backup satisfies  OBLIGATION: Data backup procedures appear adequate and backup satisfies  OBLIGATION: Data backup procedures appear adequate and backup satisfies  OBLIGATION: Data backup procedures appear adequate and backup satisfies  OBLIGATION: Data backup procedures appear adequate and backup satisfies  OBLIGATION: Data backup satisfies  OBLIGATION: Data backup satisfies  OBLIGATION: Data backup satisfi	Employees and Contractors were routinely present				
Recommendation:  None  Action: Nil  OBLIGATION: Data backup procedures appear adequate and backups are tested  P&P* Rating: B  1  Findings – Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies. Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore	Remoteness reduced people accessing site.				
None      Back-ups were carried out on site and at Corporate Offices.    P&P* Rating: B   1	<ul> <li>Local landowners and businesses were aware of normal activity and report unusual activity if observed.</li> </ul>				
OBLIGATION: Data backup procedures appear adequate and backups are tested  P&P* Rating: B  Timings — Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  • Microsoft AX was backed by Corporate RATCH-Australia. • Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. • OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies. • Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system • Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore	Recommendation:	Action:	Action:		
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Findings – Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies. Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore					
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Findings – Back-ups were carried out on site and at Corporate Offices.  Documents/Evidence 6,38,39,57 and site interviews  Observations:  Microsoft AX was backed by Corporate RATCH-Australia. Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds. OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies. Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore	5521671716111 Bata backup procedures appear adoquate and backupe are toolea	_	1		
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<ul> <li>Site data was backed up on a Ghosted hard drive with two partitions of 5GB. Cloud back up was not able to be undertaken due to internet processing speeds.</li> <li>OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies.</li> <li>Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system</li> <li>Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore</li> </ul>	Observations:				
<ul> <li>OEM Manuals were backed up electronically, three hard copies available with Siemens also having copies.</li> <li>Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system</li> <li>Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore</li> </ul>					
<ul> <li>Maintenance data was backed up 50% on Sharepoint and 50% in a hard filing system</li> <li>Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore</li> </ul>		to internet processing spec	eds.		
Demonstrated effective resilience analysis and contingency planning when experienced a cyber attack in CY2019. New computer was installed and back up utilised to restore					
		er was installed and back i	un utilised to restore		
systems. Operations re-established promptly with assistance from Emerson	systems. Operations re-established promptly with assistance from Emerson.	c motanoa ana buon t	ap a		

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	Recommendation:	Action:	
	None	• Nil	
7.6	OBLIGATION: Computations for licensee performance reporting are accurate	P&P* Rating:	Performance Rating:
	S-2-07 M S M P M M S M S M S M S M S M S M S M	A	1
	Findings – Computations for licensee performance reporting were mainly automated and proven		
	Documents/Evidence 6,38,39 and site interviews		
	Observations:		
	O&M contractor provided licensee with performance reporting as per O&M contract.		
	Monitoring of electrical energy transfer to the SWIS was with Western Power calibrated duplicate metering at the Kemerton Termin	nal substation.	
	SCADA monthly reports and discussed at monthly meetings.		
	Synergy provided all fuel which was cross – checked with O&M Contractor.		
	Recommendation:	Action:	
	None	• Nil	
7.7	OBLIGATION: Management reports appear adequate for the licensee to monitor licence obligations	P&P* Rating:	Performance Rating:
1.7	OBLIGATION: Management reports appear adequate for the licensee to monitor licence obligations	A	Performance Rating:
	E. B. B. C. J. W. W. J. J. BATOLIA J. E. E. C. J.		1
	Findings – Reporting was adequate with monthly contractor reports to RATCH-Australia. Exception reports are alarmed and investigated via	SCADA and given priori	ty by the O&M contractor.
	Documents/Evidence – 6,38,39,55 and Site Interviews.		
	Observations:		
	Mainly based on SCADA.		
	Legal register for compliance monitoring		
	OMAA specified reporting requirements for monthly and quarterly reports.		
	<ul> <li>OMAA specified reporting requirements for monthly and quarterly reports.</li> <li>KPIs were defined in the AMP and monitored through OMAA reporting requirements.</li> </ul>	,	
		Action:	
	KPIs were defined in the AMP and monitored through OMAA reporting requirements.	Action: Nil	

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}		ATION: Adequate measures to protect asset management data from unauthorised access or theft by persons outside the	P&P* Rating:	Performance Rating:
	organis	ation	Α	1
	Finding	s – TW Power Services had a high level of security measures to protect asset management data from external threats.		
	Docume	ents/Evidence – 6,38,39,57 and Site Interviews.		
	Observa	ations:		
	•	Firewalls were in place to prevent external access to computers		
	•	The control system was attacked by ransomware (2019) which affected the alibility for remote operation. Cybersecurity upgrades we remote login.	vere completed to improv	ve the security of the
	•	Control System cyber security was noted in the Plant Equipment Risk Assessment. Implementation of improved cyber security feat	ures were specified and	
Ī	Recom	mendation:	Action:	
	• No	ne	• Nil	



8. RIS	K MANAGEMENT	PROCESS & POLICY RATING*	PERFORMANCE RATING	
□ Ass □ Ass □ Ass	ess whether the risks that most affect the management and performance of the assets have been identified ess the adequacy of policies and procedures covering risk management ess whether the risk management policies and procedures have been applied in practice ess the adequacy of staff understanding and training on risk management  rocess – Risk management involves the identification of risks and their management within an acceptable level of risk.	A	1	
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION			
8.1	OBLIGATION: Risk management policies and procedures exist and are applied to minimise internal and external risks	P&P* Rating:	Performance Rating:	
0.1	Obligation. Mak management policies and procedures exist and are applied to minimise internal and external risks	A A	1	
	Documents/Evidence – 6,17,21,25,28,38,39,55,57 and viewed CAMMS on site.  Observations:			
	Risk management was well used by all parties.			
	Annual reviews of risk policies and procedures were available and carried out on OSP			
	Internal audits also scheduled and evidence, for example annual HSEQ internal audits. Previous two audits included Bush fire Preparation and hazardous substances and dangerous goods.			
	Recommendation:  None	Action: • Nil		



OBLIGATION: Risks are documented in a risk register and treatment plans are implemented and monitored	P&P* Rating:	Performance Rating
	Α	1
Findings – Risk registers and treatment plans viewed on site. Effectively used to identify and mitigate risks.		
<b>Documents/Evidence</b> – 6,17,21,25,28,38,39,55,57 and viewed CAMMS on site		
Observations:		
GTs and BoP backed by reputable global manufacturers with extensive experience.		
Risks were reported monthly and corrective actions implemented.		
No significant safety incidents experienced		
<ul> <li>Risk Registers and treatment plans were viewed on site in CAMMS and discussed at Monthly AMT meetings.</li> </ul>		
Successfully transferred from an Excel spreadsheet risk management system to CAMMS which was more efficient and effective.		
CAMMS had escalation capabilities if remedial actions were overdue.		
Recommendation:	Action:	
None	• Nil	
OBLIGATION: Probability and consequences of asset failure are regularly assessed	P&P* Rating:	Performance Rating
	Α	1
Findings – Licensee and O&M Contractor have established annual internal audits and risk registers.		
Documents/Evidence – 6,17,21,25,28,38,39,55,57 and viewed CAMMS on site		
Observations:		
Risk registers were reviewed annually and through monthly reports and meetings.		
Annual audits by insurers to assess potential risks to the operation and maintenance of power plant.		
Critical spares were identified and well sourced and accessible. Covid 19 did not interrupt the supply chain of spares.		
Critical spares were identified and well sourced and accessible. Covid 19 did not interrupt the supply chain of spares.  Recommendation:	Action:	

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9. CO	NTINGENCY PLANNING	PROCESS & POLICY RATING*	PERFORMANCE RATING		
□ Det	ermine whether contingency plans have been developed and are current ermine whether contingency plans have been tested. If so, review the results to confirm any improvements identified have been mented.				
Key F	Process – Contingency plans document the steps to deal with the unexpected failure of an asset.	Α	1		
Outco	ome – Contingency plans have been developed and tested to minimise any major disruptions to service standards.				
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION	<u>'</u>			
9.1	OBLIGATION: Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	P&P* Rating:	Performance Rating:		
		Α	1		
	Findings – Plans were in place for emergencies and reinstatement.  Documents/Evidence – 6,17,19,21,25,28,31,38,39,55,79 and site interviews				
	Observations:				
	Contingency plans were monitored by TW Power Services and RATCH-Australia, especially the high and extreme risks.				
	Critical spares well identified, accessible and monitored.				
	RATCH-Australia engaged GreenCap to carry out internal audits on its behalf every 3 years. The last internal audit was carried ou based in Thailand. To resume once WA borders open.	it 2019 and unable to sir	ice then as Green Cap is		
	Recommendation:	Action:			
	None	• Nil			



10. FI	NANCIAL PLANNING	PROCESS & POLICY RATING*	PERFORMANCE RATING
	ain a copy of the financial planning, budgeting and reporting process and assess its effectiveness ain a copy of the current financial plan (including budget/actual) and assess whether the process is followed		
Key F	rocess – Financial brings together the financial elements of the service delivery to ensure its financial viability over the long term.	A	1
	pme – The financial plan is reliable and provides for the long-term financial viability of the services.		
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
10.1	OBLIGATION: The financial plan states the financial objectives and identifies strategies and actions to achieve those	P&P* Rating:	Performance Rating:
		Α	1
	as completed or indicated to be in process.  Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews		·
	Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews  Observations:  Confidential information but performance to date has proved satisfactory.  Financial plans were prepared each year and set budgets for future cash flow.  Financiers were provided with annual CAPEX and OPEX budgets.  Diligent financial reports were prepared for RATCH-Australia on a monthly basis and annual basis.  Lifecycle costing was reviewed annually with projections for 25 years aligned with asset life and PPA expiry.	Action:	,
	Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews  Observations:  Confidential information but performance to date has proved satisfactory. Financial plans were prepared each year and set budgets for future cash flow. Financiers were provided with annual CAPEX and OPEX budgets. Diligent financial reports were prepared for RATCH-Australia on a monthly basis and annual basis. Lifecycle costing was reviewed annually with projections for 25 years aligned with asset life and PPA expiry. The AMP included detailed KPS 5 Year CAPEX and OEPX Expenditure Plans (i.e., refer AMP 2021 Appendix D).	Action: • Nil	
10.2	Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews  Observations:  Confidential information but performance to date has proved satisfactory. Financial plans were prepared each year and set budgets for future cash flow. Financiers were provided with annual CAPEX and OPEX budgets. Diligent financial reports were prepared for RATCH-Australia on a monthly basis and annual basis. Lifecycle costing was reviewed annually with projections for 25 years aligned with asset life and PPA expiry. The AMP included detailed KPS 5 Year CAPEX and OEPX Expenditure Plans (i.e., refer AMP 2021 Appendix D).  Recommendation:		Performance Rating:

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	<b>Findings</b> – AMP defined the Revenue, OPEX and EBIT for the for the power station on an annual basis. On an annual basis the CAPEX requirements were identified and presented RATCH-Australia's Board for approval. Funding was all undertaken internally.		
	Documents/Evidence – 6,12,38,39,51,57,67,80 and Site Interviews		
	Observations:  Financial plans and financial audited reports detailed funding sources.  Funding was determined and approved Internally and if need be with the Parent Company, based in Thailand.		
	Recommendation:  None	Action: Nil	
10.3	OBLIGATION: The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	P&P* Rating:	Performance Rating:
	Findings – P&L and Balance reported annually and budget forecast for life of assets. Detailed Financial Modelling has been undertaken by the Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews	ne licensee (including Re	evenue, OPEX and EBIT)
	Confirmed by Licensee that the financial plan budgeted for life of assets, financial information was commercial in confidence.     Annual Financial Reports audited and prepared by independent third party.     Audited reports were on unqualified basis.     Lifecycle costing reviewed annually to 2040.		
	Recommendation:  None	Action: • Nil	

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OBLIGATION: The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	P&P* Rating:	Performance Rating:
tills period	Α	1
Findings – P&L and Balance reported annually and budget forecast for life of assets. Detailed Financial Modelling was undertaken by the projected to 2040.	e licensee to 2030 (whe	en PPA is in place) and
<b>Documents/Evidence</b> 6,12,36,38,39,51,57,67,80 and Site Interviews		
Observations:		
<ul> <li>Asset life cycle financial modelling until 2040 with Revenue to 2030. Commercial in confidence.</li> <li>PPA with Synergy revenue to July 2030 with option further 5 years.</li> </ul>		
Recommendation:	Action:	
None	• Nil	
OBLIGATION: The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	P&P* Rating:	Performance Rating:
Findings – Detailed Financial Modelling was undertaken by the licensee, including all costs associated with operating and maintaining the as	sets to 2040.	
Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews		
Observations:		
Comprehensive financial modelling, monitoring and reporting		
<ul> <li>O&amp;M contract clearly defined the cost responsibilities of the O&amp;M contractor and those of RATCH-Australia.</li> <li>RATCH-Australia was responsible for meeting CAPEX requirements. Any large CAPEX were justified on a case by case basis to the Board</li> </ul>		
Recommendation:	Action:	
None	• Nil	

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0.6	OBLIGATION: Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	P&P* Rating:	Performance Rating:
	Findings – Financials identified variances and comparisons with previous year of budgets and life cycle financial model.		
	Documents/Evidence — 6,12,36,38,39,51,57,67,80 and Site Interviews		
	Observations:	ons implemented. Evide	nced from ongoing
	Recommendation:	Action:	
	• None	• Nil	



	PITAL EXPENDITURE PLANNING	PROCESS & POLICY RATING*	PERFORMANCE RATING
□ Und	erstand the capital expenditure planning process and assess its effectiveness		
□ Obta	ain a copy of the capital expenditure plan for the current year and assess whether the process is being followed		
annua	rocess – The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated I expenditure for these works over the next five or more years. Since capital investments tend to be large and lumpy, projections would lly be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates.	A	1
	me – The capital expenditure plan provides reliable forward estimates of capital expenditure and asset disposal income. Reasons for the ons and for the evaluation of alternatives and options are documented.		
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
11.1	OBLIGATION: There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	P&P* Rating:	Performance Rating:
		Α	1
Findings – TW Power Services prepared annually, as part of their obligation when developing the AMP, forecasts of all CAPEX that was to be undertaken with identified respontiming of projects. The process was verified for five years and in each AMP application during the review period.		tified responsibilities and	
	<b>Documents/Evidence</b> – 6,12,36,38,39,51,57,67,80 and Site Interviews		
	Observations:  • Financial projections have been carried out to 2040 as per the life cycle financial model.  • TW Power Services continue to project CAPEX on an annual basis as part of its budget process  • Major CAPEX had been identified during that period for a major outage in CY22.		

RATCH-Australia Kemerton Pty Ltd – EGL5



	Recommendation:	Action:	
	• None	• Nil	
		I	
11.2	OBLIGATION: The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	P&P* Rating:	Performance Rating:
		Α	1
	Findings – The CAPEX expenditure was based on a fully justified technical and financial reasoning.		
	Documents/Evidence – 6,12,36,38,39,51,57,67,80 and Site Interviews		
	Observations:		
	<ul> <li>It was noted the O&amp;M contractor may propose capital expenditure to ensure performance of the power station.</li> <li>All CAPEX is the responsibility of RATCH-Australia. CAPEX projects are proposed as a business case which was then put to the B</li> </ul>	loard for approval	
	<ul> <li>All CAPEX is the responsibility of RATCH-Australia. CAPEX projects are proposed as a business case which was then put to the B</li> <li>CAPEX projects were also initiated through the CIP – Betterways.</li> </ul>	oard for approval.	
	5 On Exprojects were also initiated allough the Oil Betterways.		
	Recommendation:	Action:	
	• None	• Nil	
		I	
11.3	OBLIGATION: The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	P&P* Rating:	Performance Rating:
		Α	1
	Findings – The AMP contained a Plant Condition Assessment that was consistent with CAPEX and OPEX detailed in the 5 Year Consolidate	ed Projects.	
	<b>Documents/Evidence</b> – 6,12,36,38,39,51,57,67,80 and Site Interviews		
	Observations:		
	AMPs are reviewed annually and financial plan updated accordingly.		
	AMPs and financial budgets approved by Board		
	Expenditure for the major overhaul was noted to align with the CAPEX 5 Year Consolidated Projects. Noted as defined in the AMP	CAPEX included refurbi	shment.

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	Recommendation:	Action:	
	• None	• Nil	
11.4	OBLIGATION: There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	P&P* Rating:	Performance Rating:
		Α	1
	Findings – Capital expenditure processes were detailed in the AMP and updated in the year plans and monitored via the monthly reports Board.	. Reports submitted to F	RATCH-Australia and the
	Documents/Evidence 6,12,36,38,39,51,57,67,80 and Site Interviews		
	Observations:  • TW Power Services and RATCH-Australia have in place 5 year CAPEX programs.		
	Recommendation:	Action:	
	• None	• Nil	



12. RE	VIEW OF AMS	PROCESS & POLICY RATING*	PERFORMANCE RATING
□ Dete □ Con □ Dete  Key P	ermine when the asset management plan was last updated and assess whether any substantial changes have occurred ermine whether any independent reviews have been performed. If so, review the results and action taken sider the need to update the asset management plan based on the results of this review ermine when the asset management system was last reviewed.  **rocess - The asset management system is regularly reviewed and updated.**  **me - The asset management system is regularly reviewed and updated.**  **me - The asset management system is regularly reviewed and updated.**	A	1
No.	2021 REVIEW REPORT EVIDENCE/ /VERIFICATION/FINDING/ACTION		
12.1	OBLIGATION: A review process is in place to ensure the asset management plan and the asset management system described in it remain current	P&P* Rating:	Performance Rating:
	Documents/Evidence – 6,38,39,55  Observations:  O&M Contractor to review its AMP annually and submit to Licensee for approval as per the OMAA and scheduled in both the Licenprocesses.  Completed on time and monitored through monthly meetings	nsee's and the Contracto	or's compliance
	Recommendation:  None	Action: • Nil	
12.2	OBLIGATION: Independent reviews (e.g. internal audit) are performed of the asset management system	P&P* Rating:	Performance Rating:
	Findings – The Licensee had undertaken internal reviews of the AMP of the O&M Contractor.		
	<b>Documents/Evidence</b> – 6,21,38,39,55		
	Observations:		

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The Licensee and the O&M contractor have carried out internal reviews of the AMP with improvement opportunity.	ortunities identified.
Recommendation:  None	Action: • Nil



# **APPENDIX 3 – AUDIT PLAN ASSET REVIEW PRIORITIES**



#### **TABLE 18 Effectiveness Criteria Pre-Audit Review**

Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	iew Pı	riority			
				High	Controls	1	2	3	4	5	N/A
1	ASSET PLANNING					0	0	0	5	4	0
1.1	Asset management plan covers the processes in this table	Minor	Unlikely	Low	Strong					5	
1.2	Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	Moderate	Unlikely	Medium	Strong				4		
1.3	Service levels are defined in the asset management plan	Minor	Unlikely	Low	Strong					5	
1.4	Non-asset options (e.g. demand management) are considered	Minor	Unlikely	Low	Strong					5	
1.5	Lifecycle costs of owning and operating assets are assessed	Moderate	Unlikely	Medium	Strong				4		
1.6	Funding options are evaluated	Moderate	Unlikely	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	riew Pı	riority			
				High	Controls	1	2	3	4	5	N/A
1.7	Costs are justified and cost drivers identified	Moderate	Unlikely	Medium	Strong				4		
1.8	Likelihood and consequences of asset failure are predicted	Moderate	Probable	Medium	Moderate				4		
1.9	Asset management plan is regularly reviewed and updated	Minor	Unlikely	Low	Strong					5	
2	ASSET CREATION AND ACQUISITION					0	0	0	5	0	0
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	Moderate	Unlikely	Medium	Strong				4		
2.2	Evaluations include all life-cycle costs	Moderate	Unlikely	Medium	Strong				4		
2.3	Projects reflect sound engineering and business decisions	Moderate	Unlikely	Medium	Strong				4		
2.4	Commissioning tests are documented and completed	Moderate	Unlikely	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	iew Pr	riority			
				High	Controls	1	2	3	4	5	N/A
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	Moderate	Unlikely	Medium	Strong				4		
3	ASSET DISPOSAL					0	0	0	2	2	0
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Minor	Unlikely	Low	Strong					5	
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Moderate	Unlikely	Medium	Strong				4		
3.3	Disposal alternatives are evaluated	Minor	Unlikely	Low	Strong					5	
3.4	There is a replacement strategy for assets	Moderate	Unlikely	Medium	Moderate				4		
4	ENVIRONMENTAL ANALYSIS					0	0	0	4	0	0
4.1	Opportunities and threats in the asset management system environment are assessed	Moderate	Probable	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	iew Pr	riority			
				High	Controls	1	2	3	4	5	N/A
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Moderate	Probable	Medium	Strong				4		
4.3	Compliance with statutory and regulatory requirements	Moderate	Unlikely	Medium	Strong				4		
4.4	Service standard (customer service levels etc) are measured and achieved.	Moderate	Unlikely	Medium	Strong				4		
5	ASSET OPERATIONS					0	0	0	6	0	0
5.1	Operational policies and procedures are documented and linked to service levels required	Moderate	Unlikely	Medium	Moderate				4		
5.2	Risk management is applied to prioritise operations tasks	Moderate	Unlikely	Medium	Moderate				4		
5.3	Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	Moderate	Unlikely	Medium	Strong				4		
5.4	Accounting data is documented for assets	Moderate	Unlikely	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	iew Pr	riority			
				High	Controls	1	2	3	4	5	N/A
5.5	Operational costs are measured and monitored	Moderate	Unlikely	Medium	Strong				4		
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities.	Moderate	Unlikely	Medium	Strong				4		
6	ASSET MAINTENANCE					0	0	0	6	0	0
6.1	Maintenance policies and procedures are documented and linked to service levels required	Moderate	Unlikely	Medium	Moderate				4		
6.2	Regular inspections are undertaken of asset performance and condition	Moderate	Unlikely	Medium	Strong				4		
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Moderate	Unlikely	Medium	Strong				4		
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Moderate	Unlikely	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	iew P	riority			
				High	Controls	1	2	3	4	5	N/A
6.5	Risk management is applied to prioritise maintenance tasks	Moderate	Unlikely	Medium	Moderate				4		
6.6	Maintenance costs are measured and monitored	Moderate	Unlikely	Medium	Strong				4		
7	ASSET MANAGEMENT INFORMATION SYSTEM					0	0	0	8	0	0
7.1	Adequate system documentation for users and IT operators	Moderate	Unlikely	Medium	Strong				4		
7.2	Input controls include suitable verification and validation of data entered into the system	Moderate	Unlikely	Medium	Moderate				4		
7.3	Security access controls appear adequate, such as passwords	Moderate	Unlikely	Medium	Moderate				4		
7.4	Physical security access controls appear adequate	Moderate	Unlikely	Medium	Moderate				4		
7.5	Data backup procedures appear adequate and backups are tested	Moderate	Unlikely	Medium	Moderate				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Revi	iew Pr	iority			
				High	Controls	1	2	3	4	5	N/A
7.6	Computations for licensee performance reporting are accurate	Moderate	Probable	Medium	Moderate				4		
7.7	Management reports appear adequate for the licensee to monitor licence obligations	Moderate	Probable	Medium	Moderate				4		
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Moderate	Unlikely	Medium	Moderate				4		
8	RISK MANAGEMENT					0	0	0	3	0	0
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	Moderate	Unlikely	Medium	Strong				4		
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Moderate	Unlikely	Medium	Moderate				4		
8.3	Probability and consequences of asset failure are regularly assessed	Moderate	Probable	Medium	Strong				4		
9	CONTINGENCY PLANNING					0	0	0	1	0	0



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Rev	iew Pr	riority			
				High	Controls	1	2	3	4	5	N/A
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Moderate	Probable	Medium	Moderate				4		
10	FINANCIAL PLANNING					0	0	0	6	0	0
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve those	Moderate	Unlikely	Medium	Strong				4		
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Moderate	Unlikely	Medium	Strong				4		
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Moderate	Unlikely	Medium	Strong				4		
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Moderate	Unlikely	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Revi	iew Pr	iority			
				High	Controls	1	2	3	4	5	N/A
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Moderate	Unlikely	Medium	Strong				4		
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Moderate	Unlikely	Medium	Strong				4		
11	CAPITAL EXPENDITURE PLANNING					0	0	0	3	1	0
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Moderate	Unlikely	Medium	Strong				4		
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Moderate	Unlikely	Medium	Strong				4		
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Moderate	Unlikely	Medium	Strong				4		



Ref	Asset Management System Component	Consequence	Risk Likelihood	Inherent Risk Low, Medium,	Adequacy of Existing	Revi	iew Pr	iority			
				High	Controls	1	2	3	4	5	N/A
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Minor	Unlikely	Low	Strong					5	
12	REVIEW OF AMS					0	0	0	2	0	0
12.1	A review process is in place to ensure the asset management plan and the asset management system described in it remain current	Moderate	Unlikely	Medium	Moderate				4		
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Moderate	Unlikely	Medium	Strong				4		
	•		•	-		0	0	0	51	7	0



# **APPENDIX 4 – AUDIT & REVIEW DOCUMENT LISTING**

**Documents Reviewed** 



#### **TABLE 19 Documents Reviewed and Assessment of Effectiveness**

	DOCUMENT ASSESSMENT		NC									CAPITAL EXPENDITURE PLANNING		
	Current, Reviewed, implementation verified		ASSET CREATION & AQUISITION		S			≥		9		LAN		
			NOUI		ENVIRONENTAL ANALYSIS		ш	A M INFORMATION SYSTEM		CONTINGENCY PLLANNING	4.5	ZE P		_
	Requires some review, implementation not fully verified	<b>(</b> D	181		NAI	SNC	NCI	NS/	N	LLAI	NING	I		MDI
	Requires review, document obsolete or not	NIN	TIO	SAL	AL /	ATIC	LEN/	VTIO	EME	γP	ANI	END	MS	CE /
	implemented	LANI	REA	ISPC	ENT	PER	AIN	RM/	NAG	EN(	۱L PI	EXP	OF A	MAN
BER		TPI	I C	T	RON	T.0	T	NFO	MA	TING	NCIA	ΙĀΓ	EW (	OR
NUMBER		ASSET PLANNING	\SSE	ASSET DISPOSAL	IN	ASSET OPERATIONS	ASSET MAINTENANCE	M	RISK MANAGEMENT	NO	FINANCIAL PLANNING	API	REVIEW OF AMS	PERFORMANCE AUDIT
1	Licensee Asset Management Policy	1	4	4	ш	1	1	4	Ľ				<u> </u>	
2	Contractor Asset Management Policy													
3	Licensee Asset Management System													
4	Contractor Asset Management System													
5	Licensee Asset Management Plan													
6	Contractor Asset Management Plan													
7	Operational Schematic													
8	Schematic of the Contracts supporting Licensee													
9	Licensee Organisational Structure													
10	Contractor Organisational Structure													
11	Contractor Annual Maintenance Schedule													
12	Licensee Annual Maintenance Schedule													
13	Description of Licensee Maintenance System													
14	Description of Contractor Maintenance System													
15	Electricity Generation License													
16	Licensee Emergency Response Plan													
17	Contractor Emergency Response Plan													
18	Licensee Environment Compliance Plan													
19	Contractor Environment Compliance Plan													
20	Licensee Health and Safety Plan													
21	Contractor Health and Safety Plan													
22	Licensee Workplace Health & Safety System													
23	Contractor Workplace Health & Safety System													
24	Licensee Site Risk Register													
25	Contractor Site Risk Register													
26	MOU with FESA etc							_						
27	Licensee Risk Management Procedure													
28	Contractor Risk Management Procedure													
29	Licensee Computer & Information Management Plan													
30	Licensee Cyber Security													



32 Licensee Standard Operating Procedure Listing 33 Contractor Standard Operating Procedure Listing Asset Management Agreement with Contractor — 4 Applicable to Audit Period 35 Licensee Outage Management Procedure 36 PPA 37 Overview of internal/external reporting processes 38 O&M Agreement Licensee Management Reports — Applicable to 40 Audit Period 41 Western Power Operating Protocol 41 Western Power Operating Protocol 42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee — Asset Register (Including Financial/Physical Asset) Note: may be separate processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Business Continuity of Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Complance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) — Applicable to Audit 68 Board Reports	NUMBER	DOCUMENT ASSESSMENT  Current, Reviewed, implementation verified  Requires some review, implementation not fully verified  Requires review, document obsolete or not implemented	ASSET PLANNING	ASSET CREATION & AQUISITION	ASSET DISPOSAL	ENVIRONENTAL ANALYSIS	ASSET OPERATIONS	ASSET MAINTENANCE	A M INFORMATION SYSTEM	RISK MANAGEMENT	CONTINGENCY PLLANNING	FINANCIAL PLANNING	CAPITAL EXPENDITURE PLANNING	REVIEW OF AMS	PERFORMANCE AUDIT
33 Contractor Standard Operating Procedure Listing Asset Management Agreement with Contractor – 34 Applicable to Audit Period 35 Licensee Outage Management Procedure 36 PPA 37 Overview of internal/external reporting processes 38 O&M Agreement Licensee Management Reports – Applicable to Audit Period Asset Management Agreement Operational Reports 40 – Applicable to Audit Period 41 Western Power Operating Protocol 42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports	31	Contractor Cyber Security													
Asset Management Agreement with Contractor – Applicable to Audit Period  35 Licensee Outage Management Procedure  36 PPA  37 Overview of internal/external reporting processes  38 O&M Agreement Licensee Management Reports – Applicable to Asset Management Agreement Operational Reports Asset Management Agreement Operational Reports Applicable to Audit Period  41 Western Power Operating Protocol  42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes  44 Licensee Business Continuity Plan  45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee - Asset Register (Including Financial/Physical Asset) Note: may be separate processes  48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports 59 Change Managements (Audited) – Applicable to Audit 67 Period 68 Board Reports															
36 PPA 37 Overview of internal/external reporting processes 38 O&M Agreement Licensee Management Reports – Applicable to Asset Management Agreement Operational Reports – Applicable to Audit Period 41 Western Power Operating Protocol 42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 56 Company Reports Financial Statements (Audited) – Applicable to Audit Feriod 68 Board Reports		Asset Management Agreement with Contractor –													
37 Overview of internal/external reporting processes  38 O&M Agreement Licensee Management Reports – Applicable to 39 Audit Period Asset Management Agreement Operational Reports – Applicable to Audit Period 40 Asset Management Agreement Operational Reports – Applicable to Audit Period 41 Western Power Operating Protocol 42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Auditted) – Applicable to Audit 67 Period 68 Board Reports	35	Licensee Outage Management Procedure													
O&M Agreement   Licensee Management Reports - Applicable to   Audit Period   Audit Period   Asset Management Agreement Operational Reports   Applicable to Audit Period   Asset Management Agreement Operational Reports   Applicable to Audit Period   Asset Management Agreement Operational Reports   Applicable to Audit Period   Asset Management Agreement Operational Reports   Applicable to Audit Period   Applicable to Audit Period   Audit	36	PPA													
Licensee Management Reports – Applicable to Audit Period Asset Management Agreement Operational Reports - Applicable to Audit Period  41 Western Power Operating Protocol 42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) – Applicable to Audit 67 Period 68 Board Reports	37	Overview of internal/external reporting processes													
Asset Management Agreement Operational Reports - Applicable to Audit Period  41 Western Power Operating Protocol  42 Licensee Monthly/Weekly/Daily Meeting Minutes  43 Contractor Monthly/Weekly/Daily Meeting Minutes  44 Licensee Business Continuity Plan  45 Licensee Procurement procedure  46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes  48 Leases  49 Plant Modification Process  50 Change Management  51 Licensee Budget – Applicable to Audit Period  52 Practical Completion Documentation (if applicable)  53 Training Register  54 Competency & Awareness Processes  55 Compliance Schedule/Register  57 OPEX&CAPEX Process  58 Company Reports Financial Statements (Audited) – Applicable to Audit Period  68 Board Reports	38														
40 — Applicable to Audit Period 41 Western Power Operating Protocol 42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee — Asset Register (Including Financial/Physical Asset) Note: may be separate processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget — Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 56 Company Reports 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) — Applicable to Audit 67 Period 68 Board Reports	39	Audit Period													
42 Licensee Monthly/Weekly/Daily Meeting Minutes 43 Contractor Monthly/Weekly/Daily Meeting Minutes 44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee - Asset Register (Including Financial/Physical Asset) Note: may be separate processes 47 processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget - Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) - Applicable to Audit Period 68 Board Reports	40														
43 Contractor Monthly/Weekly/Daily Meeting Minutes  44 Licensee Business Continuity Plan  45 Licensee Procurement procedure  46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes  48 Leases  49 Plant Modification Process  50 Change Management  51 Licensee Budget – Applicable to Audit Period  52 Practical Completion Documentation (if applicable)  53 Training Register  54 Competency & Awareness Processes  55 Compliance Schedule/Register  57 OPEX&CAPEX Process  58 Company Reports Financial Statements (Audited) – Applicable to Audit Period  68 Board Reports	41	Western Power Operating Protocol													
44 Licensee Business Continuity Plan 45 Licensee Procurement procedure 46 Connection Contract (Western Power) Licensee - Asset Register (Including Financial/Physical Asset) Note: may be separate processes 48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget - Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) - Applicable to Audit Period 68 Board Reports	42	Licensee Monthly/Weekly/Daily Meeting Minutes													
45 Licensee Procurement procedure  46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes  48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) – Applicable to Audit 67 Period 68 Board Reports	43	Contractor Monthly/Weekly/Daily Meeting Minutes													
46 Connection Contract (Western Power) Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes  48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) – Applicable to Audit Period 68 Board Reports	44	Licensee Business Continuity Plan													
Licensee – Asset Register (Including Financial/Physical Asset) Note: may be separate processes  48 Leases 49 Plant Modification Process 50 Change Management 51 Licensee Budget – Applicable to Audit Period 52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) – Applicable to Audit Period 68 Board Reports	45	Licensee Procurement procedure													
Financial/Physical Asset) Note: may be separate processes  48 Leases  49 Plant Modification Process  50 Change Management  51 Licensee Budget – Applicable to Audit Period  52 Practical Completion Documentation (if applicable)  53 Training Register  54 Competency & Awareness Processes  55 Compliance Schedule/Register  57 OPEX&CAPEX Process  58 Company Reports  Financial Statements (Audited) – Applicable to Audit Period	46														
49 Plant Modification Process  50 Change Management  51 Licensee Budget – Applicable to Audit Period  52 Practical Completion Documentation (if applicable)  53 Training Register  54 Competency & Awareness Processes  55 Compliance Schedule/Register  57 OPEX&CAPEX Process  58 Company Reports  Financial Statements (Audited) – Applicable to Audit Period  68 Board Reports	47	Financial/Physical Asset) Note: may be separate													
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52 Practical Completion Documentation (if applicable) 53 Training Register 54 Competency & Awareness Processes 55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) – Applicable to Audit Period 68 Board Reports	50	Change Management													
53         Training Register           54         Competency & Awareness Processes           55         Compliance Schedule/Register           57         OPEX&CAPEX Process           58         Company Reports           Financial Statements (Audited) – Applicable to Audit Period           67         Period           68         Board Reports	51	Licensee Budget – Applicable to Audit Period													
54         Competency & Awareness Processes           55         Compliance Schedule/Register           57         OPEX&CAPEX Process           58         Company Reports           Financial Statements (Audited) – Applicable to Audit Period           67         Period           68         Board Reports	52	Practical Completion Documentation (if applicable)													
55 Compliance Schedule/Register 57 OPEX&CAPEX Process 58 Company Reports Financial Statements (Audited) – Applicable to Audit Period 68 Board Reports	53	Training Register													
57 OPEX&CAPEX Process  58 Company Reports  Financial Statements (Audited) – Applicable to Audit Period  68 Board Reports	54	Competency & Awareness Processes													
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68 Board Reports	67														
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NUMBER	DOCUMENT ASSESSMENT  Current, Reviewed, implementation verified  Requires some review, implementation not fully verified  Requires review, document obsolete or not implemented	ASSET PLANNING	ASSET CREATION & AQUISITION	ASSET DISPOSAL	ENVIRONENTAL ANALYSIS	ASSET OPERATIONS	ASSET MAINTENANCE	A M INFORMATION SYSTEM	RISK MANAGEMENT	CONTINGENCY PLLANNING	FINANCIAL PLANNING	CAPITAL EXPENDITURE PLANNING	REVIEW OF AMS	PERFORMANCE AUDIT
70	ERA Compliance Reporting ERA Generation Annual License Payment –													
71	Applicable to Audit Period													
72	ERA Compliance Report – Applicable to Audit Period													
73	ERA Standing Charges License Invoices & Payments – Applicable to Audit Period													
74	ERA Letter - Commencement of EGL5 performance audit and asset management system review													
75	ERA Letter - Approval of auditor – EGL5 performance audit and asset management system review													
76	Licensee Business Plan													
77	Licensee Policy manual													
78	Delegation of Authority													
79	Stakeholder Communication Processes/Policy													
80	Lifecycle Costing – If not included in the asset management plan													
81	Budget Approval Processes													
82	Condition Monitoring Processes													
83	Preventative Maintenance													
84	Critical Spares													
93	Other Regulatory Licenses – If Applicable													
94	Other Regulatory Reports – If Applicable													
95	Maintenance Checklists													
96	Data Backup Procedures													
97	Licensee Operational Contingency Plans													
98	Contractor Operational Contingency Plans											_		
99	Dispute Resolution Processes													
100	AEMO Black Start Commissioning correspondence													