

Independent Assurance Report

*Asset Management System
(AMS) Review 2021*

*Rottnest Island
Authority*

*Electricity
Integrated
Regional
Licence 3
(EIRL3)*

December 2021



Arvid Hogstrom
Director Environment Heritage and Parks
Rottnest Island Authority
PO Box 693
Fremantle, WA 6959

17 December 2021

Subject: Rottnest Island Authority – Asset Management System Review 2021

As stated in request DBCARIAQ4421, our offer submission and the acceptance of offer on 18 May 2021, we have completed the Asset Management System Review for the Rottnest Island Authority for the period 1 April 2019 – 31 March 2021 and are pleased to submit our report to you.

I confirm that this report is an accurate presentation of the findings and conclusions from our review procedures.

If you have any questions or wish to discuss anything raised in the report, please contact me on +61 422 002 354.

Yours sincerely



Justin Eve

Partner

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Notice to any reader of this report

This report has been prepared by PricewaterhouseCoopers ABN 52 780 433 757 (“PwC”) for the use and benefit of the Rottneest Island Authority (“Client”) in accordance with and for the purpose set out in our engagement terms with the Client dated 18 May 2021.

PwC makes no representation concerning the appropriateness of this report for use by anyone other than the Client for the purpose described above. If any other person chooses to use or rely on this report they do so at their own risk. PwC accepts no duty, liability or responsibility in any way whatsoever: (a) in connection with the use of this report by any persons other than the Client; or (b) to the Client for the consequences of using or relying on this report for a purpose other than as referred to above.

This report may be disclosed to the Economic Regulation Authority of Western Australia (“ERA”) for the purposes of sections 14(1)(c) and 14(2) of the Electricity Industry Act 2004 (WA).

PwC’s liability is limited by a scheme approved under Professional Standards Legislation.

This disclaimer applies: (a) to the maximum extent permitted by law and, without limitation, to liability arising in negligence or under statute; and (b) even if PwC consents to any other party receiving or using this report.

1 *Independent assurance practitioner's report*

Independent assurance report on the Rottnest Island Asset Management System Review 2021

To Arvid Hogstrom, Director Environment Heritage and Parks:

Qualified Conclusion

Per requirements of Sections 14(1)(c) and 14(2) of the Electricity Industry Act 2004, we have undertaken a limited assurance engagement on the adequacy and effectiveness of the Rottnest Island Authority's (RIA) asset management system, in all material respects, as evaluated against the criteria defined in Table 23 of the "Economic Regulation Authority (ERA or the Authority) Audit and Review Guidelines: Electricity and Gas Licences (March 2019)" (the Guidelines) for the period 1 April 2019 to 31 March 2021.

Based on the procedures we have performed and the evidence we have obtained, except for the matters outlined in our Basis for Qualified Conclusion paragraph, nothing has come to our attention that causes us to believe that RIA's asset management system is not adequate and effective, in all material respects, as evaluated against the Guidelines throughout the period 1 April 2019 to 31 March 2021.

Basis for Qualified Conclusion

During the period 1 April 2019 to 31 March 2021, RIA did not have elements of an adequate and effective asset management system in the following instances (rated as 'C - requiring significant improvement', or '3 - corrective action required'), as evaluated against the Guidelines:

Asset management process or effectiveness criterion (and ref#)	Issue
1.2 Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	The lack of detailed lifecycle costing on an asset level and key asset risk modelling to prioritise maintenance tasks leads to the risk that planning processes and objectives may not reflect the needs of all stakeholders.
1.5 Lifecycle costs of owning and operating assets are assessed	No evidence was provided to corroborate that a Life Cycle Costing (LLC) model was used during the review period. However, a solution has been in the development phase during the review period.
1.8 Likelihood and consequences of asset failure are predicted	Ongoing review and risk management of the assets are not being conducted on a routine basis. Some assets listed in the Electrical Assets Register had missing or inappropriate risk ratings.
2.2 Evaluations include all life-cycle costs	No evidence was sighted for consideration of detailed life cycle costs breakdown for operations and maintenance.
3.3 Disposal alternatives are evaluated	For one sample tested, we noted that the decommissioning, removing and replacement of the asset was included as part of the quotation documentation obtained. We also noted that an evaluation of disposal alternatives did not appear on the request for quote or the business case and that no asset disposal form was used to dispose of the asset.

5.2	Risk management is applied to prioritise operations tasks	Our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis.
6.5	Risk management is applied to prioritise maintenance tasks	Our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis.
6.6	Maintenance costs are measured and monitored	Maintenance costs of electricity production are currently not being captured and reported due to the outcome-based nature of the FUSS contract.
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	A detailed risk modelling in relation to the capacity, availability and load of the diesel generators, is yet to be implemented to ensure that maintenance tasks are prioritised in terms of risk.
8.3	Probability and consequences of asset failure are regularly assessed	Ongoing review and risk management of the assets are not being conducted on a routine basis as it was noted through our walkthrough and review of the Maximo Electrical Assets Register that some assets had missing or inappropriate risk ratings.
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	No evidence was obtained to confirm that a Life Cycle Costing (LCC) process was conducted during the review period in order to provide detailed and actual lifecycle costing to operate individual assets to inform accurate CAPEX planning for the future years based on the asset age and condition.
12.1	A review process is in place to ensure the asset management plan and the asset management system described in it remain current	The Multi Utility Asset Management Plan 2016-2020 (MUAP) and the Strategic Asset Plan 2019-2020 have not been reviewed during the review period, nor did they present an expected frequency of review. These documents were replaced with an appropriate Strategic Asset Management Plan 2021-2030 in October 2020 and an appropriate Electrical Infrastructure Asset Management Plan in March 2021.

Refer to section 6 and section 7 of this report for further details on elements of the asset management system with ratings 'B' (requires some improvement) and '2' (improvement required).

We conducted our engagement in accordance with Standard on Assurance Engagements ASAE 3500 *Performance Engagements* issued by the Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our qualified conclusion.

Rottnest Island Authority's responsibilities

Rottnest Island Authority's management is responsible for:

- a) Establishing and maintaining an adequate and effective asset management system, in accordance with the criteria defined in section 14 of the Electricity Industry Act 2004 (WA) and section 1.5.2 of the Guidelines.
- b) Identification of risks that threaten the adequacy, effectiveness of RIA's asset management system against the criteria defined in the Guidelines, and controls which will mitigate those risks and monitoring ongoing progress.

Our independence and quality control

We have complied with the independence and other relevant ethical requirements relating to assurance engagements, and apply Auditing Standard ASQC 1 Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, and Other Assurance Engagements in undertaking this assurance engagement.

Our responsibilities

Our responsibility is to express a limited assurance conclusion on whether anything has come to our attention that RIA does not have an adequate and effective asset management system, as evaluated against the Guidelines throughout the specified period.

In a limited assurance engagement, the assurance practitioner performs procedures, primarily consisting of discussion and enquiries of management and others within the entity, as appropriate, and observation and walk-throughs and evaluates the evidence obtained. The procedures selected depend on our judgement, including identifying areas where the risk of material inadequacy or ineffectiveness, as evaluated against the Guidelines, are likely to arise.

Given the circumstances of the engagement, in performing the procedures listed above, we:

- Through discussion, enquiries and observation, obtained an understanding of the RIA's asset management framework and internal control environment as evaluated against the effectiveness criteria's defined in ERA's Guidelines
- Through discussion, enquiries, observation and walk-throughs, obtained an understanding of relevant activities that are undertaken as evaluated against the effectiveness criteria's defined in ERA's Guidelines

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion on whether the RIA has an adequate and effective asset management system in accordance with the Guidelines.

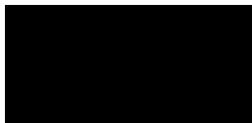
Inherent limitations

Because of the inherent limitations of an assurance engagement, together with the internal control structure it is possible that fraud, error, or inadequacy and ineffectiveness of the asset management system in accordance with the Guidelines may occur and not be detected.

A limited assurance engagement throughout the specified period does not provide assurance on the adequacy and effectiveness of the assessment management system, in accordance with the Guidelines, will continue in the future.

Use of report

This report has been prepared for use by the Rottnest Island Authority, for the purpose of Sections 14(1)(c) and 14(2) of the Electricity Industry Act 2004 (WA). We disclaim any assumption of responsibility for any reliance on this report to any person other than the Rottnest Island Authority, or for any other purpose than that for which it was prepared.



PricewaterhouseCoopers



us n ve
Partner

Perth
17 December 2021

2 Executive summary

2.1 Introduction and background

The Rottnest Island Authority (RIA or the licensee) holds an Electricity Integrated Regional Licence (EIRL3) issued by the Economic Regulation Authority (ERA or the Authority) required under sections 7 of the Electricity Industry Act 2004 (WA) (the Act).

Under Section 14(1)(c) of the Electricity Industry Act 2004 (WA) the RIA is required to provide to the Authority an Asset Management System Review of the Rottnest Island EIRL3 Licence. Under the conditions of the licence, RIA's systems are subject to independent asset management system reviews at 24-month intervals or other period as determined by the Authority. The asset management system review is to determine the effectiveness of the licensee's asset management system.

The licence has been granted for the area covering Rottnest Island, 18 km offshore of Fremantle, Western Australia and applies to the generation, retail and distribution services provided by RIA. The generation and distribution facilities are operated by Programmed Facility Management (PFM) which have been contracted to provide the operation and maintenance services under a service availability agreement.

The power station consists of seven diesel generators providing 2040 kW, one wind turbine generator operationally rated at 600 kW and a solar farm operationally rated at 600 kW for a total generating capacity of 3240 kW. Section 3 of the Act defines a distribution system as infrastructure associated with the transportation of electricity at nominal voltages less than 66kV. Electricity on Rottnest Island is supplied over an 11 kV high voltage (HV) distribution system, both underground and overhead, a number of substations and a 415V low voltage (LV) distribution system.

It was noted that there have been no substantial or material changes to the assets and the business (RIA) since the previous review in 2019.

PricewaterhouseCoopers (PwC) has been engaged by RIA to conduct asset management system review (the review) in accordance with the Authority's "Audit and Review Guidelines: Electricity and Gas Licences (2019)" (the Guidelines) for the period 1 April 2019 to 31 March 2021. The Authority approved PricewaterhouseCoopers to undertake the review in May 2021.

2.2 Summary of actions taken by RIA in response to previous review recommendations

This review considered RIA's progress in completing the action plans detailed in the 2019 asset management system review report and post review implementation plan.

Based on our examination of the relevant documents, discussion with staff and consideration of the results of this review's observations against the associated asset management system review components, we have determined that RIA has completed nine (9) action plans detailed in the 2019 asset management system review report and post review implementation plan.

However, there are fifteen (15) action plans still outstanding at the end of the review period. These are either currently still in progress or we were unable to obtain sufficient evidence to support the completion of the relevant action plans.

Refer to section 5 of this report for further detail.

2.3 Summary of findings and recommendations arising from current review

A total number of twelve (12) individual recommendations against asset management system review components were raised in this review, which have a performance rating of 3, or a process and policy rating of C, as well as a total of five (5) recommendations with a performance rating of 2, or a process and policy rating of B.

A key finding and recommendation which was applicable to a number of asset management system components was on the need for detailed life cycle costing on a key individual asset level, capturing actual operational and maintenance costs of the assets which can then be regularly reviewed against forecasted values. This helps to inform RIA's capital expenditure planning for the future years on assets requiring increased maintenance. We note that this key finding was carried forward from the prior Asset Management System Review conducted in 2019, as RIA is still to implement a permanent Life Cycle Costing (LCC) modelling solution. Nevertheless, we note that RIA is in the process of developing a solution to this through the ASSETIC EAM system, which will provide lifecycle costing of key assets once implemented (implementation is expected to occur in November 2021).

Refer to section 6 and section 7 of this report for further detail.

Table 1 below sets out the rating scales used to rate the adequacy of a RIA's processes and policies; and Table 2 sets out the rating scales used to rate RIA's performance. These rating scales are defined by the ERA in the Audit and Review Guidelines (2019).

Table 1: Process and policy rating scale (reviews)

Rating	Description	Criteria
A	Adequately defined	<ul style="list-style-type: none"> Processes and policies are documented. Processes and policies adequately document the required performance of the assets. Processes and policies are subject to regular reviews, and updated where necessary. The asset management information system(s) are adequate in relation to the assets being managed.
B	Requires some improvement	<ul style="list-style-type: none"> Processes and policies require improvement. Processes and policies do not adequately document the required performance of the assets. Reviews of processes and policies are not conducted regularly enough. The asset management information system(s) requires minor improvements (taking into consideration the assets being managed).
C	Requires substantial improvement	<ul style="list-style-type: none"> Processes and policies are incomplete or require substantial improvement. Processes and policies do not document the required performance of the assets. Processes and policies are considerably out of date.

		<ul style="list-style-type: none"> The asset management information system(s) requires substantial improvements (taking into consideration the assets being managed).
D	Inadequate	<ul style="list-style-type: none"> Processes and policies are not documented. The asset management information system(s) is not fit for purpose (taking into consideration the assets being managed).

Table 2: Performance rating scale (reviews)

Rating	Description	Criteria
1	Performing effectively	<ul style="list-style-type: none"> The performance of the process meets or exceeds the required levels of performance. Process effectiveness is regularly assessed, and corrective action taken where necessary.
2	Improvement required	<ul style="list-style-type: none"> The performance of the process requires some improvement to meet the required level. Process effectiveness reviews are not performed regularly enough. Recommended process improvements are not implemented.
3	Corrective action required	<ul style="list-style-type: none"> The performance of the process requires substantial improvement to meet the required level. Process effectiveness reviews are performed irregularly, or not at all. Recommended process improvements are not implemented
4	Serious action required	<ul style="list-style-type: none"> Process is not performed, or the performance is so poor the process is considered to be ineffective.

2.4 Overall assessment

In considering the RIA's internal controls procedures, structure and environment, its compliance culture and its information systems specifically relevant to asset management system components relevant to the review, except for the matters outlined in part 4 (table 3.B) and part 7 of this report, nothing has come to our attention that causes us to believe that RIA has not established and maintained an effective asset management system, as evaluated by the effectiveness criteria defined in Table 23 of the Guidelines, throughout the period 1 April 2019 to 31 March 2021. Please refer to part 4 (table 3.B) and part 7 of his report for further details.

3 *Scope of work*

3.1 *Scope and Objective*

The purpose of the asset management system review was to undertake a limited assurance audit in accordance with ASAE 3500 Performance Engagements) to assess the adequacy and effectiveness of the RIA's asset management system against the criteria defined in Table 23 of the ERA Audit and Review Guidelines: Electricity and Gas Licences (March 2019).

The scope of the review has included an assessment of the adequacy and effectiveness of the asset management system by evaluating the following asset management processes that are stipulated in the Guidelines::

- asset planning
- asset creation/acquisition
- asset disposal
- environmental analysis
- asset operations
- asset maintenance
- asset management information system
- risk management
- contingency planning
- financial planning
- capital expenditure planning
- review of the asset management system.

Each of the system processes were evaluated against effectiveness criteria defined in the ERA Audit and Review Guidelines (March 2019).

3.2 *Review period*

The asset management system review covered the period 1 April 2019 to 31 March 2021.

3.3 *This report*

The report includes:

- A summary of the objectives and scope of the review;
- Key observations and recommendations from the review; and
- Separately, a post review implementation plan prepared by the licensee listing the review recommendations and the responses and actions proposed by RIA to the asset management deficiencies identified in this review (including those carried forward

from the 2019 review). The plan does not form part of the report and was provided separately by the licensee.

3.4 Approach

A risk-based approach was applied to planning and conducting the review. PwC determined the review priority for each asset management process by assessing the relevant risk factors and controls in place. The focus of the review was on higher priorities, with less extensive coverage of medium and lower priorities.

To achieve consistency of risk assessment across the different utility sectors and licences, a risk evaluation model was applied, per Appendix 3 in ERA Audit and Review Guidelines (2019).

3.5 Site visits

The following facilities were visited during the review:

- RIA head office, Fremantle;
- RIA Power utility facilities at Rottnest Island; and
- PFM head office, Burswood.

3.6 Personnel and documentation

Key contacts and Review Team

On behalf of the licensee, key contacts for the asset management system review were:

Rottnest Island

- Elise Luscombe - Acting Environment, Health and Compliance Coordinator
- Rebecca Gabbitus - Acting Environment, Sustainability and Compliance Manager
- Sydney McDowell - Director of Infrastructure
- Roger Petit - Manager Electricity and Fuel Infrastructure
- Eammon Williams - Manager Contracts
- Orrin Neal - Manager Compliance
- Luke Bennett - Trust Accounts
- Angla Sicree - Leasing and Planning Assistant

The Review team will comprise the following personnel:

- Justin Eve - Engagement Leader
- Cameron Jones - Quality Review Partner
- Kate Barton - Team Manager

- Mily Foeng Vergel - Senior Consultant
- Adwait Vaidya - Senior Consultant
- Quentin Thony – Senior Consultant

Documentation

Key documents that were reviewed as part of the review included the following (see below). Additional documents were included in the list as the review progressed.

Asset Management System Review documentation:

- 2017 Asset Management Review report.
- 2019 Asset Management Review Final Report (PwC).
- Asset Disposal Form.
- Board approval of the FY21 Budget.
- Business Case - Generator 6 Replacement.
- CFO Report March 2021.
- CMS - Example of calendar reminder.
- CMS - Examples of quarterly email sent by compliance.
- Commissioning tests.
- Competency Matrix.
- Compliance Management System Manual Framework.
- Compliance Management System Register.
- Electrical - Service Recovery and Contingency Plan.
- Electricity Business Continuity Drill Testing evidence.
- Electrical Infrastructure Asset Management Plan (EIAMP).
- Emergency Generator Installation Procedure.
- Evidence of timely report submissions.
- Facilities Utilities and Support Services (FUSS) contract.
- Finance Management Manual.
- FUSS KPI Report.
- FUSS Service Report.
- FY21 Infrastructure Budget.
- Gen 6 Sage Screenshot.
- Generator 6 Replacement Business Case.
- Generator 6 Request for Tender.
- Hotel Transformer Business Case.
- Maximo Electrical Assets Register.
- Maximo Priority Definitions.
- Maximo System Walkthrough Screenshots.
- Network Quality and Reliability of Supply Report.
- NOW Risk Register.
- Operational Risk Register.
- Outages Register.
- PFM Emergency Response Plan.
- PFM Risk Management Plan.
- PFM Risk Management Procedure.
- Planned Outage Notification Procedure.
- Restoration Priority Register Electrical Services Procedure.
- RIA Annual Report 2019-2020.
- RIA asset disposal procedure.
- RIA Management Plan 2020-2024.
- RIA Risk Management Framework.
- RIA Risk Management Policy.
- RIA Risk Register.
- Rottnest Generation Development Study Report.
- Rottnest Island Electrical Infrastructure Business Case.

- Rottnest Island Management Plan (RIMP).
- Rottnest Multi Utility Asset Management Plan (MUAMP).
- Strategic Asset Management Plan (SAMP).
- Strategic Asset Plans (SAP).
- WA Budget papers.

3.7 *Work schedule*

Activity	Team Member	Start Date	Completion Date	Actual Time (hrs)
Project start	Justin Eve, Partner Kate Barton, Senior Manager Mily Foeng Vergel, Senior Consultant Adwait Vaidya, Senior Consultant	09/06/2021	N/A	N/A
Preliminary Assessment	Justin Eve, Partner Cameron Jones, QRP Kate Barton, Senior Manager Mily Foeng Vergel, Senior Consultant	09/06/2021	09/06/2021	10
Review Plan – Issued First Draft to RIA	Justin Eve, Partner Kate Barton, Senior Manager Mily Foeng Vergel, Senior Consultant Adwait Vaidya, Senior Consultant Quentin Thony, Senior Consultant	09/06/2021	02/07/2021	22.5
Review meetings and documentation review	Justin Eve, Partner Cameron Jones, QRP Kate Barton, Senior Manager Mily Foeng Vergel, Senior Consultant Quentin Thony, Senior Consultant	02/07/2021	31/08/2021	198
Report – First Draft to RIA/ERA and Post Review Implementation Plan	Justin Eve, Partner Cameron Jones, QRP Kate Barton, Senior Manager	30/07/2021	14/09/2021	42.5

	Mily Foeng Vergel, Senior Consultant			
Report – Final Issue to RIA/ERA	Justin Eve, Partner Cameron Jones, QRP Kate Barton, Senior Manager Mily Foeng Vergel, Senior Consultant	28/09/2021	12/10/2021	125
Report - Post Review Implementation Plan (if applicable)	Justin Eve, Partner Cameron Jones, QRP Kate Barton, Senior Manager Mily Foeng Vergel, Senior Consultant	12/10/2021	26/10/2021	10

4 Recommendations from previous review

Table below outlines RIA’s progress in completing the action plans detailed in the 2019 asset management system review report and post review implementation plan. We note that for part B of this table, our recommendations have been updated where applicable, to reflect RIA’s progress on the implementation of their agreed action plan from the previous review period.

Table 3: Status of recommendations from previous review

A. Resolved during current review period			
Recommendation reference	Process and policy deficiency / Performance deficiency	Date resolved and action taken by licensee	Reviewer’s comments
01/2019	<p>B2 Asset Planning - Does the asset management plan cover all key requirements?</p> <p>The Multi Utility Asset Management Plan (MUAMP) is review each year and is a very comprehensive and large document. For efficiency reasons RIA propose to extend the review period from 1 year to 2 years.</p>	<p>Completed March 2021:</p> <p>Individual asset management plans for electricity, water and waste water were completed 30 March 2021</p>	No Further Action required
04/2019	<p>B2 Asset Planning - Are the plans being regularly reviewed and updated?</p> <p>The MUAMP does not clearly articulate the review cycle of every 2 years</p>	<p>Completed March 2021:</p> <p>An Electricity Infrastructure Asset Management Plan has been developed along with a long term Strategic Asset Management plan which both include next review dates and frequency of review.</p>	No Further Action required
05/2019	<p>B2 Asset Planning - Is the capability of the plant adequate to meet future demand?</p> <p>The review found that the network is not N-1 compliant N-1 refers to an abnormal situation in which oneasset that otherwise contributes to the system is out-of-service; the analysis is conducted under the assumption that the asset with the largest impact is out-of-service, thereby identifying the most conservative outcome.</p>	<p>Completed March 2021:</p> <p>The Entura Electricity Generation Development study has been completed. The final report is dated 19 April 2021, and the final draft was provided in March 2021.</p>	No Further Action required

12/2019	<p>B1 Risk Management - Are risks documented in a risk register and are treatment plans actioned and monitored?</p> <p>Appropriate high level risks were identified and treatments listed in the Power Risk Matrix. Risk ratings were determined however future action and risk owner were not clearly defined which may lead to confusion of implementation</p>	<p>Completed April 2020:</p> <p>RIA risk register was updated in April 2020 to include action owners, specified tasks, due dates and updates on progress.</p>	No Further Action required
14/2019	<p>B1 Review of AMS - Is there a review process in place to ensure that the asset management plan and the asset are the management systems described therein kept?</p> <p>The MUAMP does not mandate a set review period</p>	<p>Completed March 2021:</p> <p>An Electricity Infrastructure Asset Management Plan has been developed along with a long term Strategic Asset Management plan which both include next review dates and frequency of review.</p>	No Further Action required
17/2019	<p>B3 (1.9) Asset Planning-Asset management plan is regularly reviewed and updated</p> <p>It was noted that the Multi Utility Asset Management Plan 2016- 2010 (finalised December 2016) has not been reviewed for over two and a half years at the time of review. It was also noted that the expectation on the frequency of review is not outlined. Furthermore, the Strategic Asset Management Plan 2016-2017 (authorised September 2016) is outdated and some minor content within the document was noted to be outdated at the time of review.</p>	<p>Completed March 2021:</p> <p>An Electricity Infrastructure Asset Management Plan has been developed along with a long term Strategic Asset Management plan which both include next review dates and frequency of review.</p>	No Further Action required
20/2019	<p>B3 (3.3) Asset Disposal - Disposal alternatives are evaluated</p> <p>PFM's Asset Disposal Procedure outlines the options available to dispose of assets, including sale by tender, auction or direct sale, salvage parts to use as spares, scrapping or donations. Professional valuation is performed to determine market value of an item before disposal. However, based on inquiries with the Asset Manager, it was noted that disposal alternatives are assessed on an ad-hoc, as needs basis by PFM staff, depending on the asset type</p>	<p>Completed March 2021:</p> <p>Complete. There is no authority under the FUSS Contract for PFM to dispose of RIA assets without permission or direction from RIA which would need to be documented, including the disposal method. Any RIA asset that is to be disposed must complete the appropriate RIA asset disposal form.</p>	No Further Action required
21/2019	<p>C3 (4.3) Environmental Analysis - Compliance with statutory and regulatory requirements</p> <p>RIA maintains an Electrical, Water, Gas Licence Compliance Register which lists high-level compliance requirements and timing. However, no evidence was found on the identification, monitoring and reporting of ongoing regulatory obligations</p>	<p>Completed March 2021:</p> <p>Complete. The CMS is 100% complete and it is being implemented.</p>	No Further Action required
24/2019	<p>B3 (12.1) AMS Review - A review process is in place to ensure the asset management plan and the asset management system described in it remain current.</p>	<p>Completed March 2021:</p>	No Further Action required

	MUAMP 2016-2020 was last updated in December 2016. SAMP was last updated in July 2016.	An Electricity Infrastructure Asset Management Plan has been developed along with a long term Strategic Asset Management plan which both include next review dates and frequency of review.	
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B. Unresolved at end of current review period			
Recommendation reference	Process and policy deficiency / Performance deficiency	Reviewer's recommendation	Action taken by the licensee by end of review period
02/2019	<p>B2 Asset Planning - Have the lifecycle costs of owning and operating assets been assessed?</p> <p>The Life Cycle Costing (LCC) model uses predicted costs and actual costs are not always recorded</p>	<p>Capture actual operational and maintenance costs of electricity production and regularly review against forecasted values.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In Progress (to be completed 30 November 2021) LCC models for key electrical assets are to be produced using the Assetic EAM system currently in implementation. Models due to be provided by November 2021. Note that the models will use estimates for actual PFM maintenance costs as discussed previously. (see recommendation 01/2021)</p>
03/2019	<p>B2 Asset Planning - Have the likelihood and consequences of asset failure been predicted?</p> <p>The Enterprise Risk Management Plan (ERMP) does not report residual risk after the application of controls</p>	<p>Assess and document the residual risk for risks identified in the ERMP</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>June 2022- RIA to amend ERMP to include reporting of residual risk. (see recommendation 02/2021)</p>
06/2019	<p>A2 Asset Creation & Acquisition - Do evaluations include all lifecycle costs?</p> <p>Actual operational and maintenance costs are not always captured.</p>	<p>Capture actual operational and maintenance cost of electricity production and regularly review against forecasted values</p> <p>Updated recommendation:</p>	<p>In Progress: (to be completed in 30 November 2021) LCC models for key electrical assets are to be produced using the Assetic EAM system currently in implementation. Models due to be provided by November 2021. Note that the models will use estimates for actual PFM maintenance costs as discussed previously.</p>

		Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).	(see recommendation 05/2021)
07/2019	<p>B2 Asset Disposal - Are underutilised and underperforming assets identified as part of a regular systematic review process?</p> <p>The LCC model only focuses on the assets in the Powerhouse. No other evidence of other underutilised and underperforming assets processes were provided.</p>	<p>1. Continue with identification of legacy cable and joint locations. 2. Update network drawings to show cable and joint locations.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	In Progress as of July 2021: Installation of the new 11 kV feeder cables associated with the State recovery water supply upgrade has not yet started. However, during/upon installation cable routes and cable joint locations will be recorded on the relevant drawings. Surveys have been conducted and drawings updated to record their location for existing cables. This is an ongoing activity to ensure drawings are current. The implementation date is November 2021. (see recommendation 01/2021)
08/2019	<p>B2 Asset Disposal - Is there a replacement strategy for assets?</p> <p>There is an active program to replace wooden poles but no documented plan to replace aged underground legacy cables</p>	<p>Develop a program to identify underground legacy cables and joints and plan for their replacement.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In Progress Status remains in progress as of July 2021 - no updates since March 2021.</p> <p>In progress (March 2021) A staged network development plan has been prepared for the northern HV ring. The implementation date is November 2021. (see recommendation 02/2021)</p>
09/2019	<p>B2 Asset Operations - Are operational costs measured and monitored?</p> <p>Some operational costs are monitored and captured on separate spreadsheets with, in some cases, predicted values used.</p>	<p>Capture actual operational costs of electricity production.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	In progress: See 2/2019 (to be completed 30 November 2021.) LCC models for key electrical assets are to be produced using the Assetic EAM system currently in implementation. Models due to be provided by November 2021. The models will use estimates for actual PFM maintenance costs. (see recommendation 03/2021)
10/2019	<p>B2 Asset Maintenance - Are the maintenance costs measured and monitored?</p>	<p>Capture actual maintenance costs of electricity production.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets</p>	In progress: (to be completed in 30 November 2021) LCC models for key electrical assets are to be produced using the Assetic EAM system currently in implementation. Models due to be provided by November 2021. Note that the

	Some maintenance costs are captured and noted in a separate spreadsheet. Information on labour hours and parts is entered into Navision, a system that is separate from Maximo	risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).	models will use estimates for actual PFM maintenance costs as discussed previously. (see recommendation 03/2021)
11/2019	C3 Asset Management Information System - Does the physical security access control appear adequate? All assets inspected had mechanical devices fitted for locking. A main switchboard outer cabinet was found to be unlocked, all others were secure.	1. Formal notification to be sent to PFM from RIA highlighting non-compliance to electricity safety standards (maintain the security of assets with reference to unlocked main switchboard). 2. Appropriate training to be provided to relevant personnel regarding asset security.	Completed: RIA has completed an audit on switchboard security (by precinct). The audit was completed during the June 2021 and July 2021 period. No Further Action required
13/2019	B2 Capital Expenditure Planning - Is the capital expenditure plan consistent with the asset life and condition identified in the asset management plan. The underground paper-lead cables are legacy technology and are subject to failure at the joints. This ageing asset may not be adequately reflected in the capital expenditure plan, however, it will get assigned to capital expenditure if RIA aligns with PFM. Clear supporting evidence of the plan being supported by current asset condition reports with future asset life expectancy was not sighted. A high level of reliance on emergency back-up (mainly portable generators) was evident.	1. RIA to interrogate the PFM provided detailed condition reports including estimated remaining operating life to support in confirming asset capital replacement planning, including the paper support in confirming asset capital replacement planning, including the paper-lead cables. 2. RIA to revise their capital expenditure plan and commence actions to secure appropriate future capital expenditure to meet the requirements of the updated plan Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).	In Progress Status remains in progress as of July 2021. In progress (March 2021) GHD consultants have produced a draft business plan for submission to Treasury to seek funding. (see recommendation 06/2021)
15/2019	C3 (1.4) Asset Planning - Non asset options (E.g. demand management) are considered Through inquiry and walkthrough with the Asset Manager, it was noted that PFM has implemented a system called COMEC which monitors power usage and demand, and controls engines and power supply on Rottnest Island. Therefore, the site has an active system in place automatically controlling assets to dynamically adjust the system to site demand levels. No evidence was found on RIA formally considering non-asset	RIA should formally consider non-asset options in its asset planning processes, i.e. demand side management instead of assets to increase the supply side capacity.	Complete (July 2021). Demand Management covered in Electrical Asset Management Plan section 3.4 No Further Action required

	options in its asset planning processes, i.e. demand side management instead of assets to increase the supply side capacity.		
16/2019	<p>C3 (1.5) Asset Planning - Lifecycle costs of owning and operating assets are assessed</p> <p>A Life cycle costing (LCC) model is maintained by PFM and reviewed on a quarterly basis. This model details asset information, risk assessment and serviceability on major assets e.g. Generators, HV Power distribution, Wind Turbine. However, it was noted that the LCC does not provide detailed and actual life cycle costing to operate individual assets at an engineering level.</p>	It is recommended that life cycle costing of assets are prepared and reviewed on a key individual asset level (e.g. generator No 1). This should capture actual operational and maintenance costs of the assets which can then be regularly reviewed against forecasted values. This would inform planning for the future years on assets requiring increased maintenance due to age or network changes e.g. renewable solutions (wind and solar) added to the network, which in turn impact the load of existing assets.	In progress: (to be completed in 30 November 2021) LCC models for key electrical assets are to be produced using the Assetic EAM system currently in implementation. Models due to be provided by November 2021. Note that the models will use estimates for actual PFM maintenance costs as discussed previously. (see recommendation 04/2021)
18/2019	<p>B3 (2.2) Asset creation and acquisition - Evaluations include all life-cycle costs</p> <p>Two RIA Business Case templates are available for use; Project short form (\$50k- = \$250k) and Project long form (over \$250k). The two Business Cases sighted include areas such as investment proposal, scope (including cost benefit analysis) and a finance plan. However, no evidence was sighted on consideration of detailed breakdown of lifecycle costs on operations and maintenance.</p>	<p>Consider capturing actual operational and maintenance cost of electricity production and regularly review against forecasted values.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	In Progress. (To be completed December 2021) RIA had ACIL Allen product and activity based costing approach to electricity production. The absence of actual costs at the asset level from FUSS contractor means some estimation will be required. RIA driven costs will be based on its own ABC based model and reporting. (see recommendation 05/2021)
19/2019	<p>C3 (2.5) Asset creation and acquisition - Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood</p> <p>RIA maintains an Electrical, Water, Gas Licence Compliance Register which lists high-level compliance requirements and timing. However, no evidence was found on the identification, monitoring and reporting of ongoing legal / environmental and safety obligations from an asset management level.</p>	Consider identification, monitoring and reporting of ongoing legal / environmental and safety obligations from an asset management level.	<p>Complete (July 2021) RIA strategic and asset management plans overview the legislative obligations and link to the RIA Compliance Management System</p> <p>No Further Action required</p>
22/2019	<p>B3 (8.2) Risk management- Risks are documented in a risk register and treatment plans are implemented and monitored</p>	Assign individual action owners to the risks on the Power Risk Register and	<p>Complete (April 2021)</p> <p>RIA has conducted its own comprehensive electrical assets risk review in April 2021 and has</p>

	<p>The Rottnest Island Power Risk Register outlines detailed risks on an individual asset level. The Programmed Risk Management Framework is applied to this register which includes assessing the severity, likelihood, inherent risk, mitigation options, action plan and responsible owners of each individual asset risk. The most recent risk assessment was performed in April 2019. However, no evidence could be sighted on the Power risk register of individual action owners being assigned and treatment plans being implemented and monitored.</p>	<p>document evidence of regular monitoring of treatment plans.</p>	<p>allocated risk owners for all the treatment plans Minutes of future risk review meetings will be maintained.</p> <p>No Further Action required</p>
<p>23/2019</p>	<p>C3 (11.3) Capital expenditure planning- The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan</p> <p>A Life cycle costing (LCC) model is maintained by PFM and reviewed on a quarterly basis. This model details asset information, risk assessment and serviceability on major assets e.g. Generators, HV Power distribution, Wind Turbine. However, it was noted that the LCC does not provide detailed and actual life cycle costing to operate individual assets to inform accurate CAPEX planning for the future years based on the asset age and condition.</p>	<p>It is recommended that life cycle costing of assets are prepared and reviewed on a key individual asset level (e.g. generator No 1). This should capture actual operational and maintenance costs of the assets which can then be regularly reviewed against forecasted values. This would inform CAPEX planning for the future years on assets requiring increased maintenance due to age or network changes e.g. renewable solutions (wind and solar) added to the network, which in turn impact the load of existing assets.</p> <p>Updated recommendation: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In progress: (to be completed in 30 November 2021) LCC models for key electrical assets are to be produced using the Assetic EAM system currently in implementation. Models due to be provided by November 2021. Note that the models will use estimates for actual PFM maintenance costs as discussed previously. In progress (March 2021) RIA driven costs being tracked at granular level with new Financial BU categories established. Still waiting for PFM to provide actual costs for maintenance. May not get this until the next contract for FUSS is issued. (see recommendation 06/2021)</p>

5 Performance Summary

Table below outlines the performance summary table listing our ratings to each asset management process and effectiveness criterion arising from the current review.

The ratings were assigned in accordance to the rating scales defined by the ERA in the Audit and Review Guidelines (2019).

Table 4: Performance summary table - ratings

Reference no.	Asset Management Process & Effectiveness Criteria	Process & Policy Rating					Performance Rating				
		A	B	C	D	N/P	1	2	3	4	N/R
1	Asset Planning		✓						✓		
1.1	Asset management plan covers the processes in this table	✓					✓				
1.2	Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning		✓						✓		
1.3	Service levels are defined in the asset management plan	✓					✓				
1.4	Non-asset options (e.g. demand management) are considered	✓					✓				
1.5	Lifecycle costs of owning and operating assets are assessed			✓					✓		
1.6	Funding options are evaluated	✓					✓				
1.7	Costs are justified and cost drivers identified	✓					✓				
1.8	Likelihood and consequences of asset failure are predicted		✓						✓		
1.9	Asset management plan is regularly reviewed and updated		✓					✓			
2	Asset creation and acquisition		✓					✓			
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	✓					✓				

2.2	Evaluations include all life-cycle costs		✓					✓		
2.3	Projects reflect sound engineering and business decisions	✓				✓				
2.4	Commissioning tests are documented and completed	✓				✓				
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	✓				✓				
3	Asset disposal		✓				✓			
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process		✓				✓			
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	✓				✓				
3.3	Disposal alternatives are evaluated		✓					✓		
3.4	There is a replacement strategy for assets		✓					✓		
4	Environmental analysis	✓				✓				
4.1	Opportunities and threats in the asset management system environment are assessed	✓				✓				
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	✓				✓				
4.3	Compliance with statutory and regulatory requirements	✓				✓				
4.4	Service standard (customer service levels etc) are measured and achieved	✓				✓				
5	Asset operation		✓				✓			
5.1	Operational policies and procedures are documented and linked to service levels required	✓				✓				
5.2	Risk management is applied to prioritise operations tasks		✓					✓		

5.3	Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	✓					✓				
5.4	Accounting data is documented for assets	✓					✓				
5.5	Operational costs are measured and monitored		✓				✓				
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	✓					✓				
6	Asset maintenance		✓					✓			
6.1	Maintenance policies and procedures are documented and linked to service levels required	✓					✓				
6.2	Regular inspections are undertaken of asset performance and condition	✓					✓				
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	✓					✓				
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	✓					✓				
6.5	Risk management is applied to prioritise maintenance tasks		✓						✓		
6.6	Maintenance costs are measured and monitored			✓				✓			
7	Asset management information system	✓					✓				
7.1	Adequate system documentation for users and IT operators	✓					✓				
7.2	Input controls include suitable verification and validation of data entered into the system	✓					✓				
7.3	Security access controls appear adequate, such as passwords	✓					✓				
7.4	Physical security access controls appear adequate	✓					✓				
7.5	Data backup procedures appear adequate and backups are tested	✓					✓				

7.6	Computations for licensee performance reporting are accurate	✓					✓			
7.7	Management reports appear adequate for the licensee to monitor licence obligations	✓					✓			
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	✓					✓			
8	Risk Management		✓					✓		
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks		✓						✓	
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored		✓					✓		
8.3	Probability and consequences of asset failure are regularly assessed			✓					✓	
9	Contingency planning	✓					✓			
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	✓					✓			
10	Financial planning	✓					✓			
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve those	✓					✓			
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	✓					✓			
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	✓					✓			
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	✓					✓			

10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	✓					✓				
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	✓					✓				
11	Capital expenditure planning		✓					✓			
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	✓					✓				
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	✓					✓				
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan			✓					✓		
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	✓					✓				
12	Review of AMS		✓					✓			
12.1	A review process is in place to ensure the asset management plan and the asset management system described in it remain current		✓						✓		
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	✓					✓				

6 Reviewer's observations

Table below outlines the observations and recommendations arising from the current review. When assessing the effectiveness of the licensee's asset management system, both the adequacy of the licensee's processes and policies (process and policy rating) and the licensee's performance (performance rating) were rated for each asset management process and effectiveness criterion. The ratings were assigned in accordance to the rating scales defined by the ERA in the Audit and Review Guidelines (2019).

Table 5: Observations and recommendations

Reference no.	Asset management process or effectiveness criterion	Review priority	Observations & Recommendations	Process and policy rating	Performance rating
1	Asset Planning	4		B	3
1.1	Asset management plan covers the processes in this table	3	A Multi Utility Asset Management Plan (MUAMP) is in place for 2019/20 and an Electrical Infrastructure Asset Management Plan (EIAMP) is in place for 2020/21. This is supported by an overarching 10 year Strategic Asset Management Plan (SAMP) covering long term asset management goals and objectives, as well as annual Strategic Asset Plans (SAP) covering short term asset strategy. These documents combined generally cover the processes as listed per table 23 of the ERA's 2019 Audit and Review Guidelines – Electricity and Gas Licences.	A	1
1.2	Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	4	A Multi Utility Asset Management Plan (MUAMP) is in place for 2019/20 and an Electrical Infrastructure Asset Management Plan (EIAMP) is in place for 2020/21, supported by a Strategic Asset Management Plan (SAMP), Strategic Asset Investment Plan 2019 to 2022 (SAPs) and an Asset Management Policy. These documents outline short-term and long-term planning processes and objectives and outline key asset management processes and strategies. The SAMP also includes a stakeholder analysis detailing RIA's stakeholder categories, their related needs and level of engagement to be applied to each stakeholder category.	B	3

			<p>However, it was noted from inquiry and walkthrough that deferred asset maintenance occurs, which leads to an increase in asset deterioration rates on key asset classes (HV switchgear and Generators). Furthermore, a number of capital works have been deferred, including replacements required on a number of assets. We note that this could be due to the lack of detailed lifecycle costing on an asset level and key asset risk modelling to prioritise maintenance tasks, as mentioned further throughout our observations. This leads to the risk that planning processes and objectives may not reflect the needs of all stakeholders.</p> <p>Recommendation 01/2021: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>		
1.3	Service levels are defined in the asset management plan	4	<p>Service levels are defined in the SAMP and further categorised in the EIAMP. Additionally, the Rottneest Island Facilities Utilities and Support Services (FUSS) contract between RIA and PFM defines service levels which are measured to KPI's and reported on a monthly basis as required by the PFM KPI Performance Reporting Manual. Furthermore, the monthly FUSS service report outlines utilities performance such as planned and unplanned outages, trips, capacity, availability and outputs, updates, innovations and risk and opportunities.</p>	A	1
1.4	Non-asset options (e.g. demand management) are considered	3	<p>RIA's electrical infrastructure has an embedded strategy automatically managed by COMAP (a program controlling diesel electricity generation) and an overarching hybrid controller system, which monitors energy production between diesel, solar and wind and diverts renewables production between water desalination and the grid as a result of fluctuations in consumption demand. Additionally, the EIAMP considers non-asset options in relation to consumption demand management through strategies to change consumer behaviour to minimise their consumption during peak hour. However, due to the seasonal and touristic nature of electricity consumption on the island, although considered, such non-asset strategies are hard to implement.</p>	A	1
1.5	Lifecycle costs of owning and operating assets are assessed	3	<p>A risk register is kept which details asset information, risk assessment and serviceability on major assets e.g. Generators, HV Power distribution, Wind Turbine. However, this risk register does not provide detailed and actual lifecycle costing to operate individual assets at an engineering level. PFM claims that a Life cycle costing (LCC) model was maintained for a portion of the review period; however, we note that the person in charge of upkeeping the LLC model left PFM in January 2020 and this task is no longer performed. We also note that PFM was unable to provide any evidence that this LLC model was performed during the review period.</p> <p>Recommendations 04/2021:</p> <ol style="list-style-type: none"> 1. Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling. 2. Develop and implement a formal handover process upon termination of an employee to ensure business continuity and the passing of critical knowledge. 	C	3

1.6	Funding options are evaluated	4	The Rottnest Island Management Plan (RIMP) 2019 outlines the 20 year vision of the RIA in terms of asset development and the high level options available to the RIA for funding operations and capital expenditure. Furthermore, Business cases for large expenditure projects are included in the long term SAMP (2021-2030), as well as in the short term SAPs (2019-2022) . PFM develops the cyclical asset management plans and macro-level lifecycle costings and determines budgets for replacements and works, which are supported by business cases presented to RIA for review and approval.	A	1
1.7	Costs are justified and cost drivers identified	4	PFM develops the cyclical asset management plans and macro-level lifecycle costings and determines budgets for replacements and works, which are supported by business cases presented to RIA for review and approval.	A	1
1.8	Likelihood and consequences of asset failure are predicted	2	<p>The Rottnest Island Authority Risk Register outlines detailed risks on an individual asset level. The PFM Risk Management Procedure is applied to this register which includes assessing the severity, likelihood, inherent risk, mitigation options, action plan and responsible parties of each individual asset risk. The most recent risk assessment during the review period was performed in April 2020.</p> <p>Furthermore, risk management on an asset level is available and conducted within the asset management system (Maximo) which lists each asset's likelihood and consequence of asset failure. However, it was confirmed with the PFM Compliance Manager that ongoing review and risk management of the assets are not being conducted on a routine basis as it was noted through our walkthrough and review of the Maximo Electrical Assets Register that some assets had missing or inappropriate risk ratings. Nevertheless, going forward it is our understanding that RIA is currently developing an in-house system solution for the purpose of asset risk management and LCC modelling to be implemented in 2021, which will see the use of PFM's Maximo system being discontinued.</p> <p>Recommendation 02/2021: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	B	3
1.9	Asset management plan is regularly reviewed and updated	3	<p>During our review, it was noted that the Multi Utility Asset Management Plan 2016-2020 (MUAP) and the Strategic Asset Plan 2019-2020 had not been reviewed during the review period, nor did they present an expected frequency of review.</p> <p>However, as of March 2021, the MUAP has been replaced by individual Asset Management Plans for each class of assets on the island (eg: Electrical Infrastructure Asset Management Plan). We also noted that a Strategic Asset Management Plan was developed for the period 2021-2030 and includes a next review date, which has not yet been reached as it was approved and issued in Oct 2020. Additionally, the EIAMP also includes a review date which has not yet been reached. Both documents also include an annual review frequency. As such, no further recommendations were issued in relation to this obligation for the current review period.</p>	B	2

2	Asset creation and acquisition	4		B	2
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	4	The RIA has set funding issued yearly by the Department of Biodiversity Conservation and Attractions, and the capital expenditure (CAPEX plans) considers all budget requirements for every asset type on the island including water, gas, housing, electricity, etc. The RIA holistically reviews those CAPEX plans, sharing the risk priorities across all asset types. CAPEX projects are prioritised according to risk evaluations (low priority projects, high priority projects). The risk priority and related CAPEX budget requirements for the island's electrical assets is detailed in the Electrical Infrastructure Upgrade Business Case, which supports the Rottneest Island Management Plan (2020-2024). Two project RIA Business Case templates are available for use: Project short form (\$50k - \$250k) and Project long form (over \$250k). The two Business Cases sighted include areas such as strategic justification, service impacts, investment proposal, project assumptions, solution options, scope, and procurement/finance plan. If non-asset options are available, these are outlined within the business case under "solution options" to enable a comparative assessment against other options presented.	A	1
2.2	Evaluations include all life-cycle costs	3	Two RIA Business Case templates are available for use; Project short form (\$50k - \$250k) and Project long form (over \$250k). The two Business Cases sighted include areas such as investment proposal, scope (including cost benefit analysis) and a finance plan. However, no evidence was sighted on consideration of detailed break-down of lifecycle costs on operations and maintenance. Recommendation 05/2021: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling.	B	3
2.3	Projects reflect sound engineering and business decisions	4	Daily maintenance routine identifies areas of concerns in relation to electrical assets. When an area of concern is identified, a job form is filled by a maintenance operator for the asset of interest to be examined by the Island Engineer or a third party SME. Results of this examination and risk prioritisation are collected in the notification of works register, which is presented to the RIA monthly during the electrical subgroup meeting and constitutes the basis of business decisions taken by the RIA. Business cases for asset replacement, modifications or acquisition are typically prepared by the Island Engineer, this includes justification and options analysis. When required, third party engineering expertise is obtained. RIA project prioritisation model follows a risk evaluation model.	A	1
2.4	Commissioning tests are documented and completed	4	Through walkthrough with the Asset Manager and the Island Compliance Manager, it was noted that commissioning tests of new assets are conducted by an independent body, and results are transmitted to the RIA. The RIA then passes those certifications on to PFM. Assets handover documents (including commissioning tests results and asset operation and maintenance manuals) are held electronically in Maximo (PFM's asset management system) and are also physically provided to PFM. There were a number of new assets commissioned during the review period and it was observed on a sample that commissioning documents (including commissioning testing,	A	1

			operation and maintenance manual) were physically received and kept by PFM on the powerhouse premises in relation to the commissioning of Generator 6.		
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	2	RIA maintains an Electrical, Water, Gas Licence Compliance Register which lists high-level compliance requirements and timing. The RIA strategic and asset management plans overview legislative obligations and link to the RIA Compliance Management System. The RIA also maintains a Compliance Management System Register, which was implemented in 2018, in relation to ongoing legal, environmental and safety obligations, which is directly linked to a live calendar to ensure those obligations are met and related reporting deadlines are respected. This register considers licence obligations, external agreements, WA legislation, federal Legislation, international agreement and national policies, and also tracks changes applying to those obligations. Through our testing procedures, we selected a sample of 5 scheduled submissions from the Compliance Management System Register in relation to EIRL3 reporting requirements as prescribed by the ERA, and confirmed that all reports were submitted to the ERA within the prescribed timeline.	A	1
3	Asset disposal	4		B	2
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	5	Underutilised and underperforming assets are identified as part of daily operations and maintenance routine, which results are kept in the NOW register. The need for disposal/replacement is justified in the Strategic Asset Plans and in the Electrical Infrastructure Upgrade Business Case. Operationally, routine maintenance and inspection is performed by PFM staff. This allows PFM to identify assets (by visual observation) that are underperforming and/or underutilised. That individual asset is then monitored more closely over a period of time. Once deemed appropriate, the asset is then reported for replacement or action per company process. However, we note that no Life Cycle Costing (LCC) process was conducted in the review period in order to clearly articulate the end of life of assets and economic end of life of assets, in conjunction with the pre-existing ongoing routine asset inspections.	B	2
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	4	It was discussed and advised that when an asset is identified as under-performing, a formal examination is arranged and performed by the Electrical Engineer, who then reports on the issue to the RIA through the monthly KPI report. The most recent example of this is generator 6. The appropriate corrective action is then considered and, if deemed appropriate (financially and practically) then addressed after appropriate approvals from RIA through either the asset disposal or business case process. With respect to disposal, a formal process is in place with the RIA. This includes Asset Disposal Form and Asset Disposal Procedure (as disclosed in the Financial Management Manual) documents. Furthermore, all observations on poor performance or under-utilised assets are documented in monthly performance reports and incorporated into annual risk assessments.	A	1
3.3	Disposal alternatives are evaluated	3	PFM's Asset Disposal Procedure outlines the options available to dispose of assets, including sale by tender, auction or direct sale, salvage parts to use as spares, scrapping or donations. Professional valuation is performed to determine market value of an item before disposal. However, based on inquiries with the Asset Manager, it was noted that disposal alternatives	B	3

			are assessed on an ad-hoc, as needs basis by PFM staff, depending on the asset type. We sampled tested one asset disposal (generator 6) and noted that the decommissioning, removing and replacement of the asset was included as part of the quotation documentation obtained. We also noted that an evaluation of disposal alternatives did not appear on the request for quote or the business case and that no asset disposal form was used to dispose of the asset. We note that as of March 2021, any RIA asset that is to be disposed must complete the updated RIA asset disposal form, which includes the requirement to assess disposal alternatives. As such, no further recommendations were made in relation to this obligation for the current review period.		
3.4	There is a replacement strategy for assets	2	The Rottnest Island Electrical Infrastructure Business Case and the Rottnest Generation Development Study Report present a high-level strategy and estimated capital spend required to replace and maintain assets. Through inquiries with the Asset Manager, it was noted that PFM conducts routine and regular inspections of assets. PFM core staff on the Island are familiar with assets, which assists them in identifying any assets which are damaged or require replacement in a timely manner. However, a detailed strategy focussing on the end of life replacement for all fixed assets based on detailed asset life-cycle costing is not in place. This is important and would require regular (annual) reviews as some assets on the Island will reach their end of life faster than others based on the asset management system environment.	B	2
4	Environmental analysis	4		A	1
4.1	Opportunities and threats in the asset management system environment are assessed	4	The Multi Utility Asset Management Plan 2016-2020 (MUAMP) identifies opportunities and threats in the asset management system environment through identifying aged condition of electrical infrastructure, financial constraints, customer trends, replacements with key asset risks quantified and strategies formulated to address the issues including recommendation of capital projects. Additionally, opportunities and threats in the asset management system environment are also assessed in of the SAMP, considering: <ul style="list-style-type: none"> • Long Term Asset Planning; • Management of increased visitor-related demand; • Effective management of the existing asset portfolio; • Significant environmental, cultural and visitor constraints; • Outsourcing approach; and • Renewable Energy. 	A	1
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	4	The Rottnest Island Facilities Utilities and Support Services (FUSS) contract between RIA and PFM defines service levels which are measured to KPI's and reported on the tenth day of each month through the Transitional Services Report and the Service Report. Furthermore, the monthly FUSS service report outlines the utilities performance such as planned maintenance, performance failure, planned and unplanned outages, trips, capacity, availability and outputs, updates, innovations and risk and opportunities. There is also a FUSS Contract Monthly KPI Report that includes the Utilities Summary Data.	A	1

4.3	Compliance with statutory and regulatory requirements	3	RIA maintains an Electrical, Water, Gas Licence Compliance Register which lists high-level compliance requirements and timing. The RIA strategic and asset management plans overview legislative obligations and link to the RIA Compliance Management System. The RIA also maintains a Compliance Management System Register, which was implemented in 2018, in relation to ongoing legal, environmental and safety obligations, which is directly linked to a live calendar to ensure those obligations are met and related reporting deadlines are respected. This register considers licence obligations, external agreements, WA legislation, federal Legislation, international agreement and national policies, and also tracks changes applying to those obligations. Through our testing procedures, we selected a sample of 5 scheduled submissions from the Compliance Management System Register in relation to EIRL3 reporting requirements as prescribed by the ERA, and confirmed that all reports were submitted to the ERA within the prescribed timeline.	A	1
4.4	Service standard (customer service levels etc) are measured and achieved	4	Service standards (including customer service levels) are measured, and annually reported by PFM in the Network Quality and Reliability report, which is independently audited by a qualified third party every three years. It was noted through inquiry with the Asset Manager that in the event of loss of service to a customer, and subsequent re-energisation, the duration and lower level of service is recorded within the work order created. The above is logged electronically in Maximo and available for reporting when needed. We note that in case of an outage, the Restoration Priority Register Electrical Services Procedure governs re-energisation priority in line with customer service levels requirements.	A	1
5	Asset operation	4		B	2
5.1	Operational policies and procedures are documented and linked to service levels required	4	The Facilities, Utilities and Support Services (FUSS) contract provides governance and expectations on support services provided by PFM to RIA. Through a walkthrough with the Asset Manager, it was noted that operating manuals and procedures for all major plant and equipment exist. These operating manuals are either attached to the Maximo system, are from the Library at the Power House or are at the various trade buildings. We have physically sighted these manuals at the island's Power House. Appropriate induction and training of all PFM staff and contractors is provided before allowing access to the equipment. Permission must be obtained from RIA via a formal notification process and approval/agreement obtained. The asset management system (Maximo) creates a job plan at a set frequency, which details operational procedures for the particular asset and is in line with the applicable operational manual. Maximo communicates with Promap, which is the iPad interface that the maintenance operators use to perform their scheduled tasks. The tasks are detailed and designed in accordance with the relevant operational manual in relation to the relevant asset. Once a task is complete it is signed off on Promap, and results are communicated back to Maximo. On a higher-level, PFM maintains operational procedures such as the Restoration priority register and the Planned outage notification procedure, which details timelines and service levels to maintain e.g. 72 hours advance notifications to customers prior to planned outages.	A	1

5.2	Risk management is applied to prioritise operations tasks	4	<p>The Rottnest Island Power Risk Register outlines detailed risks on an individual asset level. The Programmed Risk Management Framework is applied to this register which includes assessing the severity, likelihood, inherent risk, mitigation options, action plan and action owner of each individual asset risk. The most recent risk assessment during the review period was performed in April 2020. Furthermore, risk management on an asset level is available and conducted within the asset management system (Maximo) which lists each asset's likelihood and consequence of asset failure. However, our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis. Through walkthrough with the Asset Manager and the Asset Maintenance Manager, it was observed that informal risk management appears to have been conducted in the power house through the redundancy applied to the diesel generator capacity. However, no formal evidence has been provided that the reliability and availability levels of the generators in relation to the load being managed. i.e. is the appropriate redundancy within the diesel generators reasonable? It is the reviewer's opinion that there are minimal other instances within the electrical installation that require operation during day to day tasks. Therefore there is little requirement in respect to risk management as it is generally only in place for functions such as isolating diesel spills or other incidents.</p> <p>Recommendation 07/2021: PFM should create and provide detailed risk modelling in relation to the capacity, availability and load of the diesel generators, to ensure that maintenance tasks are prioritised in terms of risk. We note that this recommendation has not yet been implemented and was carried forward from the prior review period.</p>	B	3
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	4	Through system walkthrough, it was noted that the asset register for all assets is maintained in the Maximo system. This database includes details such as maintenance history, asset type and location, maintenance and operational plans and condition assessments.	A	1
5.4	Accounting data is documented for assets	4	Accounting data is maintained in the Sage accounting system. The fixed asset register is stored in Sage by RIA. Assets are linked between registers through a unique asset identifier nominated by Sage and manually assigned to the corresponding asset in Maximo.	A	1
5.5	Operational costs are measured and monitored	4	It was noted through enquiry with the Asset Manager that some actual operational costs such as diesel fuel costs are recorded in Maximo through an electronic monitoring system. However, it was noted that actual operational costs for other activities such as maintenance and labour costs of electricity production are not separately captured.	B	1

5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	4	<p>PFM seems to be adequately resourced to operate the electricity network. The team consists of:</p> <ul style="list-style-type: none"> • 1 Asset and Maintenance Manager; • 1 Electrical Engineer; • 2 Mechanics; • 5 Electricians including 1 Specialist Operator; and • 1 Fitter; and • 1 Compliance Manager. <p>Services that cannot be provided by the team are outsourced to suitable third party suppliers and managed by the Island Engineer. For example, Mechanical engineering support is provided by PFM's external consultant (Mechanical engineer).</p> <p>PFM maintains a Competency Matrix that details the training status of all staff members. After examination of this competency matrix, we confirmed that all staff members have received appropriate training.</p>	A	1
6	Asset maintenance	4		B	2
6.1	Maintenance policies and procedures are documented and linked to service levels required	4	<p>The Rottneest Island Facilities Utilities and Support Services (FUSS) contract between RIA and PFM defines service levels which are measured to KPI's and reported on a monthly basis as required by the PFM KPI Performance Reporting Manual. Furthermore, the monthly FUSS service report outlines utilities performance such as planned and unplanned outages, trips, capacity, availability and outputs, updates, innovations and risk and opportunities. The Multi Utility Asset Management Plan (MUAMP) and the Electrical Infrastructure Asset Management Plan detail the maintenance strategy for key assets. As per Maximo system walkthrough it was noted that a Preventative Maintenance Plan is assigned to each electrical asset and a Job Plan created with a Work Order on the required maintenance frequency on Maximo.</p>	A	1
6.2	Regular inspections are undertaken of asset performance and condition	4	<p>The frequency of the maintenance scheduled is determined by manufacturer's guidelines and at a minimum key assets are inspected on a six monthly basis. Once an asset is created in Maximo, the planned maintenance work order is scheduled through the Promap field mobility tool. Maintenance operators have iPad that are refreshed daily where new work orders will appear with a due date to complete. 95% of target due dates must be met as per FUSS contract KPI requirements. For compliance work orders, a job form is also attached to the work order as proof of completion. Asset inspections are performed on asset condition and upon completion, a work log is submitted through Maximo with the asset condition logged into the Maximo database. If any corrective actions need completing from the maintenance inspection, a corrective work order is raised by the Island Office. Through examination of the work schedule for the review period, we confirm that regular inspections were completed for generation and distribution assets.</p> <p>For external work orders outsourced to contractors a work order is raised within Maximo, the</p>	A	1

			contract will lodge a service sheet upon completion, which will be attached to the work order and get reviewed by the Trade Supervisor for further corrective action to be undertaken.		
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	4	All assets are listed under Maximo, and a Power BI Dashboard identifies all the maintenance tasks to be completed yearly (95% of maintenance priority one tasks are to be performed within a given year as per FUSS contract). A priority rating is attributed to each job determining the type and urgency of the work to be performed (reactive maintenance, capital works, planned maintenance and corrective maintenance). Monthly, an update on maintenance completion according to schedule is provided to the RIA through the issuance of the FUSS report. Weekly, the Office Island Manager monitors the completion of due jobs and reminds maintenance staff of their time constraints. The Office Island Manager also is in charge of producing the monthly KPI reports, which are generated through a BI report extracting data from Maximo. The report details emergency maintenance (safety issue or outage), preventative maintenance (planned maintenance and corrective maintenance (fixing faults)).	A	1
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	4	RIA has processes in place through Maximo to analyse failures and adjust operational/maintenance plans where necessary. Where assets are deemed to be at point of failure (e.g. Generator 6 failure) work orders are raised and the appropriate personnel (maintenance providers, asset manufacturers, technicians/engineers) are engaged through the Maximo work order to review and analyse the situation and provide recommendations. This is then logged back into Maximo (e.g. changes to risk assessment and asset condition). Reporting is provided to management and the decision making occurs and appropriate action is taken. Notice of Works Procedure is in place which requires PFM to notify RIA when asset has failed or is at end of life. Failures are also recorded in the Outage Register and incident reports are completed for each failure, which is also reported to management. Accordingly, failures are being analysed and maintenance plans adjusted.	A	1
6.5	Risk management is applied to prioritise maintenance tasks	4	Refer to observation 5.2. Risk management on an asset level is conducted within the asset management system (Maximo) which lists each asset's likelihood and consequence of asset failure and applied to prioritise maintenance planning and scheduling. However, our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis. Recommendation 08/2021: PFM should create and provide detailed risk modelling in relation to the capacity, availability and load of the diesel generators, to ensure that maintenance tasks are prioritised in terms of risk. We note that this recommendation has not yet been implemented and was carried forward from the prior review period.	B	3
6.6	Maintenance costs are measured and monitored	5	Maintenance costs are reportable as a whole, however there is currently no ability to report maintenance costs on a system (e.g. electrical, mechanical, generators) or asset (e.g. Generator No 1) granular level as maintenance is outsourced to PFM by the RIA under the outcome-based FUSS contract. From the RIA's perspective, maintenance costs (FUSS	C	2

			contract fees) are monitored by division (i.e. utilities) and monitored against the budget set by RIA. Maintenance costs of electricity production are currently not being captured and reported due to the outcome-based nature of the FUSS contract. Recommendation 03/2021: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).		
7	Asset management information system	4		A	1
7.1	Adequate system documentation for users and IT operators	4	The two key asset management systems used at RIA are Maximo and Promap for asset operations by PFM. There is sufficient documentation available at PFM for users and operators of Maximo and Promap at PFM, with system support services also available through PFM's ICT service desk. System documentation governing the use and access of IT systems is available through RIA and these include: <ul style="list-style-type: none"> • Operational Procedure – Identity and access management • Operational Procedure – Information security management framework • Operational Procedure – Acceptable use of IT • Operational Procedure – Information security awareness • Operational Procedure – IT logging and monitoring • Operational Procedure – Group Information Security Policy • Operational Procedure – Password Policy Validation 	A	1
7.2	Input controls include suitable verification and validation of data entered into the system	4	Key input controls on the Maximo Asset Management system include verification and validation of manually entered data through fixed option fields (as opposed to open ended fields) on key areas such as asset classification, maintenance plans and due dates. The PFM Compliance Manager conducts data quality assurance checks every month and reviews a sample of work orders for quality purposes.	A	1
7.3	Security access controls appear adequate, such as passwords	4	Access to RIA and PFM ICT systems are controlled by user generated password security systems. The ICT security system allows for tiered access depending on the individual's level of authority. The depth of access is established when the employee is on-boarded and strictly controlled through the ICT Access Request Form and Remote Access Request Form. PFM protocol also requires users to update their login credentials monthly. This is highlighted in the 'Password Policy'.	A	1
7.4	Physical security access controls appear adequate	4	Physical access controls around the PowerHouse and key electrical assets at Rottneest Island appear adequate. General access to the Power House is strictly restricted to authorised personnel only. PFM and RIA offices and warehouses are secured with locks or security number pads. Key assets (e.g. LV switchgear) are secured by locks with keys held only by authorised personnel. The gates to the powerhouse are secured by padlocks, with keys held only by authorised personnel. All Maximo and Promap data is centralised and managed on the PFM Cloud.	A	1

7.5	Data backup procedures appear adequate and backups are tested	3	PFM operates two (2) external data centres. The primary one is located at Shenton Park (WA) and the secondary centre is located at Malaga (WA) . Complete disaster recovery tests were successfully conducted in December 2020. Additionally, a series of tests are also performed across backups, which involves testing the recovery of historical data; we note that there was no full recovery testing conducted over Maximo backups involving RIA data during the audit period. Backups from operational and maintenance activities from the Island (data stored at the PowerHouse) are backed-up multiple times a day and data backup logs show that all backups were successful. If a backup is unsuccessful a notification is sent to the relevant ICT team member and the matter is investigated. There were no backup failures in the audit period. Evidence was reviewed for scheduled backups and restoration testing on Maximo database server and web server during the review period.	A	1
7.6	Computations for licensee performance reporting are accurate	4	The monthly FUSS service report issued by PFM to RIA outlines utilities performance such as planned and unplanned outages, trips, capacity, availability and outputs, updates, innovations and risk and opportunities. An independent Network Quality and Reliability of Supply Report (1 July 2019 - 30 June 2020) is also prepared and published on the RIA website annually. These reports rely on performance data on Maximo, which appears adequately set up to report key performance data required for accurate and complete reporting. Annual datasheets are also provided to the ERA (and uploaded on RIA website) for the distribution system.	A	1
7.7	Management reports appear adequate for the licensee to monitor licence obligations	4	<p>RIA maintains an Electrical, Water, Gas Licence Compliance Register which lists high-level compliance requirements and timing. The monthly FUSS service report issued by PFM to RIA outlines utilities performance such as planned and unplanned outages, trips, capacity, availability and outputs, updates, innovations and risk and opportunities. An independent Network Quality and Reliability of Supply Report (1 July 2019 - 30 June 2020) is also prepared and published on the RIA website annually.</p> <p>Additionally, the RIA strategic and asset management plans overview legislative obligations and link to the RIA Compliance Management System. The RIA also maintains a Compliance Management System Register, which was implemented in 2018, in relation to ongoing legal, environmental and safety obligations, which is directly linked to a live calendar to ensure those obligations are met and related reporting deadlines are respected. This register considers licence obligations, external agreements, WA legislation, federal Legislation, international agreement and national policies, and also tracks changes applying to those obligations.</p> <p>Through our testing procedures, we selected a sample of 5 scheduled submissions from the Compliance Management System Register in relation to EIRL3 reporting requirements as prescribed by the ERA, and confirmed that all reports were submitted to the ERA within the prescribed timeline. As such, no further recommendations were issued in relation to this obligation for the current review period.</p>	A	1

7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	4	Users need to request system access to RIA's ICT department and ICT reviews and approves applications before granting access. All users require a username and password to access systems such as Maximo and Promap. Ongoing monitoring and information security management is performed through RIA ICT department in line with operational procedures such as IT logging and monitoring and information security management. Furthermore, policies and procedures are in place to govern information security and protect asset data from unauthorised access by persons outside the organisation, such as: <ul style="list-style-type: none"> Operational Procedure – Information security management framework Operational Procedure – Information security awareness Operational Procedure – Group Information Security Policy 	A	1
8	Risk Management	4		B	2
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	4	The Rottneest Island Authority Risk Register outlines detailed risks on an individual asset level. The Programmed Risk Management Framework is applied to this register which includes assessing the severity, likelihood, inherent risk, mitigation options, action plan and responsible owners of each individual asset risk. The most recent risk assessment during the review period was performed in April 2020. Furthermore, RIA have a Risk Management Policy and a Risk Management Framework in place. PFM also has a detailed Risk Management Plan and conducts operational risk assessments on key areas (e.g. power house), which are documented in the operational risk register. Documents available include: <ul style="list-style-type: none"> PFM Risk Management Plan (2021) RIA Risk Register (2021) PFM Risk Management Procedure (2019) RIA Risk Management Policy (2020) RIA Risk Management Framework (2019) Operational Risk Register (2021) <p>However, we note that a detailed risk modelling in relation to the capacity, availability and load of the diesel generators, is yet to be implemented to ensure that maintenance tasks are prioritised in terms of risk.</p> <p>Recommendation 09/2021: PFM should create and provide detailed risk modelling in relation to the capacity, availability and load of the diesel generators, to ensure that maintenance tasks are prioritised in terms of risk. We note that this recommendation has not yet been implemented and was carried forward from the prior review period.</p>	B	3
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	3	The Rottneest Island Authority Risk Register outlines detailed risks on an individual asset level. The PFM Risk Management Procedure is applied to this register which includes assessing the severity, likelihood, inherent risk, mitigation options, action plan and responsible owners of each individual asset risk. However, no evidence could be sighted on the Power risk register of individual action owners being assigned and treatment plans being implemented and monitored for a portion of the review period (from April 2019 to April	B	2

			<p>2020). We note that the RIA risk register was updated in April 2020 to include action owners, specified tasks, due dates and updates on progress.</p> <p>Additionally, the most recent risk assessment during the review period was performed in April 2020. We have reviewed the RIA risk register and confirmed individual action owners were assigned and tested one sample of treatment plans being implemented and monitored from that risk register without exceptions. As such, no further recommendations were made in relation to this obligation for the current review period.</p>		
8.3	Probability and consequences of asset failure are regularly assessed	4	<p>The RIA Risk Register outlines detailed risks on an individual asset level. The PFM Risk Management Framework is applied to this register which includes assessing the severity, likelihood, inherent risk, mitigation options, action plan and responsible owners of each individual asset risk. The most recent risk assessment during the review period was performed in April 2020. Furthermore, risk management on an asset level is available and conducted within the asset management system (Maximo) which lists each asset's likelihood and consequence of asset failure. However, it was confirmed with the PFM Compliance Manager that ongoing review and risk management of the assets are not being conducted on a routine basis as it was noted through our walkthrough and review of the Maximo Electrical Assets Register that some assets had missing or inappropriate risk ratings. Nevertheless, going forward it is our understanding that RIA is currently developing an in-house system solution for the purpose of asset risk management and LCC modelling to be implemented in 2021, which will see the use of PFM's Maximo system being discontinued.</p> <p>Refer to obligation 1.8. Recommendation 10/2021: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling.</p>	C	3
9	Contingency planning	2		A	1
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	2	<p>The contingency plan is reviewed annually and updated on a need basis. Testing is conducted quarterly following a work order being generated from Maximo.</p> <p>The Electrical Service Recovery and Contingency Plan outlines 9 possible scenarios that can result in significant power outages across the network and attempts to provide tested solutions to limit outages (action plans and restoration time). Due to the size and switching limitations of the network, solutions are mostly found by deploying emergency standby generators in accordance with the Emergency Generator Installation Procedure.</p> <p>It also includes a list of the principal components of RIA's power supply system and an annual schedule for electrical services recovery plan drills. A minimum of 4 scenarios must be tested per licence year. The scenarios are chosen to address concerns in specific areas or simply rotate from year to year.</p>	A	1

			<p>In managing Rottneest Island's power generation system and associated infrastructure and supply network, PFM has developed a restoration priority register for electrical services. In the event of a catastrophic electrical system failure, power is to be supplied in accordance with the restoration priority register. There are seven distribution feeders that provide power to various areas and these can be isolated individually. In this event and when power cannot be restored via the LV feeders, back-up power is to be supplied by mobile generators in accordance with the generator restoration priority register. The Emergency generator installation procedure outlines the implementation procedures.</p> <p>As part of our testing procedures, we have obtained a listing of all electricity business continuity drill testing which were scheduled during the review period and obtained testing documentation as evidence of performance under the contingency plan for 3 sampled quarters (Q2 2019, Q1 2020 and Q3 2020). No exceptions were found.</p>		
10	Financial planning	4		A	1
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve those	5	<p>RIA's Strategic Asset Management Plans (2019-2020 and 2021-2022) states the strategic priorities/areas of focus as well as the investment and funding required. These priorities are also included in the RIA Management Plan 2020-2024.</p> <p>Budget papers for the Department of Biodiversity, Conservation and Attractions, of which RIA is a component, were reviewed as the 'Financial Plan'. The Budget Statements - Part 10 Environment includes RIA's budgets/costs.</p> <p>Financial objectives and strategies are stated in the plan and actions to achieve the objectives are developed. Investment profiles have been prepared that summarise the required capital expenditure over the next 10 years. The profiles identify funding sources.</p> <p>RIA 's energy related service objective and demand drivers are broadly consistent with the WA government Energy Transformation Strategy, in particular, increased use of renewables and reduction of greenhouse emissions (see Strategic Asset Management Plans 2020-2021, page 17).</p>	A	1
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	4	<p>The Funding Source is included in the The Strategic Asset Plan (2019-2020 and 2021-2022) and Strategic Asset Management Plan 2021-2022 for all investment proposals, capital expenditure and costs per priority.</p> <p>Investment profiles have been prepared that summarise the required capital expenditure over the next 10 years. The profiles identify funding sources.</p>	A	1
10.3	The financial plan provides projections of operating statements (profit and	4	<p>The financial plan includes projections of operating costs. A financial statement is reported yearly including variances (actual vs. estimate) and a monthly balance sheet maintained. Monthly, the Finance Manager prepares the income statement and updates the balance sheet</p>	A	1

	loss) and statement of financial position (balance sheets)		including actuals vs budgeted figures, which get presented to the Director of Infrastructure for review. This information is then presented to the Board through the monthly CFO report.		
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	4	The financial plan detailed in the Strategic Asset Plans includes firm predictions from funding sources until 2026-2027 and reasonable predictions from funding sources until 2030-2031.	A	1
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	4	The financial plan provides for the operational, maintenance, administration expenses and capital expenditure requirements of the services as detailed in the approved infrastructure budget.	A	1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	4	Once the budget is set, actuals costs are tracked against forecasted costs monthly in the balance sheet kept by the Finance Manager. A variance analysis is then performed to identify all variances in the budget and recommendations are made in order to take corrective actions, which get presented to the Board through the monthly CFO report.	A	1
11	Capital expenditure planning	4		B	2
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	4	The Strategic Asset Plan (2019-2020 and 2021-2022) which includes capital expenditure requirements, projections and investment proposals was reviewed as the 'CAPEX plan'. Investment profiles have been prepared (see Strategic Asset Plan 2021-2022) that summarise the required capital expenditure over the next 10 years. CAPEX plan is in place which covers works to be undertaken, actions proposed to current issues, responsibilities and due dates.	A	1
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	5	Investment profiles have been prepared that summarise the required capital expenditure. The profiles identify funding sources. Each profile the reasons/benefit and timing of capital expenditure.	A	1

11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	3	<p>A Notification of Works Register is maintained by PFM and reported to the RIA monthly. This register details asset information, risk assessment and serviceability on major assets e.g. Generators, HV Power distribution, Wind Turbine. However, it was noted that no evidence was obtained to confirm that a Life Cycle Costing (LLC) process was conducted during the review period in order to provide detailed and actual life cycle costing to operate individual assets to inform accurate CAPEX planning for the future years based on the asset age and condition.</p> <p>Recommendation 06/2021: Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling.</p>	C	3
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	4	<p>The Strategic Asset Management Plan (reviewed as the CAPEX Plan) is reviewed, updated and implemented annually. Each Plan identifies the priorities that will be pursued during the upcoming years and this helps determine the CAPEX requirements and funding required.</p> <p>The CAPEX plan is reviewed annually and submitted to the Department of Treasury. The format of the plan is also mandated by the Department of Treasury.</p> <p>It was noted that the Strategic Asset Management Plan, investment profiles have been prepared that summarise the required capital expenditure over the next 10 years. The profiles also identify funding sources.</p>	A	1
12	Review of AMS	4		B	2
12.1	A review process is in place to ensure the asset management plan and the asset management system described in it remain current	3	<p>During our review, it was noted that the Multi Utility Asset Management Plan 2016-2020 (MUAP) and the Strategic Asset Plan 2019-2020 had not been reviewed during the review period, nor did they present an expected frequency of review.</p> <p>As of March 2021 the MUAP has been replaced by individual Asset Management Plans for each class of assets on the island (eg: Electrical Infrastructure Asset Management Plan). We also noted that a Strategic Asset Management Plan was developed for the period 2021-2030 and includes a next review date, which has not yet been reached as it was approved and issued in Oct 2020. Additionally, the EIAMP also includes a review date which has not yet been reached. As such, no further recommendations were issued in relation to this obligation for the current review period.</p>	B	3
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	4	<p>Internal reviews of AMS are performed by independent auditors every 24 months under the ERA licence requirement. The last review was performed by PwC in 2019 and the current review by PwC in 2021. There was also an independent internal audit performed on Asset Management in November 2017 by KPMG on the FUSS Contract Compliance Performance. The objective of this review was to assess the efficiency, effectiveness and accuracy of Programmed Facility Management's ("PFM") and the Rottneest Island Authority's ("RIA") processes in budgeting, managing and delivering the services and reporting obligations within the Facilities, Utilities and Support Services ("FUSS") contract ("the Contract").</p>	A	1

7 Recommendations

Table below outlines RIA’s current status on review recommendations to address asset system deficiencies.

Table 6: Status of recommendations

A. Resolved during current review period			
Recommendation reference	Process and policy deficiency / Performance deficiency	Date resolved and action taken by licensee	Reviewer’s comments
20/2019	<p>B3 (3.3) Asset Disposal - Disposal alternatives are evaluated</p> <p>PFM’s Asset Disposal Procedure outlines the options available to dispose of assets, including sale by tender, auction or direct sale, salvage parts to use as spares, scrapping or donations. Professional valuation is performed to determine market value of an item before disposal. However, based on inquiries with the Asset Manager, it was noted that disposal alternatives are assessed on an ad-hoc, as needs basis by PFM staff, depending on the asset type.</p>	<p>Completed March 2021:</p> <p>Complete. There is no authority under the FUSS Contract for PFM to dispose of RIA assets without permission or direction from RIA which would need to be documented, including the disposal method. Any RIA asset that is to be disposed must complete the appropriate RIA asset disposal form.</p>	<p>No Further Action required</p>
24/2019	<p>B3 (12.1) AMS Review - A review process is in place to ensure the asset management plan and the asset management system described in it remain current.</p> <p>MUAMP 2016-2020 was last updated in December 2016. SAMP was last updated in July 2016.</p>	<p>Completed March 2021:</p> <p>An Electricity Infrastructure Asset Management Plan has been developed along with a long term Strategic Asset Management plan which both include next review dates and frequency of review.</p>	<p>No Further Action required</p>

B. Unresolved at end of current review period

Recommendation reference	Process and policy deficiency / Performance deficiency	Reviewer's recommendation	Action taken by the licensee by end of review period
01/2021	<p>B3 (1.2) Asset Planning - Have the lifecycle costs of owning and operating assets been assessed to plan according to stakeholder needs?</p> <p>The lack of detailed lifecycle costing on an asset level and key asset risk modelling to prioritise maintenance tasks is not performed. This leads to the risk that planning processes and objectives may not reflect the needs of all stakeholders.</p>	<p>Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some</p>

			assumptions and will not be detailed costs.
02/2021	<p>B3 (1.8) Asset Planning - Have the likelihood and consequences of asset failure been predicted?</p> <p>The Enterprise Risk Management Plan (ERMP) does not report residual risk after the application of controls.</p>	<p>Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some assumptions and will not be detailed costs.</p>

03/2021	<p>C2 (6.6) Asset Maintenance - Are the maintenance costs measured and monitored?</p> <p>Some maintenance costs are captured and noted in a separate spreadsheet. Information on labour hours and parts is entered into Navision, a system that is separate from Maximo</p>	<p>Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some assumptions and will not be detailed costs.</p>
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<p>04/2021</p>	<p>C3 (1.5) Asset Planning - Lifecycle costs of owning and operating assets are assessed</p> <p>A Life cycle costing (LCC) model is maintained by PFM and reviewed on a quarterly basis. This model details asset information, risk assessment and serviceability on major assets e.g. Generators, HV Power distribution, Wind Turbine. However, it was noted that the LCC does not provide detailed and actual life cycle costing to operate individual assets at an engineering level.</p>	<p>1. Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling. 2. Develop and implement a formal handover process upon termination of an employee to ensure business continuity and the passing of critical knowledge.</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some assumptions and will not be detailed costs.</p>
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<p>05/2021</p>	<p>B3 (2.2) Asset creation and acquisition - Evaluations include all life-cycle costs</p> <p>Two RIA Business Case templates are available for use; Project short form (\$50k- = \$250k) and Project long form (over \$250k). The two Business Cases sighted include areas such as investment proposal, scope (including cost benefit analysis) and a finance plan. However, no evidence was sighted on consideration of detailed breakdown of lifecycle costs on operations and maintenance.</p>	<p>Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some assumptions and will not be detailed costs.</p>
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06/2021	<p>C3 (11.3) Capital expenditure planning- The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan</p> <p>A Life cycle costing (LCC) model is maintained by PFM and reviewed on a quarterly basis. This model details asset information, risk assessment and serviceability on major assets e.g. Generators, HV Power distribution, Wind Turbine. However, it was noted that the LCC does not provide detailed and actual life cycle costing to operate individual assets to inform accurate CAPEX planning for the future years based on the asset age and condition.</p>	<p>Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling to be implemented by the agreed due date (November 2021).</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some assumptions and will not be detailed costs.</p>
07/2021	<p>B3 (5.2) Asset Operations - Risk management is applied to prioritise operations tasks</p>	<p>PFM should create and provide detailed risk modelling in relation to the capacity, availability and load of the diesel generators, to ensure that maintenance tasks are prioritised in terms of risk.</p>	<p>The RIA is to leverage from the development of ASSETIC to perform risk based maintenance tasks.</p>

	<p>Our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis. Through walkthrough with the Asset Manager and the Asset Maintenance Manager, it was observed that informal risk management appears to have been conducted in the power house through the redundancy applied to the diesel generator capacity. However, no formal evidence has been provided that the reliability and availability levels of the generators in relation to the load being managed.</p>		
08/2021	<p>B3 (6.5) Asset Maintenance - Risk management is applied to prioritise maintenance tasks</p> <p>Our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis. Through walkthrough with the Asset Manager and the Asset Maintenance Manager, it was observed that informal risk management appears to have been conducted in the power house through the redundancy applied to the diesel generator capacity. However, no formal evidence has been provided that the reliability and availability levels of the generators in relation to the load being managed.</p>	<p>PFM should create and provide detailed risk modelling in relation to the capacity, availability and load of the diesel generators, to ensure that maintenance tasks are prioritised in terms of risk.</p>	<p>The RIA is to leverage from the development of ASSETIC to perform risk based maintenance tasks.</p>
09/2021	<p>B3 (8.1) Asset Maintenance - Risk management policies and procedures exist and are applied to minimise internal and external risks</p> <p>Our review of the Maximo asset register revealed that some assets had missing or inappropriate risk ratings, which indicates that ongoing review and risk management of the assets are not being conducted on a routine basis. Through walkthrough with the Asset Manager and the Asset Maintenance Manager, it was observed that informal risk management appears to have been conducted in the power house through the redundancy applied to the diesel generator capacity. However, no formal evidence has been provided that the reliability and availability levels of the generators in relation to the load being managed.</p>	<p>PFM should create and provide detailed risk modelling in relation to the capacity, availability and load of the diesel generators, to ensure that maintenance tasks are prioritised in terms of risk.</p>	<p>The RIA is to leverage from the development of ASSETIC to perform risk based maintenance tasks.</p>

<p>10/2021</p>	<p>C3 (8.3) Risk Management - Probability and consequences of asset failure are regularly assessed</p> <p>Risk management on an asset level is available and conducted within the asset management system (Maximo) which lists each asset's likelihood and consequence of asset failure. However, it was confirmed with the PFM Compliance Manager that ongoing review and risk management of the assets are not being conducted on a routine basis as it was noted through our walkthrough and review of the Maximo Electrical Assets Register that some assets had missing or inappropriate risk ratings.</p>	<p>Continue the development of the ASSETIC EAM system for the purpose of key assets risk management and lifecycle costing modelling.</p>	<p>In progress:</p> <p>Status remains in progress as of July 2021, with an implementation date of May 2022.</p> <p>The RIA have reached a milestone in the Asset management system.</p> <p>The RIA are in the process of the development of an Asset Management System – ASSETIC will be capable of performing this function.</p> <p>The following are complete:</p> <ul style="list-style-type: none"> -mapped infrastructure, developed an asset listing. -costs being tracked at granular level with new Financial BU categories established. <p>The next stage is to model costing (based on assumptions) and disposal.</p> <p>RIA note that life cycle costing will be developed with some assumptions and will not be detailed costs.</p>
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