Merredin Project Company Pty Ltd

Electricity Generation Licence (EGL28)

2024 Asset Management System Review

Final report

12 December 2024

ASSURANCE ADVISORY GROUP

Level 11, 251 Adelaide Terrace
PERTH WA 6000

12 December 2024

Neeti Muralidharan
Senior Asset Manager
Merredin Project Company Pty Ltd
Suite 9, Level 2
330 Churchill Avenue
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Dear Neeti

Electricity Generation Licence (EGL28) – 2024 Asset Management System review report

We have completed the Electricity Generation Licence Asset Management System Review for Merredin Project Company Pty Ltd for the period 31 August 2022 to 30 August 2024 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 audit procedures.

If you have any questions or wish to discuss anything raised in the report, please contact Andrew Baldwin at abaldwin@assuranceadvisory.com.au or myself at slinden@assuranceadvisory.com.au.

Yours sincerely
Assurance Advisory Group

[redacted]

Stephen Linden
Director
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1. Independent assurance practitioner's report

Modified opinion

We have undertaken a limited assurance engagement on the effectiveness of Merredin Project Company Pty Ltd's (**Merredin Project Company**) Asset Management System (**AMS**), relating to its Electricity Generation Licence (EGL28) (the **Licence**) for the period 31 August 2022 to 30 August 2024 (**review period**).

In our opinion, based on the procedures we have performed and the evidence we have obtained, except for the effects of the matters described in the Basis for modified conclusion paragraph below, nothing has come to our attention that causes us to believe that MPC has not established and maintained, in all material respects, an effective AMS for assets subject to the Licence, as measured by the effectiveness criteria in the March 2019 issue of the *Audit and Review Guidelines: Electricity and Gas Licences* (**the Guidelines**) issued by the Economic Regulation Authority (the **ERA**).

Basis for modified conclusion

During the period 31 August 2022 to 30 August 2024, Merredin Project Company's asset management system had the following deficiencies that require correction or improvement in order to address the effectiveness criteria nominated in the Guidelines:

Key process & effectiveness criteria	Description
1. Asset Planning 1.1. Asset management plan covers the specified processes	The Merredin Solar Farm (**MSF**) Asset Management Plan (**AMP**) requires further strengthening to ensure it effectively addresses all key components of the asset management lifecycle presented in the ERA's Review Guidelines, particularly those components that extend beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner.
1. Asset Planning 1.9 Asset management plan is regularly reviewed and updated **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.	Although the MSF AMP has been reviewed and updated on occasion and in accordance with RISEN's judgement on the need to update, MPC has not established a mechanism for: • Ensuring the MSF AMP and descriptions/ documentation of the broader MPC AMS system remain current • Subjecting the AMS to independent review.

We conducted our engagement in accordance with Standard on Assurance Engagements ASAE 3500 *Performance Engagements* (**ASAE 3500**) 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 conclusion.

Merredin Project Company's responsibility for the AMS

Merredin Project Company is responsible for ensuring that it has:

- Complied in all material respects with the requirements of the Licence as specified by the Review Guidelines
- Established and maintained an effective AMS for assets subject to the Licence, as measured by the effectiveness criteria detailed in the Guidelines.

Our independence and quality control

We have complied with the independence and other relevant ethical requirements relating to assurance engagements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. We applied 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 the effectiveness of Merredin Project Company's AMS for assets subject to the Licence for the period from 31 August 2022 to 30 August 2024. ASAE 3500 requires that we plan and perform our procedures to obtain limited assurance about whether Merredin Project Company has established and maintained, in all material respects, an effective AMS for assets subject to the Licence, as measured by the effectiveness criteria in the Guidelines.

A limited assurance engagement in accordance with ASAE 3500, to report on the effectiveness of Merredin Project Company's AMS for assets subject to the Licence involves performing procedures to obtain evidence about processes and controls designed and implemented within Merredin Project Company's AMS for assets subject to the Licence. The procedures selected depend on our judgement, including the identification and assessment of risks of Merredin Project Company's AMS for assets subject to a Licence being materially ineffective.

Our procedures included:

- Utilising the Review Guidelines as a guide for development of a risk assessment, which involved discussions with key staff and review of documents to perform a preliminary controls assessment
- Development of a Review Plan for approval by the ERA, and an associated work program
- Interviews with and representations from Merredin Project Company representatives and key operational and administrative staff (from RISEN Energy and RES Group) to gain an understanding of the development and maintenance of policies and procedural type documentation. A full list of staff engaged has been provided at Appendix B
- Examination of documented policies and procedures for key functional requirements and consideration of their relevance to Merredin Project Company's AMS requirements and standards
- Physical visit to operations located near Merredin
- Consideration of reports and references evidencing activity
- Consideration of activities performed by Merredin Project Company that relate to operation of the assets.

Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the inherent limitation of any system of controls it is possible that fraud, error or non-compliance with the requirements of the Guidelines may occur and not be detected.

A limited assurance engagement relating to the period from 31 August 2022 to 30 August 2024 does not provide assurance on whether the effectiveness of Merredin Project Company's AMS for assets subject to the Licence will continue in the future.

Restricted use

This report has been prepared for use by Merredin Project Company for the purpose of satisfying its obligation under Section 14 of the Electricity Industry Act 2004. We disclaim any assumption of responsibility for any reliance on this report to any person other than Merredin Project Company, or for any other purpose other than that for which it was prepared. We understand that a copy of the report will be provided to the ERA for the purpose of reporting on the effectiveness of Merredin Project Company's AMS. We agree that a copy of this report will be given to the ERA in connection with this purpose, however we accept no responsibility to the ERA or to anyone who is provided with or obtains a copy of our report.

Assurance Advisory Group

Stephen Linden
Director

12 December 2024

2. Executive Summary

2.1 Introduction and Background

The Economic Regulation Authority (the **ERA**) has under the provisions of the Electricity Industry Act 2004 (the **Act**), issued to Merredin Project Company Pty Ltd (**MPC**) an Electricity Generation Licence (EGL28) (the **Licence**).

The Licence relates to MPC operating the 132MWdc Merredin Solar Farm (**MSF**) approximately 260 kms east of Perth and delivering electricity into the South West Interconnected System (SWIS) via the Western Power Merredin Terminal Substation at 220kV. SUN Energy acquired the MSF facility in 2022. EGL28 was subsequently transferred from Merredin Solar Farm Nominee Pty Ltd to MPC on 31 August 2022. RES Australia Pty Ltd (**RES**) was appointed by MPC to act as the asset manager for the facility, with RISEN Energy Australia (**RISEN**) continuing as the Operations and Maintenance provider.

Section 14 of the Act requires MPC to provide to the ERA an asset management system (**AMS**) review (the **review**) report conducted by an independent expert acceptable to the ERA not less than once in every 24-month period unless otherwise approved by the ERA. With the ERA's approval, Assurance Advisory Group (**AAG**) has been appointed to conduct the review for the period 31 August 2022 to 30 August 2024 (**review period**).

The review has been conducted in accordance with the ERA's March 2019 issue of the *Audit and Review Guidelines: Electricity and Gas Licences* (**Review Guidelines**), which set out 12 key processes in the asset management life-cycle.

2.2 Findings

In considering MPC's internal control procedures, structure and environment, compliance arrangements and information systems specifically relevant to those effectiveness criteria subject to review, we observed that:

- Since the 2021 review of the MSF's AMS, MPC has demonstrated that it has either maintained or improved its process and policy documentation and performance in those key AMS processes subject to this review. There has been no notable deterioration in any of those processes
- MPC had maintained a largely appropriate suite of procedures and controls for the effective operation and maintenance of the MSF Facility assets. The Facility continues to use the Computer Maintenance Management System MEX to document all asset operations and maintenance work
- RISEN staff displayed a working understanding of their roles in the provision of operations and maintenance services under the MSF Operations and Maintenance Agreement between MPC and RISEN, including an understanding of the asset management processes within their area of responsibility
- RES staff displayed a working understanding of their role as the Facility's Asset Manager under the Asset Management Agreement relating to the MSF between MPC and RES, including an understanding of the asset management processes within their area of responsibility
- The MSF facility's asset management plan (**AMP**) is the primary document used by MPC to describe its AMS i.e. MPC does not use a suite of documents within an overarching asset management framework. The AMP focuses primarily on the operations and maintenance of the facility performed by RISEN, including risk management, emergency response and contingency planning activities. Although the AMP was updated and strengthened in response to the results of the 2021 asset management system review, it requires further strengthening to ensure it effectively addresses the key components of the asset management lifecycle presented in the ERA's Guidelines (refer to section 2.5 of this report), particularly those components that extend

beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner. *Refer to Recommendation 1/2024*

- Although the AMP has been reviewed and updated on one occasion since MPC commenced operations, MPC has not established a mechanism for:
  - Ensuring the MSF AMP and descriptions/documentation of the broader MPC AMS system remain current
  - Subjecting the AMS to independent review (e.g. internal audit)

  Refer to Recommendation 2/2024
- There are several further opportunities for MPC to improve elements of its asset management practices (where criteria are rated as "B" or "2"). In those instances, we raised the potential improvement opportunity with MPC staff.

This review assessed that, of the 58 elements of MPC's AMS:

- For the asset management process and policy definition ratings:
  - 31 are rated as "Adequately defined"
  - 8 are rated as "Requires some improvement"
  - 4 is rated as "Requires substantial improvement"
  - 15 are not rated.
- For the asset management performance ratings:
  - 34 are rated as "Performing effectively"
  - 8 are rated as "Improvement required"
  - 16 are not rated.

2.3 MPC's response to previous review recommendations

As this is MPC's first Asset Management System Review there are no previous review recommendations for MPC. We have however, considered the review recommendations for the previous EGL28 licensee - Merredin Solar Farm Nominee Pty Ltd and note the following:

- Recommendation 1/2021 (Asset Planning) had been completed from an operations and maintenance perspective, however aspects of the AMP that extend beyond the core operations and maintenance functions still need to be addressed in consultation with RES as the Asset Manager and SUN Energy as the Owner of MPC. This matter is addressed at Recommendation 1/2024
- Recommendation 2/2021 (Risk Management) has been effectively completed through reviews of the risk management discipline, documentation and procedures to improve the detail of risk assessment and timeliness of risk review for the MSF operation.

2.4 Recommendations to address current asset system deficiencies

A. <u>Resolved during current review period</u>

Not applicable

B. Unresolved at end of current review period

Reference (no./year)	**Process and policy deficiency / Performance deficiency** (Rating / Reference number, Asset management process & effectiveness criterion / Details of deficiency)	**Auditor's recommendation**	**Action taken**
1/2024	**C3** 1. Asset Planning *1.1. Asset management plan covers the processes in this table* The MSF AMP is the primary document used by MPC to describe its AMS. The AMP focuses primarily on the operations and maintenance of the facility performed by RISEN, including risk management, emergency response and contingency planning activities. Although the AMP was updated and strengthened in response to the results of the 2021 asset management system review, it requires further strengthening to ensure it effectively addresses all key components of the asset management lifecycle presented in the ERA's Review Guidelines, particularly those components that extend beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner. Aspects of the AMP that do not address the asset planning criteria outlined in the ERA's Review Guidelines include: • The AMP does not include the Facility's defined service levels, which are detailed in the O&M Agreement and reflected in the regular asset reports prepared by RISEN and RES • The AMP is silent on how it aligns with and/or is influenced by the owner's asset management strategy in relation to the assessment of lifecycle costs of owning and operating assets • The AMP refers to the need for prioritisation in a budget constrained operating environment, however it is silent on how funding considerations are to be made in the event that operational revenue does not cover operational or capital expenditure requirements.	MPC review and expand its Asset Management Plan to ensure it effectively addresses all key components of the asset management lifecycle presented in the ERA's Review Guidelines, particularly those components that extend beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner.	n/a

Reference (no./year)	**Process and policy deficiency / Performance deficiency** (Rating / Reference number, Asset management process & effectiveness criterion / Details of deficiency)	**Auditor's recommendation**	**Action taken**
2/2024	**C2** 1. Asset Planning *1.9 Asset management plan is regularly reviewed and updated* 12. Review of Asset Management System *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* Although the MSF AMP has been reviewed and updated on occasion and in accordance with RISEN's judgement on the need to update, MPC has not established a mechanism for: • Ensuring the MSF AMP and descriptions/documentation of the broader MPC AMS system remain current • Subjecting the AMS to independent review (e.g. internal audit).	MPC establish a mechanism for ensuring the MSF AMP and descriptions/ documentation of the broader MPC AMS system remain current and for subjecting the AMS to independent review. That mechanism should be clear on the scheduled review dates, who should be involved in performing or providing input to the review and the approval and sign-off requirements.	n/a

2.5 Scope and objectives

We have conducted a limited assurance engagement in order to state whether, in our opinion, based on our procedures, MPC has established and maintained, in all material respects, an effective AMS for assets subject to the Licence during the period 31 August 2022 to 30 August 2024, as measured by the effectiveness criteria in the Guidelines.

For new licensees, the Review Guidelines require an AMS review to be conducted as a reasonable assurance engagement. We note that the previous AMS review (for Merredin Solar Farm Nominee Pty Ltd) for the period 19 December 2017 to 30 April 2021 was conducted as a reasonable assurance engagement as it was the first review of the EGL28 AMS. Although the licence was transferred on 31 August 2022, meaning there is a new licensee for which the Audit and Review Guidelines technically requires a reasonable assurance engagement, we determined that it was appropriate to conduct the review as a limited assurance engagement under the provisions of section 1.6.2.2 of the Review Guidelines. The specific reasons for this determination are outlined in the September 2024 Asset Management System Review Plan, set out at Appendix A.

Our engagement was conducted in accordance with Australian Standard on Assurance Engagements ASAE 3500 Performance Engagements, issued by the Australian Auditing and Assurance Standards Board and provides reasonable assurance as defined in ASAE 3500. The procedures we performed are described in more detail in section 2.7 below.

A limited assurance engagement in accordance with ASAE 3500, to report on the effectiveness of MPC's AMS for assets subject to the Licence involves performing procedures to obtain evidence about processes and controls designed and implemented within MPC's AMS for assets subject to the Licence. The procedures selected depend on our judgement, including the identification and assessment of risks of MPC's AMS for assets subject to a Licence being materially ineffective.

ASAE 3500 also requires us to comply with the relevant ethical requirements of the Australian professional accounting bodies.

In accordance with the Review Guidelines, the review considered the effectiveness of MPC's existing control procedures within the following 12 key processes in the asset management life cycle:

Key processes	Effectiveness criteria
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 operations (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 operations	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 [new criteria] 5.5 Operational costs are measured and monitored 5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities

Key processes	Effectiveness criteria
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 systems	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 [new criteria]
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

Key processes	Effectiveness criteria
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 asset management system	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

Each key process and effectiveness criterion is applicable to MPC's Licence and as such was individually considered as part of the review. The Review Plan, set out at Appendix A, details the risk assessments made for and review priority assigned to each key process and effectiveness criterion.

2.6 Approach

Our approach for this review involved the following activities, which were undertaken during the period September to November 2024:

- Utilising the Guidelines, development of a risk assessment, which involved discussions with key staff and review of documents to undertake a preliminary assessment of relevant controls
- Development of a Review Plan (see Appendix A) for approval by the ERA
- Correspondence and interviews with MPC representatives (including SUN Energy, RES and RISEN staff) to gain an understanding of process controls in place (see Appendix B for staff involved)
- Site visit to the Merredin Facility with a focus on understanding the generation assets, their function, normal mode of operation, age and an assessment of the facilities against the AMS review criteria
- Review of documents, processes and controls to assess the overall effectiveness of MPC's AMS (see Appendix B for reference listing)
- Consideration of the resourcing applied to maintaining those controls and processes
- Reporting of findings to MPC for review and response.

3. Summary of Ratings

In accordance with the Guidelines, the assessment of both the process and policy definition rating (refer to Table 1) and the performance rating (refer to Table 2) for each of the key AMS processes was performed using the below ratings.

Table 1: Process and policy rating scale

Rating	Description	Criteria
A	Adequately defined	• Processes and policies are documented • Processes and policies adequately document the required performance of the assets • Processes and policies are subject to regular reviews, and updated where necessary • The asset management information system(s) are adequate in relation to the assets being managed
B	Requires some improvement	• 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	• 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 • The asset management information system(s) requires substantial improvements (taking into consideration the assets being managed)
D	Inadequate	• Processes and policies are not documented • The asset management information system(s) is not fit for purpose (taking into consideration the assets being managed).

Table 2: Performance rating scale

Rating	Description	Criteria
1	Performing effectively	• The performance of the process meets or exceeds the required levels of performance • Process effectiveness is regularly assessed and corrective action taken where necessary
2	Improvement required	• 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	• 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	• Process is not performed, or the performance is so poor the process is considered to be ineffective.

This report provides:

- A breakdown of each function of the AMS into sub-components as described in the Guidelines. This approach is taken to enable a more thorough review of key processes where individual components within a larger process can be of greater risk to the business therefore requiring different review treatment
- A summary of the ratings applied by the review (Table 3) for each of:
  - Asset management process and policy rating
  - Asset management performance rating.
- Detailed findings, including relevant observations and recommendations (Section 4). Descriptions of the effectiveness criteria can be found in section 4 and the Review Plan at Appendix A.

Table 3: AMS effectiveness summary

			Ratings	
Ref	Asset management process and effectiveness criteria	Review priority	Process and policy	Performance
1. Asset Planning			**C**	**2**
1.1	Asset management plan covers the processes in this table	Priority 3	C	2
1.2	Planning processes and objectives reflect the needs of all stakeholders and is integrated with business planning	Priority 4	A	1
1.3	Service levels are defined in the asset management plan	Priority 4	B	2
1.4	Non-asset operations (e.g. demand management) are considered	Priority 5	Not rated	Not rated
1.5	Lifecycle costs of owning and operating assets are assessed	Priority 5	B	1
1.6	Funding options are evaluated	Priority 5	B	1
1.7	Costs are justified and cost drivers identified	Priority 5	A	1
1.8	Likelihood and consequences of asset failure are predicted	Priority 4	A	1
1.9	Asset management plan is regularly reviewed and updated.	Priority 5	C	2

Ref	Asset management process and effectiveness criteria	Review priority	Ratings: Process and policy	Ratings: Performance
2. Asset creation and acquisition			**Not rated**	**Not rated**
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	Priority 4		
2.2	Evaluations include all life-cycle costs	Priority 4		
2.3	Projects reflect sound engineering and business decisions	Priority 4	Not rated	Not rated
2.4	Commissioning tests are documented and completed	Priority 4		
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	Priority 2		
3. Asset disposal			**Not rated**	**Not rated**
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Priority 4		
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Priority 5	Not rated	Not rated
3.3	Disposal alternatives are evaluated	Priority 5		
3.4	There is a replacement strategy for assets	Priority 4		
4. Environmental analysis			**B**	**2**
4.1	Opportunities and threats in the asset management system environment are assessed	Priority 4	B	2
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Priority 4	B	1
4.3	Compliance with statutory and regulatory requirements	Priority 4	A	1
4.4	Service standard (customer service levels etc) are measured and achieved.	Priority 4	A	1
5. Asset operations			**A**	**1**
5.1	Operational policies and procedures are documented and linked to service levels required	Priority 4	A	1
5.2	Risk management is applied to prioritise operations tasks	Priority 4	A	1
5.3	Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	Priority 4	A	1
5.4	Accounting data is documented for assets [new criteria]	Priority 4	A	1
5.5	Operational costs are measured and monitored	Priority 4	A	1
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Priority 4	B	2
6. Asset maintenance			**A**	**1**
6.1	Maintenance policies and procedures are documented and linked to service levels required	Priority 4	A	1
6.2	Regular inspections are undertaken of asset performance and condition	Priority 2	A	1

Ref	Asset management process and effectiveness criteria	Review priority	Ratings	
			Process and policy	Performance
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Priority 2	A	1
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Priority 4	A	1
6.5	Risk management is applied to prioritise maintenance tasks	Priority 4	A	1
6.6	Maintenance costs are measured and monitored	Priority 4	A	1
7. Asset management information systems			**A**	**1**
7.1	Adequate system documentation for users and IT operators	Priority 5	A	1
7.2	Input controls include suitable verification and validation of data entered into the system	Priority 4	A	1
7.3	Security access controls appear adequate, such as passwords	Priority 5	A	1
7.4	Physical security access controls appear adequate	Priority 5	A	1
7.5	Data backup procedures appear adequate and backups are tested	Priority 4	A	1
7.6	Computations for licensee performance reporting are accurate	Priority 5	Not rated	Not rated
7.7	Management reports appear adequate for the licensee to monitor licence obligations	Priority 5	A	1
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Priority 4	A	1
8. Risk management			**B**	**2**
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	Priority 2	B	2
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Priority 2	B	2
8.3	Probability and consequences of asset failure are regularly assessed	Priority 2	A	1
9. Contingency planning			**A**	**1**
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Priority 2	A	1
10. Financial planning			**A**	**1**
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve those	Priority 4	A	1
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Priority 5	A	1
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Priority 5	A	1
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Priority 5	A	1

Ref	Asset management process and effectiveness criteria	Review priority	Ratings	
			Process and policy	Performance
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Priority 4	A	1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Priority 4	A	1
11. Capital expenditure planning			**Not rated**	**Not rated**
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Priority 4	Not rated	Not rated
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Priority 5		
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Priority 4		
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Priority 5		
12. Review of asset management system			**C**	**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	Priority 5	C	2
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Priority 5	C	Not rated

4. Detailed findings and recommendations

The following tables contain:

- *Findings*: the reviewer's understanding of the process and any issues that have been identified during the review
- *Recommendations (where applicable)*: recommendations for improvement or enhancement of the process or control.

4.1 Asset Planning

Key process: Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price)

Expected outcome: Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised

Overall Process and Policy/Performance rating: Requires substantial improvement (C) / Improvement required (2)

Effectiveness criteria	Findings	
1.1 Asset management plan covers the processes in this table	Prior to the transfer of the Licence to MPC, the MSF facility strategy was consistent with RISEN Energy's Asset management strategy, which was based on the principles of Asset Management Standard ISO 55000, Queensland Code of Practice for solar farms and O&M Best Practice Guideline of Solar Power Europe. This hybrid model was designed to deliver reliable electricity production within the agreed network limits. MPC does not operate within RISEN Energy's Asset management strategy and does not use an equivalent suite of documents within an overarching asset management framework. The MSF AMP is the primary document used by MPC to describe its AMS. The AMP focuses primarily on the operations and maintenance of the facility performed by RISEN, including risk management, emergency response and contingency planning activities. Although the AMP was updated and strengthened in response to the results of the 2021 asset management system review, it requires further strengthening to ensure it effectively addresses all key components of the asset management lifecycle presented in the ERA's Review Guidelines (summarised at section 2.5 of this report), particularly those components that extend beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner. Aspects of the AMP that do not address the asset planning criteria outlined in the ERA's Review Guidelines include: • The AMP does not include the Facility's defined service levels, which are detailed in the O&M Agreement and reflected in the regular asset reports prepared by RISEN and RES (refer to 1.3 below) • The AMP is silent on how it aligns with and/or is influenced by the owner's asset management strategy in relation to the assessment of lifecycle costs of owning and operating assets (refer to 1.5 below) • The AMP refers to the need for prioritisation in a budget constrained operating environment, however it is silent on how funding considerations are to be made in the event that operational revenue does not cover operational or capital expenditure requirements (refer to 1.6 below). **Recommendation 1/2024** *MPC review and expand its Asset Management Plan to ensure it effectively addresses all key components of the asset management lifecycle presented in the ERA's Review Guidelines, particularly those components that extend beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner.*	
	Process and Policy Rating: Requires substantial improvement (C)	**Performance Rating:** Improvement required (2)

Effectiveness criteria	Findings	
1.2 Planning processes and objectives reflect the needs of all stakeholders and is integrated with business planning	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN, and consideration of relevant supporting documentation and MPC's business planning processes, we observed that: • MPC's business model and resources specifically accommodate the operation and maintenance of the MSF Facility in accordance with Good Operating and Maintenance Practice and Original Equipment Manufacturer (**OEM**) Instructions • MPC has contracted Entego Group to undertake bidding and dispatch services. Entego's Control Centre Management Plan describes the protocols and incident management procedures for the bidding and dispatch of the facility's electricity production, in accordance with the requirements of the Australian Energy Market Operator (**AEMO**) and Western Power.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1.3 Service levels are defined in the asset management plan	Through discussion with the Operations and Maintenance Manager, RISEN and examination of the AMP, we observed that RISEN is committed to perform its obligations in accordance with: • Applicable Laws • Best Industry Practices • Technical specifications, operation manuals and other OEM reference documents RISEN is also committed to operating in accordance with the Connection Agreement, Western Power Technical Requirements, the Wholesale Electricity Market (WA), AEMO and compliance with the Generator Performance Standards. The services will be carried out in accordance with all Laws, Quality Plan and the Occupation Health and Safety Plan. As noted at 1.1 above, the AMP does not include the Facility's defined service levels (e.g. for maintaining 98.5% availability), which are detailed in the O&M Agreement and reflected in the regular asset reports prepared by RISEN and RES. *This matter should be considered and addressed as part of MPC's action plan in response to Recommendation 1/2024*	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Improvement required (2)
1.4 Non-asset operations (e.g. demand management) are considered	As the primary purpose of the Facility is to supply electricity to the South West Integrated Network, there is no requirement or opportunity for MPC to consider non-asset options.	
	Process and Policy Rating: Not rated	**Performance Rating:** Not rated

Effectiveness criteria	Findings	
1.5 Lifecycle costs of owning and operating assets are assessed	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of business planning and budgeting processes, we observed that: • Operating and maintenance costs are appropriately identified and built into MPC's annual budgeting process • Capital expenditure provisions are incorporated into the annual budget on an as-needed basis • SUN Energy as the owner of MPC has assessed the lifecycle costs of owning and operating the MSF Facility assets as a key component of its asset investment strategy. As noted at 1.1 above, the AMP is silent on how it aligns with and/or is influenced by the owner's asset management strategy in relation to the assessment of lifecycle costs of owning and operating assets. *This matter should be considered and addressed as part of MPC's action plan in response to Recommendation 1/2024.*	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Performing effectively (1)
1.6 Funding options are evaluated	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of MPC's operating model and financial planning process, we determined that the MPC annual budget (including any capital expenditure requirements determined on an as-needed basis) is aligned with MPC's overall business plans and is expected to be fully funded through a combination of operational revenue and contributions made by MPC's owner, SUN Energy. MPC's AMP refers to the need for prioritisation in a budget constrained operating environment, however it is silent on how funding considerations are to be made in the event that operational revenue does not cover operational or capital expenditure requirements. The O&M Agreement does outline requirements for certain expenditure proposals to be presented by RISEN for consideration and approval by RES as the Asset Manager, or Sun Energy as the Asset Owner. *This matter should be considered and addressed as part of MPC's action plan in response to Recommendation 1/2024.*	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Performing effectively (1)
1.7 Costs are justified and cost drivers identified	Through discussion with the Operations and Maintenance Manager, RISEN Energy and consideration of business planning and budgeting processes, we observed that operating and maintenance costs are appropriately identified and built into MPC's annual budgeting process.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">1.8 Likelihood and consequences of asset failure are predicted</td><td colspan="2">Through discussion with the Operations and Maintenance Manager, RISEN and the Site Electrical Technician, RISEN, consideration of MPC's risk management practices and examination of supporting documentation, we observed that MPC has applied the following mechanisms for predicting the consequences and likelihood of the facility's failure:
Regular corrective maintenance and plans for an increasing level of preventative maintenance
The MPC risk register considers major items of equipment and provides details of the O&M strategy to be applied
A forward maintenance program has been developed in accordance with OEM requirements. That program and its ability to assess probability and consequences of asset failure has continued to evolve in line with learnings gained over the life of the MSF Facility's operations. This approach is reflected in the AMP.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">1.9 Asset management plan is regularly reviewed and updated.</td><td colspan="2">MPC's AMP was adopted from the previous licensee's MSF AMP, which had been reviewed and updated prior to the licence transfer in August 2022 to partially address the recommendations of the 2021 AMS Review. The AMP was subsequently reviewed in April 2024 to accommodate the reviewed MSF maintenance plan.
Although the AMP has been reviewed and updated on occasion and in accordance with RISEN's judgement on the need to update, MPC has not established a mechanism for:
Ensuring the MSF AMP and descriptions/documentation of the broader MPC AMS system remain current
Subjecting the AMS to independent review (e.g. internal audit).
Recommendation 2/2024
MPC establish a mechanism for ensuring the MSF AMP and descriptions/documentation of the broader MPC AMS system remain current and for subjecting the AMS to independent review.
That mechanism should be clear on the scheduled review dates, who should be involved in performing or providing input to the review and the approval and sign-off requirements.</td></tr>
<tr><td>Process and Policy Rating: Requires substantial improvement (C)</td><td>Performance Rating: Improvement required (2)</td></tr>
</table>

4.2 Asset creation and acquisition

Key process: Asset creation/acquisition is the provision or improvement of assets

Expected outcome: The asset acquisition framework is economic, efficient and cost-effective; it reduces demand for new assets, lowers service costs and improves service delivery

Overall Process and Policy/Performance rating: Not rated

Findings: For the period subject to this review, MPC had not undertaken or undertaken planning for any material asset creation and acquisition activities beyond minor improvement projects. Accordingly, consideration has not yet been given to an asset creation and acquisition process relevant to the Facility's ongoing operations.

Although we have not rated the Process and Policy criteria, we recommend that in the event that MPC commences planning for any material asset creation and acquisition activities, it reviews the effectiveness criteria for the asset creation and acquisition process of the asset management life cycle listed in the ERA's Review Guidelines (summarised at section 2.5 of this report).

4.3 Asset disposal

Key process: Asset disposal is the consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets

Expected outcome: The asset management framework minimises holdings of surplus and underperforming assets and lowers service costs. The cost-benefits of disposal options are evaluated

Overall Process and Policy/Performance rating: Not rated

Findings: The MSF Facility remains in the early phase of its life-cycle. No plans have been made to dispose of any of the facility's assets and there is a low likelihood of MPC disposing of these assets in the short-term.

Although we have not rated the Process and Policy criteria, we recommend that in the event that MPC commences planning for the disposal of surplus, obsolete, under-performing or unserviceable assets, it reviews the effectiveness criteria for the asset disposal process of the asset management life cycle listed in the ERA's Review Guidelines (summarised at section 2.5 of this report).

4.4 Environmental analysis

Key process: Environmental analysis examines the asset management system environment and assesses all external factors affecting the asset management system

Expected outcome: The asset management system regularly assesses external opportunities and threats and identifies corrective action to maintain performance requirements

Overall Process and Policy/Performance rating: Requires some improvement (B) / Improvement required (2)

Effectiveness criteria	Findings	
4.1 Opportunities and threats in the asset management system environment are assessed	Through discussion with the Operations and Maintenance Manager, RISEN and the Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, we observed that: • RISEN is the appointed O&M Contractor with RES providing the management role of the O&M Contractor for SUN Energy, who is the asset owner • RISEN proposes a drone and field survey in the future to record vegetation management status across site, thus demonstrating continuous improvement methods for effective monitoring. • RISEN confirmed that its vegetation management schedule involves slashing in September and spraying in late September and early October, which was confirmed during the site visit • MSF operates under the Operational Environmental Plan (prepared by RISEN) as outlined in the document MSF-OM-ENV-SFOE Plan Rev 01 with last revision dated 14 December 2022. The document is fairly comprehensive and outlines all regulatory requirements and references plans to best manage environmental topics such as flora and vegetation, bushfires, stormwater, land contamination, cultural heritage, clearing requirements and other environmental management issues • Table 5 of the MSF Operational Environmental Plan outlines all the objectives and targets along with validation methods adopted at this facility by RISEN in achieving those environmental objectives • We note that the plan is required to be reviewed annually however the document reflects that the last update was 14 December 2022, almost 2 years ago. The need for review needs to be escalated and addressed. *We raised this matter with MPC staff as an improvement opportunity* • MSF maintains an Emergency Response Management Plan (ERP) which was last reviewed in December 2023. This plan is comprehensive but during site visit, we observed the heightened risk of sole-worker and potential medical emergencies associated with snake-bites. It is prudent that MPC organises a drill to test the emergency response that covers the aspects of sole-worker and medical emergencies. *We raised this matter with MPC staff as an improvement opportunity.*	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Improvement required (2)

Effectiveness criteria	Findings	
4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, we observed that: • MPC's performance standards relate to inverter availability, safety and environmental incidents, actual and forecast electricity production and completion of work orders. Those performance standards are measured and reported on a monthly basis • RISEN staff manage and monitor environmental performance in accordance with established management plans (e.g. Bushfire Management, Environmental Management, Stormwater Management, Emergency Response Management), with support from RES staff where required • MPC's business model and resources specifically accommodate the operation and maintenance of MSF in accordance with Good Operating and Maintenance Practice and OEM Instructions • MPC has contracted Entego Group to undertake Grid Interface Management. Entego's Control Centre Management Plan describes the protocols and incident management procedures for the bidding and dispatch of the facility's electricity production, in accordance with the requirements of AEMO and Western Power • Our review of monthly reports indicates that performance KPIs for cyber security threats on the system are measured. Although, RISEN's corporate risk matrix identifies cyber security threats as a Low Risk item due to the effectiveness of controls in place to prevent or manage breaches, the MSF Risk Register does not include a specific risk associated with cyber security (existing risks relate to failures or loss of communication, which may result from IT/cyber security threats). MPC has an opportunity to further strengthen its understanding of the impact and treatment of widespread failures due to cyber security breaches. The MSF risk register can be used as a starting point for recognising and managing this risk. *We raised this matter with MPC staff as a potential improvement opportunity.* • Review of the performance KPIs indicate that setpoint curtailment dominates the power plant generation KPIs negatively although this has no control as such on the power plant actual performance through its operation and maintenance. There may be value in tracking the performance KPIs having excluded the setpoint curtailment and maintain setpoint curtailment tracking separate to the plant performance. This is also the preference of AEMO, as outlined in RISEN's annual report issued in September 2024. It was noted that this matter was addressed in July 2024, and we confirmed that Plant Performance for the month of August 2024 was reported without the setpoint curtailment • There were 3 NCRs raised by AEMO in June 2024, one relating to the accuracy of forecast compared to actual. We had not observed the resolution of this issue with Western Power/AEMO at the time of our review, however we do expect MPC to continue to liaise with Western Power and AEMO to achieve resolution in a timely manner.	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	

4.3 Compliance with statutory and regulatory requirements	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, we observed that:
	• MPC has designed its processes and practices to operate and monitor its performance in accordance with the following statutory legislation and licences:
	  ○ Environmental Operating Licence
	  ○ Occupational Health and Safety Act and associated regulations
	  ○ Environmental Protection Act
	  ○ Aboriginal Heritage Act
	  ○ Biosecurity and Agricultural Management Act
	  ○ Waste Avoidance and Resource Recovery Act and subordinate legislation
	• MPC monitors and reports on its compliance with regulatory requirements on a monthly basis
	• The Annual report submitted by RISEN in September 2024 outlines 2 environmental incidents in November 2023 and January 2024 respectively and 5 NCRs, three of which have been dealt with and the remaining two pending resolution.	

	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
4.4 Service standard (customer service levels etc) are measured and achieved	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of MPC's business management processes, we observed that • MPC (through a controlled entity, Merredin Solar Farm Nominee) has a PPA with BHP Billiton Nickel West and Green Rights Supply Agreement with Macquarie Bank • Control and operation of the MSF is dictated by Western Power and AEMO requirements for the generation and supply of electricity into the network and market, in accordance with MPC's contractual arrangements MPC monitors and reports on its electricity production in accordance with its bidding and dispatch obligations and any operation requirements of Western Power.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.5 Asset operations

Key process: Asset operations is the day-to-day running of assets (where the asset is used for its intended purpose)

Expected outcome: The asset operation plans adequately document the processes and knowledge of staff in the operation of assets so service levels can be consistently achieved

Overall Process and Policy/Performance rating: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">5.1 Operational policies and procedures are documented and linked to service levels required</td><td colspan="2">Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, we observed that:
In March 2022, MPC entered into an agreement with RISEN, who was the former asset owner, to operate and maintain the facility
RISEN undertakes all operation and maintenance activities of the MSF in accordance with the requirements as set out in the O&M Agreement so that MPC can meet its PPA obligations with BHP Billiton Nickel West and Western Power. The PPA agreement extends to January 2031
In accordance with the O&M Agreement, RISEN provides guarantees that the Facility will achieve an availability of 98.5% calculated at the inverter system level on an annualised basis, measured on the last day of every calendar month in the Term
Control and operation of the MSF is dictated by AEMO and Western Power requirements for the generation and supply of electricity into the network and market, in accordance with MPC’s contractual arrangements
RISEN has developed a comprehensive list of documented procedures, based on OEM documentation, to cover operational and maintenance tasks, including:
Control room operations, including management of alerts and faults
Raising of work orders from MEX CMMS for planned work for action by the Lead Technician or contractors
Daily site-inspection checklists
Maintenance planning
Completion of work orders
Use of key equipment and related systems.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

Effectiveness criteria	Findings	
5.2 Risk management is applied to prioritise operations tasks	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, we observed that: • RISEN has a Risk Management Manual RES-RM-MAN-1000 that is updated annually with the last revision dated 28 August 2024 • RISEN has a 'duty of care' to manage risks by identifying all reasonably foreseeable hazards and applying a control measure that is reasonably practicable based on the Hierarchy of Control • RISEN maintains a designated MSF risk register, in accordance with the requirements outlined in their Risk Management Manual • RISEN uses risk management approach to corrective maintenance activities with the intent to meet their obligations to achieve targeted MSF Facility availability, performance and compliance • A detailed preventative maintenance program has been developed, which targets tasks to areas of higher risk and priority • All work orders are tracked and the most recent annual report shows that RISEN had a backlog of 12 Preventative and 144 Corrective Maintenance tasks at the end of August 2024 • RES manages RISEN's O&M contract and is currently working to address the gaps identified from the Project's Critical Infrastructure Risk Management Plan (CIRMP). Cromarty was engaged to perform a SP1 assessment, which found MSF to be 72% compliant. Cromarty has also prepared a plan of action, detailing all items to be addressed in order to reach 100% compliance. RES has requested Cromarty to provide a proposal for support to address these actions. RES is working to complete the annual CIRMP report.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5.3 Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, we observed that: • The MEX CMMS acts as the Asset Register for each of MSF's assets • An appropriate level of detail is included for each asset, including links/references to maintenance activity relevant to each asset.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
5.4 Accounting data is documented for assets	Through discussion with the Operations and Maintenance Manager, RISEN and RES Asset Manager, and reviewing RES's monthly reports for the MSF Facility, we observed that the asset register and corporate records capture relevant information for accounting purposes, including: • Generation revenue • Operation and maintenance expenses • Interest expenses • Other Finance costs.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5.5 Operational costs are measured and monitored	Through discussion with the Operations and Maintenance Manager, RISEN and Asset Manager, RES Group; and consideration of MSF's information systems and relevant supporting documentation such as monthly and annual reports, we observed that MPC tracks and reports operational costs on a monthly basis. Costs measured and monitored against budget include salaries and wages, contractors, materials, lease payments, licence fees and other utilities and services.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation, we observed that: • Three primary staff are allocated to the operation of the MSF facility, being the Operations and Maintenance Manager (based in Brisbane) and Site Electrical Technicians, RISEN (on-site during normal weekday work hours) • Coverage is available from other RISEN Energy sites in the case of Site Technicians being on leave • A skills and training matrix has been developed for RISEN's MSF Facility operations to identify key competencies and training requirements for staff. We identified several aspects of the matrix that could be improved: ▪ The current matrix does not clearly record when required training modules have been completed by staff required to operate the MSF facility. Dates currently recorded are listed as "due" dates, rather than completed dates ▪ Although an Environmental induction is mandatory for all staff, the training matrix shows no induction date for RISEN's site electrical technician; no training dates were recorded for the OEM and SME Technician; and the training matrix did not show any training requirements and dates for the MSF O&M Manager. *We raised this matter with MPC staff as an improvement opportunity*.	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Improvement required (2)

4.6 Asset maintenance

Key process: Asset maintenance is the upkeep of assets

Expected outcome: The asset maintenance plans cover the scheduling and resourcing of the maintenance tasks so work can be done on time and on cost

Overall Process and Policy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings

6.1 Maintenance policies and procedures are documented and linked to service levels required	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation, we observed that:
	• MPC has a comprehensive suite of documented procedures and work instructions in place to cover maintenance tasks, including:
	  ○ Generator Maintenance Plan
	  ○ Weather Station Inspection and Calibration Work Procedure
	  ○ MVPS Structure Inspection Work Instruction
	  ○ Combiner Boxes Inspection Work Instruction
	  ○ Inverter Inspection Work Instruction
	  ○ PV String & Tracker Inspection Work Instruction
	  ○ MVPS Transformer & MV Switchgear Inspection Work Instruction
	  ○ Transformer Oil Sampling Procedure
	  ○ Harmonic Filter Inspection Work Instruction
	  ○ UPS and Power Plant Controller Work Instructions, etc
	• A list of preventative maintenance activities to be undertaken as part of RISEN's O&M Agreement is outlined in the Agreement with the scope and frequency identified for routine maintenance of equipment based on OEM requirements
	• MSF-OM-REA-PLN-0004 Merredin Solar Asset Management Plan outlines the Maintenance Service Plan (MSP) to include:
	  ○ maintenance activity details and timing consistent with maintenance service manual as-built drawings and plant equipment
	  ○ operational performance assessment and reporting
	  ○ scope and schedule of all maintenance services
	  ○ details on record management process
	  ○ reporting requirements
	  ○ regulatory obligations

Effectiveness criteria	Findings	
6.1 (cont.)	○ communication protocol ○ procurement and subcontracting ○ change management ○ scheduling including outage scheduling .	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
6.2 Regular inspections are undertaken of asset performance and condition	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, and sample testing of evidence of inspections and maintenance activity, we determined that: • The annual work plan has been included in the MEX Computer Maintenance Management System (CMMS), and is being delivered through a week-by-week program • The delivery of the work program is driven by RISEN, supported by outsourced service providers and the original equipment providers. Using results from ongoing inspections, additional condition-based maintenance requirements will be added to the scope and either delivered as part of the overall planned outage scope or as urgent issues delivered in isolation • RISEN performs daily visual site inspections to provide full coverage of asset/equipment operations, performance and condition. These site inspections generate corrective maintenance requirements, which are captured and monitored within the MEX CMMS • RISEN then provides a proposal to RES for the identified corrective maintenance activities for approval before scheduling the CM Work Orders • RISEN has also been undertaking drone thermography scan since 2022 to identify faulty modules requiring replacement and MPC has requested that RISEN develop a panel replacement strategy. New replacement modules are of slightly higher capacity and hence each array can handle one less module to accommodate the higher capacity replacement modules • RISEN proposes a drone and field survey in the future to record vegetation management status across site, thus demonstrating continuous improvement methods for effective monitoring.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, and sample testing of evidence of inspections and maintenance activity, we determined that: • MPC undertakes regular preventative maintenance tasks in accordance with the scope and frequency requirements and also undertakes regular corrective maintenance activities to maintain compliance, plant availability and plant performance targets • Completion of maintenance work orders is managed by the Site Electrical Technician, RISEN, with oversight from the Operations and Maintenance Manager, RISEN, plus support from contractors when considered necessary and within budget parameters • A listing of outstanding work orders can be extracted from the MEX CMMS system • Review of current preventative maintenance tasks showed approximately 96% of the tasks being closed out with less than 4% of tasks being carried forward as overdue • Review of current overdue corrective maintenance tasks showed non-tracking trackers dominating the list by approximately 65% - 68% with non-availability of spare parts being the main issue. Decisions to stock spare parts are made by MPC on the basis of financial budget priority. However, over capacity of the MSF facility followed by under-utilisation of the solar farm through setpoint curtailment of the network has seen no impact on the plant availability with the backlog of the maintenance tasks.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN; and consideration of relevant supporting documentation, and sample testing of evidence of inspections and maintenance activity, we determined that: • Reoccurring issues with non-tracking trackers and damaged PV modules requiring replacement are more associated with OEM warranty issues, with minimal adjustments to operational/maintenance plans. Decisions regarding the availability of spare parts to drive the maintenance closeout are made by MPC on the basis of financial budget priority • RISEN's Monthly and Annual reports provide sufficient evidence of all maintenance tasks and system failures being analysed and adjustments made to operational/maintenance plans.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
6.5 Risk management is applied to prioritise maintenance tasks	Through discussion with the Operations and Maintenance Manager, RISEN and RES Asset Manager; and consideration of relevant supporting documentation, we observed that MSF's maintenance processes include: • A designated MSF facility risk register and a separate RISEN Services Risk Register, in accordance with the requirements outlined in RISEN's Risk Management Manual • RISEN uses risk management approach to corrective maintenance activities with the intent to meet their obligations to achieve targeted MSF Facility availability, performance and compliance • A detailed preventative maintenance program has been developed, which targets tasks to areas of higher risk and priority • All corrective maintenance works are submitted as a proposal for approval with identified priorities by RISEN to MPC (through RES and SUN Energy) • A new work order template is being developed by RISEN to provide improved management of corrective maintenance tasks.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
6.6 Maintenance costs are measured and monitored	Through discussion with the Operations and Maintenance Manager, RISEN and RES Asset Manager; and consideration of MSF's information systems and relevant supporting documentation such as monthly and annual reports, we observed that MPC tracks and reports maintenance costs on a monthly basis. Costs measured and monitored against budget include corrective maintenance costs, contractors, materials, spare parts, and other utilities and services.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.7 Asset management information systems

Key process: An asset management information system is a combination of processes, data and software supporting the asset management functions

Expected outcome: The asset management information system provides authorised, complete and accurate information for the day-to-day running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards

Overall Process and Policy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
7.1 Adequate system documentation for users and IT operators	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant system documentation, we observed that MPC maintains an appropriate suite of system documentation for its key control systems, network and infrastructure. That documentation includes: • MSF Infrastructure Guide • Real-Time Automation Controller SEL-3555 Gateways User Manual • Human Machine Interface User Manual • SCADA Infrastructure User Guide • SCADA Operational and Maintenance Manual • MEX Computerised Maintenance Management System User Guide • Generator Operating Protocol MERSOLAR PV1 • Cyber Incident Response Plan.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7.2 Input controls include suitable verification and validation of data entered into the system	Through discussion with the Operations and Maintenance Manager, RISEN, consideration of relevant system documentation and walkthrough of a sample of functions managed by the MEX CMMS, we observed that MPC's core systems maintained appropriate data verification and validation controls and techniques.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7.3 Security access controls appear adequate, such as passwords	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation, we observed that MPC has established and maintained procedures and controls which enable all key system access and permissions (including remote access) to be managed in accordance with RISEN Energy IT standards, policies and procedures.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
7.4 Physical security access controls appear adequate	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation, we observed that MPC has established and maintained appropriate processes and procedures relating to the access of facilities and the physical protection of information assets and systems. Specifically in the context of access to computer server rooms and other control systems on site, we observed that: • Access to the site operations building, main control room and key plant control facilities is via locked door, with all keys managed by the MSF Lead Technician • All visitors and contractors are required to report to and be accompanied by the MSF Site Lead or another designated MPC representative.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7.5 Data backup procedures appear adequate and backups are tested	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation, we observed that: • Procedures for managing data backup and data restore of MSF servers have been established and maintained with RISEN Energy IT standards, and with the support of expert consultants • RISEN's procedures provide for regular backups of all key data in accordance with accepted industry practice, with regular testing of back-ups recommended • RISEN Energy IT staff provide full support for MPC staff, including management of backups for data maintained on RISEN Energy's central servers.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7.6 Computations for licensee performance reporting are accurate	For the purpose of MPC's licence performance reporting to the ERA in accordance with its Licence requirements, MPC does not directly extract data from its MEX CMMS and Power Quality SCADA Sapphire systems and is not directly reliant on computations from those systems.	
	Process and Policy Rating: Not rated	**Performance Rating:** Not rated
7.7 Management reports appear adequate for the licensee to monitor licence obligations	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation and management reporting procedures, we determined that: • MPC's MEX CMMS and Power Quality SCADA Sapphire systems are capable of generating a substantial variety of reports • Management reports relating to the operation and performance of the facility are produced on a scheduled basis and can also be produced on request.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Through discussion with the Operations and Maintenance Manager, RISEN and consideration of relevant supporting documentation, we observed that with the full support of RISEN Energy staff and resources, MPC has established and maintained appropriate processes and procedures relating to the protection of information assets and systems, including: • Comprehensive user access controls, including user permissions and remote access • Contemporary cyber security processes and procedures.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.8 Risk management

Key process: Risk management involves the identification of risks and their management within an acceptable level of risk

Expected outcome: The risk management framework effectively manages the risk that the licensee does not maintain effective service standards

Overall Process and Policy/Performance rating: Requires some improvement (B) / Improvement required (2)

Effectiveness criteria	Findings
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	*8.1 and 8.2* Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN and consideration of MPC's risk management practices and examination of supporting documentation, we observed that: • MPC applies RISEN Energy's established risk management framework and processes • MPC staff displayed an understanding of known operational risks and issues, with evidence of tasks being initiated and completed to address those risks and issues • MPC has maintained a MSF Risk Register, consistent with RISEN Energy processes and other facilities within the RISEN Energy group: ▪ The MSF risk register covers a broad range of risk types, with a total of 36 risks raised between October 2020 and July 2023. A further 3 confined spaces risks specific to the MSF Facility are documented in a separate worksheet ▪ Relevant RISEN corporate support risks are also documented in a RISEN Services risk register ▪ Since the 2021 Merredin Solar Farm AMS Review, the MSF risk register has been expanded to include risk owners, additional mitigations required to reach target risk levels and review dates ▪ The full risk register was reviewed in May 2024 and is scheduled for next review in May 2025 • There is evidence of risk status and risk treatment plans being monitored, plus evidence of actions being scheduled and completed as a work order • A Hazardous Chemicals Register is maintained • RISEN engaged Employsure, an employment and safety consultancy to provide guidance on employee safety systems • RISEN engaged MYIT Consultants, an IT and cyber security consultancy to review its IT asset based security approach and documents for the MSF Facility.

Effectiveness criteria	Findings	
8.1 and 8.2 (cont.)	Although MPC now has broadly effective risk management arrangements in place, it can further uplift the following elements: • There are 9 risks currently rated as High, with a target risk of Medium or Low. Additional control mechanisms are listed for all nine risks, with seven listed as "realised" as an indicator of the control being implemented and two listed as "open" as an indicator that the control has not been implemented or the action completed. Although MPC evidences actions being scheduled and completed as a work order, the risk register does not define a specific risk treatment plan, including actions to be completed by whom and by when • Management of those risks and relevant risk treatment plans is not consistently featured in operational reporting • Although several personnel safety risks are recognised, the specific risk relating to MPC's sole operator arrangements is not captured in the risk register or other documented methods for ensuring this risk is recognised and adequately managed and monitored *We raised these matters with MPC staff as an improvement opportunity*.	
	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Improvement required (2)
8.3 Probability and consequences of asset failure are regularly assessed	Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN and consideration of MPC's risk management practices and examination of supporting documentation, we observed that MPC has applied the following mechanisms for identifying and assessing the consequences and likelihood of the facility's failure: • Regular corrective maintenance and plans for an increasing level of preventative maintenance • The MPC risk register considers major items of equipment and provides details of the O&M strategy to be applied to minimise the probability and consequences of asset failure • A forward maintenance program has been developed in accordance with OEM requirements. That program and its ability to assess probability and consequences of asset failure has continued to evolve in line with learnings gained over the life of the MSF Facility's operations.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.9 Contingency planning

Key process: Contingency plans document the steps to deal with the unexpected failure of an asset

Expected outcome: Contingency plans have been developed and tested to minimise any major disruptions to service standards

Overall Process and Policy/Performance rating: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks</td><td colspan="2">Through discussion with the Operations and Maintenance Manager, RISEN and Site Electrical Technician, RISEN, and examination of MPC's emergency response and contingency planning mechanisms, we determined that:
In line with the RISEN Energy governance framework, MPC has developed a suite of emergency response procedures and management plans, such as:
Risk Management Plan Fire (2020)
Operational Environmental Plan (rev 2022)
MSF Emergency Response Plan (rev 2023)
Site Emergency Evacuation Points Plan
MPC's risk register captures higher risk areas, which may result in major disruptions to asset operations. MPC's risk management activities play an effective role in assisting MPC to recognise the need for contingency and response planning to effectively minimise any major disruption to asset operations
MPC has implemented a schedule for testing the effectiveness of its emergency response plans. We sighted evidence of the planning for and results of an emergency response scenario conducted in November 2023. Scenarios for testing emergency response plans are scheduled as a recurring, annual work orders.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

4.10 Financial planning

Key process: Financial brings together the financial elements of the service delivery to ensure its financial viability over the long term

Expected outcome: The financial plan is reliable and provides for the long-term financial viability of the services

Overall Process and Policy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve those	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of MPC's financial planning mechanisms, we observed that the MPC Facility's financial plan takes the form of an annual budget, prepared to reflect its financial objectives and contractual agreements.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of MPC's financial planning mechanisms, we determined that the MPC annual budget is aligned with MPC's overall business plans and is expected to be fully funded through a combination of operational revenue and contributions made by MPC's owner, SUN Energy.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of MPC's financial planning mechanisms, we determined that the MPC annual budget: • Is comprised of a summary of forecast revenue and expenses relating to the production and dispatch of electricity in accordance with contractual agreements • Provides projections of operating profit and loss financial position attributable to the MSF Facility.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10.4 The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of MPC's financial planning mechanisms, we determined that: • The MPC annual budget provides projections of income, which can be extended for the duration of the Facility's life and relevant contractual agreements. We sighted a forecast for a five year period • Financial plans are forecast for longer term periods. MPC has created a 30-year base case financial model that projects key financial metrics such as revenue, expenses, and liabilities through 2050. This forecast serves as the foundation for the annual budget, which is adjusted to account for any changes in anticipated operating conditions.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and examination of the MPC annual budget, we determined that: • The annual budget provides a sufficient level of detail relating to forecast operational, maintenance and administrative costs • Capital expenditure provisions are incorporated into the annual budget based on site requirements. For example, in the 2022/23 budget, costs associated with the purchase and installation of a new meteorological station was included as a Capex expenditure. The 2023/34 budget did not include a provision for capital expenditure as it was anticipated that no capital expenditure would be necessary.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10.6 Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Through discussion with the Asset Manager, RES Group and Operations and Maintenance Manager, RISEN and consideration of MPC's financial planning mechanisms, we determined that actual versus budgeted expenditure is monitored on a monthly basis, with variances identified and investigated where required to determine whether corrective action is required.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.11 Capital expenditure planning

Key process: The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure for these works over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates

Expected outcome: The capital expenditure plan provides reliable forward estimates of capital expenditure and asset disposal income. Reasons for the decisions and for the evaluation of alternatives and options are documented

Overall Process and Policy/Performance rating: Not rated

Findings

All costs associated with the operations and maintenance of the Facility are typically expected to be treated as operational costs. That is, there is currently no provision for capital items in the MSF Facility Operations and Maintenance Budget. Capital expenditure provisions are incorporated into the annual budget based on site requirements. For example, in the 2022/23 budget, costs associated with the purchase and installation of a new meteorological station was included as a Capex expenditure. The 2023/34 budget did not include a provision for capital expenditure as it was anticipated that no capital expenditure would be necessary.

Although we have not rated the Process and Policy criteria, we recommend that in the event that MPC commences planning for any material asset creation and acquisition activities, it reviews the effectiveness criteria for the capital expenditure planning process of the asset management life cycle listed in the ERA's Review Guidelines (summarised at section 2.5 of this report).

4.12 Review of asset management system

Key process: The asset management system is regularly reviewed and updated

Expected outcome: The asset management system is regularly reviewed and updated

Overall Process and Policy/Performance rating: Requires substantial improvement (C) / Improvement required (2)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="5">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</td><td colspan="2">MPC's AMP was adopted from the previous licensee's MSF AMP, which had been reviewed and updated prior to the licence transfer in August 2022 to partially address the recommendations of the 2021 AMS Review. The AMP was subsequently reviewed in April 2024 to accommodate the reviewed MSF maintenance plan.
Although the AMP has been reviewed and updated on occasion and in accordance with RISEN's judgement on the need to update, MPC has not established a mechanism for:
• Ensuring the MSF AMP and descriptions/documentation of the broader MPC AMS system remain current
• Subjecting the AMS to independent review (e.g. internal audit).
Recommendation 2/2024
MPC establish a mechanism for ensuring the MSF AMP and descriptions/documentation of the broader MPC AMS system remain current and for subjecting the AMS to independent review.
That mechanism should be clear on the scheduled review dates, who should be involved in performing or providing input to the review and the approval and sign-off requirements.
12.1 Rating</td></tr>
<tr><td>Process and Policy Rating: Requires substantial improvement (C)</td><td>Performance Rating: Improvement required (2)</td></tr>
<tr><td colspan="2">12.2 Rating</td></tr>
<tr><td>Process and Policy Rating: Requires substantial improvement (C)</td><td>Performance Rating: Note rated</td></tr>
</table>

5. Status of recommendations addressing AMS deficiencies from the previous review

The previous AMS review for Merredin Solar Farm was for the previous licensee Meredin Solar Farm Nominee Pty Ltd.

Reference (no./year)	**Process and policy deficiency / Performance deficiency** (Rating / Reference number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's recommendation or action planned	Date resolved	**Further action required** (Yes/No/Not Applicable) **Details of further action required** (including current recommendation reference, if applicable)
A. Resolved during current review period				
2/2021	**B3** ***Risk Management:*** *8.1 Risk management policies and procedures exist and are applied to minimise internal and external risk* *8.2 Risks are documented in a risk register, consistent with RISEN Energy processes and other facilities within the group.* MSF has established an initial Risk Register, consistent with RISEN Energy processes and other facilities within the group: • The MSF risk register covers a broad range of risk types, with a total of 32 risks raised in October 2020 • Although the register contains some useful information, it requires further work to complete all key components of the tool (e.g. assign risk owners, identify specific controls and treatment plans required to adequately treat current risks rated as High or Extreme) and to apply a full test of its effectiveness and accuracy • Risks such as sole operator risks and learnings from site specific operations (since October 2020) are not captured in the risk register • There is little evidence of risk status and risk treatment plans being monitored e.g. management of risks is not consistently featured in operational reporting, and regular reviews of the risk register have not been scheduled.	**Action plan** Engage an experienced consultant to review the risk management discipline, documentation, and procedures to improve the detail of risk assessment and timeliness of risk review for the MSF operation. **Responsible person:** O&M Manager **Target date:** April 2022	July 2022	No

Reference (no./year)	**Process and policy deficiency / Performance deficiency** (Rating / Reference number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's recommendation or action planned	Date resolved	**Further action required** (Yes/No/Not Applicable) **Details of further action required** (including current recommendation reference, if applicable)
B. Unresolved at end of current review period				
1/2021	**C2** ***1. Asset Planning*** *1.1 Asset management plan covers the specified processes.* Two versions of MSF's Asset Management Plan provide some direction on MSF's asset management framework and practices, including an effective description of operations and key equipment, plus references to other key plans and documents. However the Plan requires further review and consolidation to ensure it reflects MSF's actual and expected processes, as well as the 12 key components of the asset management lifecycle presented in the ERA's Guidelines. The current versions of the plan do not adequately address the following elements: • Lifecycle overview, from acquisition to disposal including milestones and end of life • Current business objectives and defined service levels • Legislative and other compliance obligations • Asset performance, including cost performance indicators, condition assessment, operational risk summary • Major works, including significant scheduled maintenance and refurbishment plan and opportunities • Contingency arrangements • Arrangements for review and update of the AMP.	**Action plan** Engage an experienced consultant to review and expand its Asset Management Plan to ensure it reflects MSF's actual and expected processes and aligns with the 12 key components of the asset management lifecycle presented in the ERA's Guidelines. **Responsible person:** O&M Manager **Target date:** August 2022	Partially actioned by July 2022	Yes This action was partially addressed by the previous licensee as the AMP was effectively updated from an operations and maintenance perspective, however aspects of the AMP that extend beyond the core operations and maintenance functions still need to be addressed in consultation with RES as the Asset Manager and SUN Energy as the Owner of MPC. **Recommendation 1/2024** MPC review and expand its Asset Management Plan to ensure it effectively addresses all key components of the asset management lifecycle presented in the ERA's Review Guidelines, particularly those components that extend beyond the role of the Operations and Maintenance provider to the respective roles of the Asset Manager and Owner.

Appendix A - Review Plan

ASSURANCE ADVISORY GROUP

Merredin Project Company Pty Ltd

Electricity Generation Licence (EGL28)

2024 Asset Management System Review

Review Plan

September 2024

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Introduction

Overview

The Economic Regulation Authority (the **ERA**) has under the provisions of the Electricity Industry Act 2004 (the **Act**), issued to Merredin Project Company Pty Ltd (Merredin Project Company) an Electricity Generation Licence (EGL 28) (the **Licence**).

Section 14 of the Act requires Merredin Project Company to provide to the ERA an asset management system review (the **review**) report conducted by an independent expert acceptable to the ERA not less than once in every 24-month period unless otherwise approved by the ERA. With the ERA's approval, Assurance Advisory Group (**AAG**) has been appointed to conduct the review for the period 31 August 2022 to 30 August 2024 (**review period**).

The Licence relates to Merredin Project Company operating the 132MWdc Merredin Solar Farm approximately 260 kms east of Perth and delivering electricity into the South West Interconnected System (SWIS) via the Western Power Merredin Terminal Substation at 220kV. SUN Energy acquired the Merredin Solar Farm facility in 2022. EGL28 was subsequently transferred from Merredin Solar Farm Nominee Pty Ltd to Merredin Project Company Pty Ltd (owned by SUN Energy) on 31 August 2022. RES Group was appointed by SUN Energy to act as the asset manager for the facility, with Risen Energy Australia continuing as the Operations and Maintenance provider.

The review will be conducted in accordance with the ERA's March 2019 issue of the *Audit and Review Guidelines: Electricity and Gas Licences* (**Review Guidelines**). In accordance with the Review Guidelines this document represents the Review Plan (the **Plan**) that is to be agreed upon by AAG and Merredin Project Company and presented to the ERA for approval.

Objective

The objective of the review is to independently examine the effectiveness and performance of the asset management system established for the assets subject to Merredin Project Company's Licence during the review period.

Scope

In accordance with the Review Guidelines, the review will consider the effectiveness of Merredin Project Company's existing control procedures within the 12 key processes in the asset management life cycle as outlined below at Table 1. Each key process and effectiveness criteria is applicable to Merredin Project Company's Licence and as such will be individually considered in this review.

Table 1 – Asset management system key processes and effectiveness criteria

Key processes	Effectiveness criteria
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 is integrated with business planning 1.3 Service levels are defined in the asset management plan 1.4 Non-asset operations (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.

Key processes	Effectiveness criteria
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 operations	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 [new criteria] 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 systems	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

Key processes	Effectiveness criteria
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 asset management system	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

For new licensees, the ERA's Audit and Review Guidelines section 1.6.2.2 requires an AMS review to be conducted as a reasonable assurance engagement. We note that the previous AMS review (for Merredin Solar Farm Nominee Pty Ltd) for the period 19 December 2017 to 30 April 2021 was conducted as a reasonable assurance engagement as it was the first review of the EGL28 asset management system. Although the licence was transferred on 31 August 2022, meaning there is a new licensee for which the Audit and Review Guidelines technically requires a reasonable assurance engagement, we consider it is appropriate to conduct a limited assurance engagement under the provisions of section 1.6.2.2 for the following reasons:

- The Merredin Solar Farm facility's asset management system and asset management plan appears to have remained substantially the same, with updates and improvements resulting from the previous asset management system review (this assertion is to be fully tested by this review)
- The facility continues to use the same Computer Maintenance Management System MEX
- Risen Energy Australia continues to provide the facility's Operations and Maintenance services
- This asset management system review plan and accompanying risk assessment makes suitable provision for us to identify and assess the impact of any change to any component of the asset management system resulting from the change in ownership

- In conducting a limited assurance engagement, we will also consider the results of the previous reasonable assurance asset management system review and assess the status of actions against the recommendations from that review and the associated Post Review Implementation Plan.

Merredin Project Company's responsibility for maintaining an effective asset management system

Merredin Project Company is responsible for putting in place policies, procedures and controls, which are designed to provide for an effective asset management system for assets subject to the Licence.

AAG's responsibility

Our responsibility is to express a limited assurance conclusion on whether, based on the procedures performed and the evidence obtained, anything has come to our attention that causes us to believe that Merredin Project Company's AMS for assets subject to its Licence has not been established and maintained, in all material respects, in accordance with the Licence as measured by the effectiveness criteria in the Guidelines for the period from 31 August 2022 to 30 August 2024. The review will be conducted in accordance with Australian Standard on Assurance Engagements ASAE 3500 Performance Engagements (**ASAE 3500**), issued by the Australian Auditing and Assurance Standards Board.

ASAE 3500 requires that we plan and perform the review to obtain assurance about whether the AMS for assets subject to the Licence is materially ineffective. A limited assurance engagement conducted in accordance with ASAE 3500 involves identifying areas where the AMS for assets subject to a Licence is likely to be materially ineffective, addressing the areas identified and considering the process used to prepare the AMS for assets subject to the Licence. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risk.

Limitations of use

Our report will be produced solely for the information and internal use of Merredin Project Company and is not intended to be and should not be used by any other person or entity. No other person or entity is entitled to rely, in any manner or for any purpose, on our report.

We understand that a copy of our report will be provided to the ERA for the purpose of meeting Merredin Project Company's reporting requirements of section 14 of the Act. We agree that a copy of our report may be provided to the ERA for its information in connection with this purpose, however we accept no responsibility to the ERA or to anyone who is provided with or obtains a copy of our reports.

This plan is intended solely for the use of Merredin Project Company for the purpose of its reporting requirements under section 14 of the Act.

Inherent limitations

A review consists primarily of making enquiries, primarily of persons responsible for the management of assets, applying analytical and other review procedures, and examination of evidence for a small number of transactions or events. A review is substantially less in scope than a reasonable assurance "audit" conducted in accordance with ASAEs. Accordingly, we will not express an audit opinion in the asset management system review report.

An assurance engagement relating to the period from 31 August 2022 to 30 August 2024 will not provide assurance on whether the AMS for assets subject to the Licence will remain effective in the future.

Independence

In conducting our engagement, we will comply with the independence requirements of the Australian professional accounting bodies.

Approach

The review will be conducted in three distinct phases, being a risk assessment, system analysis/policy and procedure review and examination of performance. From the review results, a report will be produced to outline findings, overall assessments and recommendations for improvement in line with the Review Guidelines. Each step of the review is discussed in detail below.

Risk assessment

The review will focus on identifying or assessing those activities and management control systems to be examined and the matters subject to review. Therefore, the purpose of conducting the risk assessment as a preliminary phase enables the reviewer to focus on pertinent/high risk areas of Merredin Project Company's asset management systems established for the assets subject to Merredin Project Company's licence. The risk assessment considers changes to Merredin Project Company's relevant systems and processes and any matters of significance raised by the ERA and/or Merredin Project Company. The level of risk and materiality of the process determine the level of review required i.e. the greater the materiality and the higher the risk, the more effort will be applied.

The first step of the risk assessment is the rating of the potential consequences of Merredin Project Company not effectively maintaining an asset management system for the assets subject to its licence, in the absence of mitigating controls. The consequence classification descriptions listed at Table 1 of the Reporting Manual, provides the risk assessment with context to enable the appropriate consequence rating to be applied to each component of the asset management system subject to review.

Once the consequence has been determined, the likelihood of Merredin Project Company not effectively maintaining an asset management system for the assets subject to its licence (with reference to the defined effectiveness criteria) is assessed using the likelihood rating listed at Table 17 of the Review Guidelines (refer to Appendix 1). The assessment of likelihood is based on the expected frequency of non-performance against the defined criteria, over a period of time.

Table 2 below (sourced from the Review Guidelines) outlines the combination of consequence and likelihood ratings to determine the level of inherent risk associated with each individual effectiveness criteria

Table 2: Inherent risk rating

	Consequence		
Likelihood	Minor	Moderate	Major
Likely	Medium	High	High
Probable	Low	Medium	High
Unlikely	Low	Medium	High

Once the level of inherent risk has been determined, the adequacy of existing controls is assessed in order to determine the level of control risk. Controls are assessed and prioritised as weak, moderate or strong dependant on their suitability to mitigate the risks identified. The control adequacy ratings used by this risk assessment are aligned to the ratings specified in the Audit Guidelines (refer to Appendix 1-3). Once inherent risks and control risks are established, the audit priority can then be determined using the matrix specified in the Audit Guidelines (refer to Table 3 below). Essentially, the higher the level of risk the more substantive testing is required.

Table 3: Assessment of Review Priority

	Preliminary adequacy of existing controls		
Inherent Risk	Weak	Moderate	Strong
High	Review priority 1	Review Priority 2	
Medium	Review priority 3	Review Priority 4	
Low	Review Priority 5		

The following table outlines the review requirement for each level of review priority. Testing can range from extensive substantive testing around the controls and activities of particular processes (including physical inspection of asset infrastructure, which will be given greater attention for those processes with a review priority of 1, 2 or 3) to confirming the existence of controls through discussions with relevant staff.

Table 4: Review Priority Table

Priority rating	Audit requirement
Review Priority 1	• Via interview and walkthrough, understand relevant processes and controls as they apply to each asset management system effectiveness criteria • Examine relevant documents, registers and reports as they apply to each asset management system effectiveness criteria • Obtain evidence of policies, procedures and controls being in place and working effectively • Controls testing and extensive substantive testing of activities and/or transactions as they apply to each asset management system effectiveness criteria, including physical inspection of applicable asset infrastructure • Follow-up and if necessary, re-test matters previously reported.
Review Priority 2	• Via interview and walkthrough, understand relevant processes and controls as they apply to each asset management system effectiveness criteria • Examine relevant documents, registers and reports as they apply to each asset management system effectiveness criteria • Obtain evidence of policies, procedures and controls being in place and working effectively • Controls testing and moderate substantive testing of activities and/or transactions as they apply to each asset management system effectiveness criteria, including physical inspection of applicable asset infrastructure • Follow-up and if necessary, re-test matters previously reported.
Review Priority 3	• Via interview and walkthrough, understand relevant processes and controls as they apply to each asset management system effectiveness criteria • Examine relevant documents, registers and reports as they apply to each asset management system effectiveness criteria • Limited controls testing (moderate sample size) of activities and/or transactions as they apply to each asset management system effectiveness criteria, including physical inspection of applicable asset infrastructure. Only substantively test transactions if further control weakness found • Follow-up of matters previously reported.
Review Priority 4	• Confirmation of existing controls via walk through of key processes and examination of key documents including policies and procedures, compliance/breach registers and reports • Follow-up of matters previously reported.
Review Priority 5	• Confirmation of existing controls via observation, discussions with key staff and/or reliance on key references including policies and procedures, compliance/breach registers and reports (“desktop review”).

The risk assessment has been discussed with Merredin Project Company representatives to gain their input as to the appropriateness and factual accuracy of risk and control ratings and associated explanations. The key sources considered in reaching our preliminary assessment of the risk and control ratings were based on:

- Our understanding of Merredin Project Company Pty Ltd's assets and internal processes
- Any other factors that may influence the level or strength of controls.
- Consideration of relevant circumstances and activity that trigger specific performance issues.

At this stage, the risk assessment can only be a preliminary assessment based on reading of documentation and interviews by the auditors. It is possible that the ratings and risk assessment comments may be revised as we conduct our work and new evidence comes to light. The risk assessment is attached at Appendix 2.

System analysis / policy and procedure review

The level of policy and procedure review required will be determined utilising the priority scale. Once the priority level has been defined, the review will consist of:

- Interviewing Merredin Project Company or appropriate representatives and key operational and administrative staff responsible for the development and maintenance of policies and procedural type documentation
- Consideration of Merredin Project Company's response to the 2021 review recommendations
- Examination of documented policies and procedures for key functional requirements and consideration of their relevance to Merredin Project Company's asset management system requirements and standards.

The policy and procedure definition element of the asset management system review will be performed to provide a rating as defined under Table 5 (refer below).

Key documents which may be subject to review are not specifically disclosed in this plan. A list of documents examined will be included in the review report.

Examination of performance

The actual performance of the relevant controls and processes in place will then be examined via:

- Consideration of reports and references evidencing activity
- Interviews with Merredin Project Company representatives and key operational and administrative staff
- Consideration of Merredin Project Company's response to the 2021 review recommendations
- Physical visit to the facility's site at Merredin
- Consideration of the facility's function, normal modes of operation and age.

A full work program will be completed to record the specific aspects of our review and examination of the performance of each asset management system key process. This work program will be based on:

- The review priority determined by the risk assessment to be applicable to each effectiveness criteria
- The results of the policy and procedure review, as described above
- The location of personnel and activity to be tested.

Review fieldwork will include a visit to the Merredin Solar Farm facility, plus virtual meetings with RES Group and Risen Energy staff.

The performance effectiveness element of the asset management system review will be performed to provide a rating as defined under Table 6 (refer below).

Reporting

The review report will also be structured to address all of the minimum contents specified in section 5 of the Review Guidelines.

In accordance with the Review Guidelines, the reviewer must provide an assessment of both the process and policy definition rating (refer to Table 5 below and Table 8 of the Guidelines) and the performance rating (refer to Table 6 below and Table 9 of the Guidelines) for each of the key processes in Merredin Project Company's asset management system.

Merredin Project Company is responsible for providing a separate post review implementation plan, if required.

Table 5: Process and policy rating scale

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

Table 6: Performance rating scale

Rating	Description	Criteria
1	Performing effectively	• The performance of the process meets or exceeds the required levels of performance • Process effectiveness is regularly assessed and corrective action taken where necessary
2	Improvement required	• 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	• 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	• Process is not performed, or the performance is so poor the process is considered to be ineffective.

Resources and team

Key Merredin Project Company contacts

The key contacts for this audit are:

- Asset Manager (RES Group)
- Merredin Solar Farm Operations and Maintenance Manager
- Merredin Solar Farm Lead Technician.

AAG Staff

AAG staff who will be involved with this assignment are:

- Andrew Baldwin Executive Director
- Tanuja Sanders Senior Engineer
- Margaret-Mary Gauci Consultant
- Stephen Linden Director (QA review).

Resumes for key AAG staff are outlined in the proposal accepted by Merredin Project Company and subsequently presented to the ERA.

Timing

The initial risk assessment phase was completed on 6 September 2024, after which the draft review plan and risk assessment were presented to Merredin Project Company for comment prior to submission to the ERA for review and approval.

The remainder of the fieldwork phase is scheduled to be performed over the period September and October 2024, enabling draft and final reports to be submitted to the ERA by the due dates of 31 October 2024 and 29 November 2024 respectively.

AAG time and staff commitment to the completion of the review is outlined in the proposal accepted by Merredin Project Company. In summary, the estimated time allocated to each activity is as follows:

- Planning (including risk assessment): 12.5 hours
- Fieldwork (including system analysis/walkthrough and testing/review): 60 hours
- Reporting: 27.5 hours.

Appendix 1 - Risk assessment key

1-1 Criteria for classification of consequence of ineffective performance

Source: Modified from Electricity Compliance Reporting Manual February 2023

Classification	Criteria for classification
Major	Classified on the basis that: • The consequences of ineffective performance would cause major damage, loss or disruption to customers; or • The consequences of ineffective performance would endanger or threaten to endanger the safety or health of a person.
Moderate	Classified on the basis that the consequences of ineffective performance affect the efficiency and effectiveness of the licensee's operations or service provision, but do not cause major damage, loss or disruption to customers.
Minor	Classified on the basis that: • The consequences of ineffective performance are relatively minor – i.e. ineffective performance will have minimal effect on the licensee's operations or service provision and do not cause damage, loss or disruption to customers; • Assessment of performance against the obligation is immeasurable; • The matter of ineffective performance is identified by a party other than the licensee; or • The licensee only needs to use its reasonable or best endeavours to demonstrate effective performance, or where the obligation does not otherwise impose a firm obligation on the licensee.

1-2 Likelihood ratings

Source: Review Guidelines: Electricity and Gas Licences March 2019

	Level	Criteria
A	Likely	Ineffective process or performance is expected to occur at least once or twice a year
B	Probable	Ineffective process or performance is expected to occur every three years
C	Unlikely	Ineffective process or performance is expected to occur at least once every 10 years or longer

1-3 Preliminary adequacy ratings for existing controls

Source: Review Guidelines: Electricity and Gas Licences March 2019

Level	Description
Strong	Controls mitigate the identified risks to a suitable level
Moderate	Controls only cover significant risks; improvement required
Weak	Controls are weak or non-existent and do little to mitigate the risks

Appendix 2 - Risk assessment

1. Asset Planning	
Key process	Asset planning strategies focus on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price)
Outcome	Asset planning is integrated into operational or business plans, providing a framework for existing and new assets to be effectively utilised and their service optimised

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
1.1	Asset management plan covers the processes in this table	Moderate	Probable	Medium	Weak	Priority 3
1.2	Planning process and objectives reflect the needs of all stakeholders and are integrated with business planning	Moderate	Unlikely	Medium	Moderate	Priority 4
1.3	Service levels are defined in the asset management plan	Moderate	Unlikely	Medium	Moderate	Priority 4
1.4	Non-asset options (e.g. demand management) are considered	Minor	Unlikely	Low	Moderate	Priority 5
1.5	Lifecycle costs of owning and operating assets are assessed	Minor	Probable	Low	Moderate	Priority 5
1.6	Funding options are evaluated	Minor	Unlikely	Low	Moderate	Priority 5
1.7	Costs are justified and cost drivers identified	Minor	Probable	Low	Moderate	Priority 5
1.8	Likelihood and consequences of asset failure are predicted	Moderate	Probable	Medium	Moderate	Priority 4
1.9	Asset management plan is regularly reviewed and updated	Minor	Probable	Low	Moderate	Priority 5

2. Asset creation and acquisition						
Key process	Asset creation/acquisition is the provision or improvement of assets					
Outcome	The asset acquisition framework is economic, efficient and cost-effective; it reduces demand for new assets, lowers service costs and improves service delivery					
Ref	**Effectiveness criteria**	**Consequence**	**Likelihood**	**Inherent risk rating**	**Controls assessment**	**Review priority**
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	Moderate	Unlikely	Medium	Moderate	Priority 4
2.2	Evaluations include all life-cycle costs	Moderate	Unlikely	Medium	Moderate	Priority 4
2.3	Projects reflect sound engineering and business decisions	Moderate	Unlikely	Medium	Moderate	Priority 4
2.4	Commissioning tests are documented and completed	Moderate	Unlikely	Medium	Moderate	Priority 4
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	Major	Unlikely	High	Moderate	Priority 2

3. Asset disposal						
Key process	Asset disposal is the consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets					
Outcome	The asset management framework minimises holdings of surplus and underperforming assets and lowers service costs. The cost-benefits of disposal options are evaluated					
Ref	**Effectiveness criteria**	**Consequence**	**Likelihood**	**Inherent risk rating**	**Controls assessment**	**Review priority**
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Moderate	Unlikely	Medium	Moderate	Priority 4
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Minor	Unlikely	Low	Moderate	Priority 5
3.3	Disposal alternatives are evaluated	Minor	Unlikely	Low	Moderate	Priority 5
3.4	There is a replacement strategy for assets	Moderate	Probable	Medium	Moderate	Priority 4

4. Environmental analysis	
Key process	Environmental analysis examines the asset management system environment and assesses all external factors affecting the asset management system
Outcome	The asset management system regularly assesses external opportunities and threats and identifies corrective action to maintain performance requirements

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
4.1	Opportunities and threats in the asset management system environment are assessed	Moderate	Probable	Medium	Moderate	Priority 4
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Moderate	Probable	Medium	Strong	Priority 4
4.3	Compliance with statutory and regulatory requirements	Moderate	Probable	Medium	Strong	Priority 4
4.4	Service standard (customer service levels etc) are measured and achieved.	Moderate	Unlikely	Medium	Strong	Priority 4

5. Asset operations	
Key process	Asset operations is the day-today running of assets (where the asset is used for its intended purpose)
Outcome	The asset operation plans adequately document the processes and knowledge of staff in the operation of assets so service levels can be consistently achieved

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
5.1	Operational policies and procedures are documented and linked to service levels required	Moderate	Probable	Medium	Moderate	Priority 4
5.2	Risk management is applied to prioritise operations tasks	Moderate	Probable	Medium	Moderate	Priority 4
5.3	Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	Moderate	Probable	Medium	Strong	Priority 4
5.4	Accounting data is documented for assets	Moderate	Probable	Medium	Strong	Priority 4
5.5	Operational costs are measured and monitored	Moderate	Probable	Medium	Strong	Priority 4
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Moderate	Probable	Medium	Moderate	Priority 4

6. Asset maintenance						
Key process	Asset maintenance is the upkeep of assets					
Outcome	The asset maintenance plans cover the scheduling and resourcing of the maintenance tasks so work can be done on time and on cost					
Ref	**Effectiveness criteria**	**Consequence**	**Likelihood**	**Inherent risk rating**	**Controls assessment**	**Review priority**
6.1	Maintenance policies and procedures are documented and linked to service levels required	Moderate	Probable	Medium	Strong	Priority 4
6.2	Regular inspections are undertaken of asset performance and condition	Major	Probable	High	Strong	Priority 2
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Major	Probable	High	Moderate	Priority 2
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Moderate	Probable	Medium	Moderate	Priority 4
6.5	Risk management is applied to prioritise maintenance tasks	Moderate	Probable	Medium	Moderate	Priority 4
6.6	Maintenance costs are measured and monitored	Moderate	Probable	Medium	Strong	Priority 4

7. Asset management information systems	
Key process	An asset management information system is a combination of processes, data and software supporting the asset management functions
Outcome	The asset management information system provides authorised, complete and accurate information for the day-to-day running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
7.1	Adequate system documentation for users and IT operators	Minor	Probable	Low	Moderate	Priority 5
7.2	Input controls include suitable verification and validation of data entered into the system	Moderate	Probable	Medium	Moderate	Priority 4
7.3	Security access controls appear adequate, such as passwords	Minor	Probable	Low	Moderate	Priority 5
7.4	Physical security access controls appear adequate	Minor	Probable	Low	Moderate	Priority 5
7.5	Data backup procedures appear adequate and backups are tested	Moderate	Probable	Medium	Moderate	Priority 4
7.6	Computations for licensee performance reporting are accurate	Minor	Probable	Low	Moderate	Priority 5
7.7	Management reports appear adequate for the licensee to monitor licence obligations	Minor	Probable	Low	Moderate	Priority 5
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Moderate	Probable	Medium	Moderate	Priority 4

8. Risk management						
Key process	Risk management involves the identification of risks and their management within an acceptable level of risk					
Outcome	The risk management framework effectively manages the risk that the licensee does not maintain effective service standards					
Ref	**Effectiveness criteria**	**Consequence**	**Likelihood**	**Inherent risk rating**	**Controls assessment**	**Review priority**
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	Moderate	Likely	High	Moderate	Priority 2
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Moderate	Likely	High	Moderate	Priority 2
8.3	Probability and consequences of asset failure are regularly assessed	Major	Probable	High	Moderate	Priority 2

9. Contingency planning						
Key process	Contingency plans document the steps to deal with the unexpected failure of an asset.					
Outcome	Contingency plans have been developed and tested to minimise any major disruptions to service standards.					
Ref	**Effectiveness criteria**	**Consequence**	**Likelihood**	**Inherent risk rating**	**Controls assessment**	**Review priority**
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Major	Probable	High	Moderate	Priority 2

10. Financial planning						
Key process	Financial brings together the financial elements of the service delivery to ensure its financial viability over the long term					
Outcome	The financial plan is reliable and provides for the long-term financial viability of the services					
Ref	**Effectiveness criteria**	**Consequence**	**Likelihood**	**Inherent risk rating**	**Controls assessment**	**Review priority**
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve those	Moderate	Probable	Medium	Moderate	Priority 4
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Minor	Probable	Low	Moderate	Priority 5
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Minor	Probable	Low	Moderate	Priority 5
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Minor	Probable	Low	Moderate	Priority 5
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Moderate	Probable	Medium	Moderate	Priority 4
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Moderate	Probable	Medium	Moderate	Priority 4

11. Capital expenditure planning	
Key process	The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure for these works over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates
Outcome	The capital expenditure plan provides reliable forward estimates of capital expenditure and asset disposal income. Reasons for the decisions and for the evaluation of alternatives and options are documented

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Moderate	Probable	Medium	Moderate	Priority 4
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Minor	Probable	Low	Moderate	Priority 5
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Moderate	Probable	Medium	Moderate	Priority 4
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Minor	Probable	Low	Moderate	Priority 5

12. Review of asset management system	
Key process	The asset management system is regularly reviewed and updated
Outcome	The asset management system is regularly reviewed and updated

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
12.1	A review process is in place to ensure the asset management plan and the asset management system described in it remain current	Minor	Probable	Low	Moderate	Priority 5
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Minor	Probable	Low	Moderate	Priority 5

Appendix 3 - Previous review recommendations

The 2021 AMS review made the following two recommendations:

<table>
<tr><td colspan="2">Issue 1/2021

Asset Planning: 1.1. Asset management plan covers the specified processes (rated as C2)
Two versions of MSF's Asset Management Plan provide some direction on MSF's asset management framework and practices, including an effective description of operations and key equipment, plus references to other key plans and documents. However the Plan requires further review and consolidation to ensure it reflects MSF's actual and expected processes, as well as the 12 key components of the asset management lifecycle presented in the ERA's Guidelines. The current versions of the plan do not adequately address the following elements:
• Lifecycle overview, from acquisition to disposal including milestones and end of life
• Current business objectives and defined service levels
• Legislative and other compliance obligations
• Asset performance, including cost performance indicators, condition assessment, operational risk summary
• Major works, including significant scheduled maintenance and refurbishment plan and opportunities
• Contingency arrangements
• Arrangements for review and update of the AMP.</td></tr>
<tr><td>Recommendation 1/2021

MSF review and expand its Asset Management Plan to ensure it reflects MSF's actual and expected processes and aligns with the 12 key components of the asset management lifecycle presented in the ERA's Guidelines</td><td>Action Plan 1/2021

Engage an experienced consultant to review and expand its Asset Management Plan to ensure it reflects MSF's actual and expected processes and aligns with the 12 key components of the asset management lifecycle presented in the ERA's Guidelines.

Responsible person: O&M Manager

Target date: August 2022</td></tr>
</table>

Issue 2/2021

Risk Management: (rated as B3)

8.1 Risk management policies and procedures exist and are applied to minimise internal and external risk

8.2 Risks are documented in a risk register, consistent with Risen Energy processes and other facilities within the group

MSF has established an initial Risk Register, consistent with Risen Energy processes and other facilities within the group:

- The MSF risk register covers a broad range of risk types, with a total of 32 risks raised in October 2020
- Although the register contains some useful information, it requires further work to complete all key components of the tool (e.g. assign risk owners, identify specific controls and treatment plans required to adequately treat current risks rated as High or Extreme) and to apply a full test of its effectiveness and accuracy
- Risks such as sole operator risks and learnings from site specific operations (since October 2020) are not captured in the risk register

There is little evidence of risk status and risk treatment plans being monitored e.g. management of risks is not consistently featured in operational reporting, and regular reviews of the risk register have not been scheduled.

Recommendation 2/2021	Action Plan 2/2021
MSF further develop its risk management framework and processes to ensure key risks and corresponding treatment plans are fully documented, monitored for effectiveness and subject to review on a regular basis	Engage an experience consultant to review the risk management discipline, documentation, and procedures to improve the detail of risk assessment and timeliness of risk review for the MSF operation **Responsible person**: O&M Manager **Target date**: April 2022

Appendix B - References

MPC representatives participating in the review

- Operations and Maintenance Manager, RISEN
- Site Electrical Technician, RISEN
- Asset Manager, RES Group

AAG staff participating in the review		**Hrs**
• Andrew Baldwin	Executive Director	46
• Tanuja Sanders	Senior Engineer	44
• Margaret-Mary Gauci	Consultant	7.5
• Stephen Linden	Director (QA review)	1

Key documents and other information sources examined:

- Merredin Solar Asset Management Plan rev4 – April 2024
- Merredin Solar Farm OM Agreement – Final – March 2022
- SUN - RES MSF Asset Management Agreement – September 2022
- RISEN BHP Merredin Solar PPA – January 2021
- Merredin Solar Farm Green Rights Supply Agreement – 2024 to 2027
- MSF Risk Management Plan – Fire – October 2020
- MSF Operational Environmental Plan – December 2022
- MSF Vegetation Plan – May 2023
- RISEN Permit to Work Manual – Solar Farm Operations – August 2024
- RISEN Risk Management Manual Rev 3– August 2024
- MSF Emergency Response Plan Rev 3 – December 2023
- Merredin Solar Farm SMA Limited Factory Warranty
- Generator Operating Protocol MERSOLAR PV1 v2 - July 2020
- RISEN Cyber Incident Response Plan – February 2024
- Monthly MSF Asset Management Reports - May to August 2024
- MSF Annual Reports – September 2023 to August 24
- Monthly MSF Reports - May and June 2024
- MSF Quarterly Board Report April to June 2024
- RISEN Operations & Maintenance Manual MSF- Rev1 2022
- MSF Asset Register (MEX CMMS)
- MSF Asset Register Report – 26 September 2024
- MSF Asset Maintenance Plan V1A – September 2024
- MSF Asset Maintenance Review PM comparison r2 – December 2023
- MEX Consulting Summary RISEN Energy - August 2023
- Outstanding work order listings
- MEX Work Order User Guide
- MEX Instruction - Work order audit request (draft at October 2024)

- MEX Instruction - Closing work order (draft at October 2024)
- MEX Instruction - Create Ad hoc Work Order (draft at October 2024)
- MEX Instruction - Create New Inspection PM (draft at October 2024)
- MEX Preventative Maintenance listing
- MEX records of inspections, work order history, work order activity
- Merredin Solar Farm SCADA activity (screen shots)
- Inverter failure analysis – 2022/23
- Evidence of risk treatment (emails and work order records)
- Monthly Toolbox Meeting Forms - March 2023
- RISEN MSF Skill &Training Matrix – 1 October 2024
- MSF List of Work Instructions – 1 October 2024
- EGL28 2021 Asset Management System Review – Post Review Implementation Plan May 2022 Update
- Hazardous Chemicals Register
- SMA MV Power Station Skid System Manual
- Switchgear Operating Instructions and User Guides
- HV Switching Program template
- Site Emergency Evacuation Points Plan
- SCADA Operational and Maintenance Manual
- MEX Computerised Maintenance Management System User Guide
- MPC Network Operator Technical Rules Compliance Monitoring Program
- Network Operating Protocol (MPC and Western Power)
- MSF O&M Budget - 2024
- Merredin Project Trust P&L Forecast – 2024 to 2028
- Merredin Holding Trust Annual Report – 31 December 2023
- Representations from Asset Manager, RES Group
- Representations from Operations and Maintenance Manager, RISEN
- Representations from MSF Lead Technician.