Alinta Energy Transmission (Roy Hill) Pty Ltd

Electricity Integrated Regional Licence (EIRL6) 2022 Asset Management System Review

Final report

April 2023

ASSURANCE
ADVISORY
GROUP

Level 11, 251 Adelaide Terrace
PERTH WA 6000

17 April 2023

Catherine Rousch
Manager WA Retail Regulation
Alinta Energy
Level 18 Raine Square, 300 Murray Street
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Dear Catherine

Electricity Integrated Regional Licence (EIRL6) – 2022 Asset Management System Review DRAFT report

We have completed the Electricity Integrated Regional Licence Asset Management System Review for Alinta Energy Transmission (Roy Hill) Pty Ltd for the period 1 October 2019 to 30 September 2022 and are pleased to submit our report to you.

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

If you have any questions or wish to discuss anything raised in the report, please contact 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 conclusion

We have undertaken a limited assurance engagement on the effectiveness of Alinta Energy Transmission (Roy Hill) Pty Ltd's (**AETRH'**s) Asset Management System (**AMS**), relating to its Electricity Integrated Regional Licence EIRL6 (the **Licence**) for the period 1 October 2019 to 30 September 2022 (**review period**).

Based on the procedures we have performed and the evidence we have obtained, except for the effect of the matters described in the 'Basis for modified conclusion' paragraph below, nothing has come to our attention that causes us to believe that AETRH 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**) and that the systems have not operated effectively for the review period.

Basis for modified conclusion

During the period from 1 October 2019 to 30 September 2022, AETRH'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
4. Environmental analysis 4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Throughout the review period, AETRH staff had not undertaken key emergency response training and drills outlined in its Emergency Response Plan (most recent version 2.8 dated March 2022).
5. Asset operations 5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities	

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.

AETRH's responsibility for the AMS

AETRH 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 AETRH's AMS for assets subject to the Licence, based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with ASAE 3500, in order to express a conclusion whether, based on the procedures performed and the evidence obtained, anything has come to our attention that causes us to believe that AETRH's AMS for assets subject to the Licence, have not been established and maintained, in all material respects. That standard requires that we plan and perform this engagement to obtain limited 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 risks.

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 AETRH representatives and key operational and administrative staff 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 AETRH's AMS requirements and standards
- Physical visit to operations located in the Pilbara near Newman and the Roy Hill Minesite
- Consideration of reports and references evidencing activity
- Consideration of activities performed by AETRH that relate to operation of the assets.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion on the effectiveness of AETRH's AMS for assets subject to the Licence.

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 1 October 2019 to 30 September 2022 does not provide assurance on whether the effectiveness of AETRH's AMS for assets subject to the Licence will continue in the future.

Restricted use

This report has been prepared for use by AETRH 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 AETRH, 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 AETRH'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

17 April 2023

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 Alinta Energy Transmission (Roy Hill) Pty Ltd (**AETRH**) an Electricity Integrated Regional Licence (EIRL6) (the **Licence**).

The Licence relates to AETRH's operation of electricity generation, transmission, distribution and retail activity in relation to its supply of power from its Newman Power Station to the Roy Hill mine site, all located in the Pilbara region of Western Australia. AETRH operates as a subsidiary within the Alinta Group and is supported by the resource and system capabilities of Alinta Energy.

Section 14 of the Act requires AETRH 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 1 October 2019 to 30 September 2022 (**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 AETRH's internal control procedures, structure and environment, compliance arrangements and information systems specifically relevant to those effectiveness criteria subject to review, we observed that:

- Throughout the period subject to review, AETRH had maintained an appropriate suite of procedures and controls within its AMS and had assigned responsibility for discharging those procedures and controls
- AETRH staff appeared to have a good understanding of their roles, particularly displaying an understanding of the asset management processes within their area of responsibility
- Two elements of AETRH's asset management practices require improvement (where the criteria's performance rating is "3"). Both elements relate to staff training and awareness of core emergency response requirements. This review makes one recommendation for AETRH to determine and implement the necessary corrective action (refer to Recommendation 1/2022)
- AETRH has completed the action plan resulting from recommendation raised by the 2019 review
- AETRH has a small number of minor improvement opportunities to strengthen aspects of its asset management practices, as described throughout this report (where criteria are rated as "B" or "2").

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

- For the asset management process and policy definition ratings:
  - 53 are rated as "Adequately defined"
  - 3 are rated as "Requires some improvement"
  - 2 are not rated.
- For the asset management performance ratings:
  - 50 are rated as "Performing effectively"
  - 3 are rated as "Improvement required"
  - 2 are rated as "Corrective action required"
  - 3 are not rated.

2.3 AETRH's response to previous review recommendations

A. Resolved during current review period

This review considered AETRH's progress against the outstanding action item from the 2019 review.

Based on our examination of relevant documents, discussion with staff and consideration of the results of this review's testing against the criteria, we confirmed that the outstanding recommendation and action plan raised by the 2019 review was actioned and effectively closed out in June 2020. No further recommendations are made in relation to these matters.

Refer to section 5 "Status of recommendations addressing asset system deficiencies from the previous review" for further detail.

B. Unresolved at end of current review period - Not applicable.

2.4 Recommendations to address current asset system deficiencies

A. Resolved during current review period

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**
1/2022	**A3** 4. Environmental Analysis *4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved* **B3** 5. Asset Operations *5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities* At the time of our site visit, AETRH' training matrix showed some overdue training dating back as far as 2018. Of particular note, a significant risk to AETRH's operations relates to the biannual training requirements for site emergency response (per the requirements of AETRH's Emergency Response Plan Version 2.8 dated March 2022), which was recorded as overdue for all staff assigned to operations managed from the Newman Power Station. We consider this issue reflects a lack of dedicated effort to ensure training requirements are maintained. Corrective action is required to improve AETRH's performance against the requirements outlined in its Emergency Response Plan.	AETRH: (a) Schedule staff training to clear all overdue requirements with special emphasis given to site-specific emergency response drills (b) Ensure sufficient resources are allocated to maintaining key training requirements and emergency response drills.	n/a

2.5 Scope and objectives

We have conducted a limited assurance engagement in order to express a conclusion whether, based on the procedures performed and the evidence obtained, anything has come to our attention that causes us to believe that AETRH's AMS for assets subject to the Licence, have not been established and maintained, in all material respects for the period 1 October 2019 to 30 September 2022.

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 limited assurance as defined in ASAE 3500. The procedures we performed are described in more detail in section 2.6 below.

A limited assurance engagement in accordance with ASAE 3500, to report on the effectiveness of AETRH's AMS for assets subject to the Licence involves performing procedures to obtain evidence about processes and controls designed and implemented within AETRH's AMS for assets subject to the Licence. The procedures selected depend on our judgement, including the identification and assessment of risks of AETRH'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 AETRH'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 AETRH'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 November 2022 to February 2023:

- 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 AETRH staff to gain an understanding of process controls in place (see Appendix B for staff involved)
- Site visit to the Newman power station facility and associated transmission lines with a focus on understanding the generation and transmission 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 AETRH's AMS (see Appendix B for reference listing)
- Consideration of the resourcing applied to maintaining those controls and processes
- Reporting of findings to AETRH 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			**A**	**1**
1.1	Asset management plan covers the processes in this table	Priority 3	A	1
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	A	1
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	A	1
1.6	Funding options are evaluated	Priority 5	A	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 2	A	1
1.9	Asset management plan is regularly reviewed and updated.	Priority 5	A	1
2. Asset creation and acquisition			**A**	**1**
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	Priority 4	A	1
2.2	Evaluations include all life-cycle costs	Priority 4	A	1
2.3	Projects reflect sound engineering and business decisions	Priority 4	A	1
2.4	Commissioning tests are documented and completed	Priority 4	A	1
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	Priority 2	A	1
3. Asset disposal			**A**	**1**
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Priority 5	A	1
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Priority 5	A	1
3.3	Disposal alternatives are evaluated	Priority 5	A	Not rated
3.4	There is a replacement strategy for assets	Priority 4	A	1

Ref	Asset management process and effectiveness criteria	Review priority	Ratings	
			Process and policy	Performance
4. Environmental analysis			**A**	**2**
4.1	Opportunities and threats in the asset management system environment are assessed	Priority 4	A	1
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Priority 4	A	3
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**	**2**
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	3
6. Asset maintenance			**A**	**1**
6.1	Maintenance policies and procedures are documented and linked to service levels required	Priority 4	B	2
6.2	Regular inspections are undertaken of asset performance and condition	Priority 2	A	1
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 2	A	1
6.5	Risk management is applied to prioritise maintenance tasks	Priority 2	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

Ref	Asset management process and effectiveness criteria	Review priority	Ratings	
			Process and policy	Performance
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			**A**	**1**
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	Priority 4	A	1
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Priority 4	B	1
8.3	Probability and consequences of asset failure are regularly assessed	Priority 2	A	1
9. Contingency planning			**A**	**2**
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Priority 2	A	2
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
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Priority 5	A	1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Priority 5	A	1
11. Capital expenditure planning			**A**	**1**
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Priority 4	A	1
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Priority 5	A	1
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Priority 5	A	1
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Priority 5	A	1
12. Review of asset management system			**A**	**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	A	1
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Priority 5	A	2

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: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">1.1 Asset management plan covers the processes in this table</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; consideration of AETRH's business planning processes, and examination of Alinta Energy's Asset Management Policy, Alinta Energy's Asset Management Framework, Newman FY2023 Asset Management Plan (AMP) and Alinta Energy 220kV Transmission Line FY2023 AMP, we determined that:
AETRH's business planning model accommodates its operation and maintenance of the Newman Power Station and associated Newman to Roy Hill transmission lines in accordance with its contracted power purchase arrangements
AETRH's Newman FY2023 AMP and Alinta Energy 220kV Transmission Line FY2023 AMP:
Are consistent with Alinta Energy's company-wide Asset Management Framework, which is designed to align with ISO55000:2014, ISO 55001:2014 and ISO 55002:2014 and the British Publicly Available Specification (PAS) Asset Management Standard PAS 55-1:2008
Provide guidance between the day-to-day activities within the Newman Power Station and associated Newman to Roy Hill transmission network and Alinta Energy's asset management strategy, including an overview of the major elements of the power generation and transmission assets
Sufficiently reflect each of the elements outlined in the rest of this Asset Planning process, including the elements highlighted in the 2019 AMS review (relating to asset strategy, risk and opportunities, historical asset performance, future demand and forecast and contingency arrangements)
Were last revised in June 2022. Alinta Energy's Asset Management Framework provides for annual review of all of its AMPs.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

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 Head of Operations, Alinta Energy and Operations Manager, Pilbara and consideration of AETRH's business planning processes, we determined that: • AETRH's business planning model accommodates its operation and maintenance of the Newman power station and related transmission assets considering its contractual arrangements and regulatory requirements • From a business planning perspective, AETRH's asset management processes and mechanisms incorporate the requirements of its various stakeholders. In particular, we observed that AETRH has: o Developed and maintained appropriate AMPs for operating and maintaining the various components of the power station and the related transmission network to achieve performance over the life of those assets. The AMPs define AETRH's short to medium term plans, and are reviewed on an annual basis, with the last update performed in June 2022 o Established a Power Purchase Agreement (PPA) with its customer, outlining AETRH's responsibilities for operating the power station and transmission network assets o A formal delegation of authority framework in place across the stakeholder functions (operations, finance, and compliance) integrated into its SharePoint information storage portal for project task and expenditure approval.	
	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 Head of Operations, Alinta Energy and Operations Manager, Pilbara and examination of AETRH's AMPs and contractual documentation, we determined that the power station and transmission asset's required service levels have been: • Summarised in the AMPs, which are updated on a periodic basis to facilitate any changes of those service levels. The AMPs reference relevant operational information for each key item of equipment • Defined in AETRH's maintenance standards maintained on SharePoint and integrated into the maintenance management system • Programmed into the Ellipse computerised maintenance management system to track routine maintenance requirements across all asset components.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1.4 Non-asset operations (e.g. demand management) are considered	As the primary purpose of the Newman Power Station is to generate power to meet its customers' requirements, there is no requirement or opportunity for AETRH 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 Head of Operations, Alinta Energy and Operations Manager, Pilbara and consideration of AETRH's AMPs and finance models, we determined that assessment of lifecycle costs of owning and operating the assets is reflected in the AMPs, which addresses each major equipment component and provides specific details, including: • Operating and maintaining philosophy • Key life cycle issues and how they are addressed • Life cycle plan and critical outages • Performance improvement opportunities • Critical reinvestments • Retirement/disposal consideration at end of plant life • Capex and Opex forecast for a five-year period.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1.6 Funding options are evaluated	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and examination of AETRH's AMPs and contractual documentation, we determined that: • Day-to-day operating expenses are funded from operating cash flows • Funding options are considered and evaluated using the Alinta Energy 'Request for Commitment' process within a dedicated Expenditure Project Delivery SharePoint Site • A Delegated Financial Authority matrix and automated workflow system within the Alinta Energy 'Request for Commitment' approval process helps ensure that fund requests above specified levels are required to be authorised by the appropriate level of management.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1.7 Costs are justified and cost drivers identified	Through discussions with the Head of Operations and consideration of AETRH's AMP strategy and model, we determined: • AETRH's AMPs include detailed life cycle plans that identify and assess all life cycle costs and cost drivers associated with the power station and transmission network assets • Power station and transmission network assets are managed using Ellipse, which records maintenance tasks and associated costs. Financial reporting is generated from Ellipse with budget vs actual analysis performed quarterly.	
	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 Head of Operations, Alinta Energy and Operations Manager, Pilbara; and examination of AETRH's AMPs and relevant supporting documentation, we determined the AMPs are tools used for predicting the likelihood and consequences of asset failure. Specifically, we observed that:
AETRH's AMPs consider:
Previous historic maintenance issues of assets, and provide details of the operational and maintenance strategy, as well as the risk mitigation actions
Primary and specific asset risk analysis, with risk mitigation action
AETRH's operations and maintenance staff operate the plant and transmission assets and perform routine and first line intervention maintenance on a scheduled basis controlled by work orders generated through Ellipse
Condition monitoring techniques are employed on a frequent basis to identify defects, including oil analysis, vibration analysis, and radiography and thermography to identify any surface or internal defects
During scheduled outages (e.g. long-term shutdowns), main components of the facilities' assets are inspected for defects by site staff and external contractors.</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">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of AETRH's Newman FY2023 AMP and Alinta Energy 220kV Transmission Line FY2023 AMP, we determined that AETRH's AMPs have been reviewed and revised on an annual basis in accordance with Alinta Energy's Asset Management Policy and Framework.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</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: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of relevant supporting documentation, we determined that:
AETRH has continued to maintain expenditure approval procedures that outline the requirement for project evaluations to be undertaken prior to seeking funds approval. As part of the project evaluation process, AETRH requires the following to be completed
A full business case, which provides approval criteria for instigating new projects including, financial and capital requirements, current state assessment, asset/non-asset alternatives, and timeline
Economic evaluation modelling in support of the business case. The modelling utilises a standard set of high-level economic assumptions to assess the cost associated with the overall plant life and generate cost predictions over the 20-30 years of plant life
Consideration of non-asset options where applicable.
AETRH applied those procedures in developing its project plans for the integration works associated with the interconnection arrangements for Alinta Energy’s Chichester Project.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td>2.2 Evaluations include all life-cycle costs</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of Alinta Energy’s procedures for expenditure approval, we determined that:
AETRH has maintained the following process to assess lifecycle costs of owning and operating assets:
Assessment of lifecycle costs of owning and operating the assets is reflected in its AMPs, which address each major equipment component and provides specific details, including:
Operating and maintenance philosophy
Key lifecycle issues and how they are addressed
Lifecycle plan and critical outages
Performance improvement opportunities
Critical reinvestments
Retirement/disposal consideration at end of plant life.
An economic evaluation model is to be utilised as part of budgeting and forecasting process to assess the cost associated with the overall plant life and forecast expenditure up to 2049
Project evaluations provide for estimates of the amount of investment required as well as identifying the source of funds.
AETRH applied those procedures in developing its project plans for the integration works associated with the interconnection arrangements for Alinta Energy’s Chichester Project, as well in updating its AMPs accordingly.</td></tr>
<tr><td></td><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td>2.3 Projects reflect sound engineering and business decisions</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; examination of contractual documentation and consideration of Alinta Energy’s procurement standards and associated forms and templates, we determined that:
AETRH has maintained the following procedures to assess the commercial and technical competence of projects
Project evaluations are performed with the input from both engineering and finance personnel and with evaluation results detailed and approved by relevant department stakeholders to ensure all engineering, finance, environmental, health and safety aspects are addressed
Project modelling tools are applied to project evaluations, considering relevant economic measures
Commercial sign off is required, which incorporates the above considerations and addresses any potential contract risks when engaging external parties.
AETRH applied those procedures in developing its project plans for the integration works associated with the interconnection arrangements for Alinta Energy’s Chichester Project.</td></tr>
<tr><td></td><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td>2.4 Commissioning tests are documented and completed</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and consideration of Alinta Energy’s Project Management Framework, we observed that:
Commissioning tests form part of the project lifecycle, which is recorded on SharePoint
Where AETRH engages external contractors to perform commissioning tests:
Testing reports are prepared by the site engineering team and stored on SharePoint
Handover to operations only occurs when the requirements for practical completion have been met and are approved by the Project Manager. The Project Manager must then gain a clearance certificate from the relevant operations manager before handover to operations
Service requirements are governed by contractual terms relating to any major service required.</td></tr>
<tr><td></td><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td>2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and examination of relevant supporting documentation, we determined, for the purpose of its ongoing asset management obligations, AETRH has:
Identified legal, environmental and safety obligations relating to its power station and transmission network assets
Applied the Alinta Energy (group-wide) Occupational Health and Safety Management Framework and Environmental Management Framework to its Newman Power Station and associated transmission network facilities
Assigned responsibilities to staff on site and in the Perth office for managing AETRH’s environmental and safety obligations in accordance with OHS and Environmental management plans
Implemented an organised document management system within SharePoint for housing regulatory obligations such as licences, related management plans and monitoring/compliance reports
Assigned responsibilities to Alinta Energy’s national legal team for monitoring any updates or changes to regulatory obligations and reporting requirements.
We sighted evidence of:
AETRH’s identification, assessment and treatment of risks relating to its legal, environmental and safety obligations within the AMPs
Site skills and training matrix, which contains the relevant safety training staff need to complete.</td></tr>
<tr><td></td><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

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: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of AETRH's mechanisms for identifying under-utilised and under-performing assets, we determined that:
AETRH's AMPs consider each major item of equipment and provide specific details of the facility's operations and maintenance strategy, key life cycle issues and remedial plans
A detailed forward maintenance program in accordance with manufacturer's guidelines and expert experience is maintained and reviewed on a daily basis
The operational performance of the Newman power station and associated transmission network facilities is monitored through the Honeywell Experion system, with weekly and monthly performance dashboard reports presented to management for review showing asset performance against benchmarked targets. Note that for the duration of the review period, there were no assets considered to be under-utilised
Results of these assessments and inspections are included in rolling five-year plans
Unexpected asset failures are logged in AETRH's InControl Incident Management System.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy; and examination of relevant supporting documentation, we determined AETRH has applied the mechanisms at Asset Disposal (s.3.1) to facilitate the examination of under-utilised and under-performing assets by:
Undertaking root cause analyses of under-utilisation or poor performance of power station assets
Applying a project evaluation approach as part of the capital expenditure approval process, which requires a justification of why the upgrade/purchase of equipment is crucial to the condition of the asset
Incorporating assessments into rolling five year plans that detail major capital projects planned.
For the duration of the review period:
There were no assets considered to be under-utilised
AETRH had not disposed of any relevant assets.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

Effectiveness criteria	Findings	
3.3 Disposal alternatives are evaluated	Through discussion with the Head of Operations, Alinta Energy, we determined AETRH's processes require: • Consideration of alternatives for decommissioning, removal or storage of key plant • Rolling five year plans to provide details of the major projects planned for each asset in the coming financial year, including any equipment replacement requirements • Asset disposals to be performed in accordance with Project Management processes (including the Management of Change system process) and the relevant AMPs • Spare parts to be re-utilised or stored to be used again on existing assets. As AETRH had not disposed of any relevant assets in the review period, this process was not required to be applied.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Not rated
3.4 There is a replacement strategy for assets.	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of AETRH's AMPs, we observed: • The AMPs consider each major item of equipment and provide specific details of the facility's operations and maintenance strategy, key life cycle issues and remedial plans • Alinta Energy has maintained a stable, organisation-wide Decommissioning Policy • Rolling five-year plans provide details of the major projects planned for each asset in the coming financial year, including any equipment replacement requirements.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

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: Adequately defined (A) / Improvement required (2)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">4.1 Opportunities and threats in the asset management system environment are assessed</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of relevant supporting documentation, we determined that AETRH identifies and assesses opportunities and threats within its AMS through records of:
Applicable legal and regulatory obligations are documented in AETRH's two relevant AMPs under the Regulatory Compliance Summary
Risks and threats to the asset's operations in the AMPs
Environmental and safety related risks and incidents in the Alinta Group InControl incident reporting system.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and examination of relevant supporting documentation, we determined that:
The tracking of work orders and performance KPIs on site is controlled through Ellipse, which reports on the key performance aspects of the power station and transmission assets. Monthly reports include aspects such as availability and production losses, maintenance costs, EOHS incidents and emission breaches. Any deviations from budget or contractual KPIs are highlighted and explained, where appropriate
AETRH is required to report any breaches of emission limits (e.g. for SO2 and NOx) to the Department of Water and Environmental Regulation. AETRH monitors its emissions in sufficient detail to flag any instance where its emission limits are breached
AETRH has emergency response processes outlined in the Emergency Response Plan (Version 2.8 dated March 2022). However AETRH has not executed the required emergency response training and drills and outlined within this plan
Refer to Recommendation 1/2022 at Section 5.6 for further detail of this matter and the corrective action required.
Alinta has emergency response processes in place in case of an environmental incident, with Site Managers being responsible for the investigation and analysis of the incident.
We note that at the time of the site visit, AETRH's planned Predictive Emission Monitoring System was not yet in operation due to some delays since the planned installation as part of the Jenbacher reciprocating engine project (initially scheduled for June 2022). However, this delay has not had any significant impact on emissions monitoring undertaken on site.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Corrective action required (3)</td></tr>
</table>

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">4.3 Compliance with statutory and regulatory requirements</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of relevant supporting documentation, we determined that AETRH operates and monitors its operations in accordance with the following statutory and regulatory requirements:
Newman Power Station AETRH Environmental Licence, which includes NOx, CO and SOx emissions targets and requirements. AETRH is required to report NOx and CO emissions quarterly and annually. It must also provide an annual SOx emission sample reading
All non-continuous sampling and analysis is to be performed by a holder of a NATA accreditation
Alinta Energy’s Environmental Management Framework accommodates AETRH’s commitment to environmental protection
Greenhouse gas emissions obligations under the National Greenhouse and Energy Reporting Act (NGER Act)
The Occupational Safety and Health Act 1984 and supporting Regulations (to 31 March 2022) and the Work Health and Safety Act 2020 and supporting regulations (from 1 April 2022), enabled through Alinta Energy’s groupwide health and safety management framework.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">4.4 Service standard (customer service levels etc) are measured and achieved</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of AETRH’s PPA with its customer, we determined that AETRH’s customer service levels and performance requirements are defined in the PPA. Service levels are monitored in weekly and monthly performance reports that are provided to management.
In relation to community obligations, AETRH operates and monitors its operations in accordance with 4.3 above.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

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) / Improvement required (2)

<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 Head of Operations, Alinta Energy and Operations Manager, Pilbara; inspection of relevant documentation and observations during our site visit, we determined that:
Operational policies and procedures are documented collectively through AETRH's two relevant AMPs, the PPA with its customer, and the Power Generation Operational Plan
AETRH's service level requirements are either defined explicitly (e.g. firm or non-firm purchase) or derived from these documents and documented in the AMPs
Operational procedures and manuals are kept on site as well as on the shared drive
Reliability and maintenance requirements are also set up in the current AMPs
Reporting dashboards are used to provide a weekly summary of the power station's performance.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">5.2 Risk management is applied to prioritise operations tasks</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; examination of relevant documentation and observations during our site visit, we determined that:
AETRH has maintained an established risk management framework and process that is applied prior to initiating changes in management of change, planned outages, as well as lower level (work order level) execution
AETRH's operational risk profile is used to guide operational decisions e.g. dispatching, or any changes initiated through management of change
AETRH's Maintenance Work Process Manual document defines how operations and maintenance tasks are given priority ratings, whereby tasks addressing higher risk issues are performed first in order, followed by lower priority tasks. The timelines defined for task priorities are:
Priority 1 (Extreme - Starts Immediately - Breaks Daily Schedule)
Priority 2 (High - Starts within 1 week - Breaks Weekly Schedule and Finishes within 2 weeks of start)
Priority 3 (Medium - Starts within 3 weeks - Finishes within 4 weeks of start)
Priority 4 (Low - Starts within 7 weeks - Finishes within 20 weeks of start)
Priority 5 (Planned Outage Activity included in the scope of work).</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

Effectiveness criteria	Findings	
5.3 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 Head of Operations, Alinta Energy and Operations Manager, Pilbara; inspection of relevant documentation and observations during our site visit, we determined that AETRH has continued to demonstrate that: • Its power station and transmission assets are registered in a fixed assets and equipment register in Ellipse, which holds detailed information for each major component of plant (under an asset hierarchy layout, such as assets' unique asset identifier details, operational history, equipment condition, cost/financial data, and maintenance intervals) • The physical and structural condition of those assets are recorded in a plant condition dashboard • A three weekly review meeting is held involving heads of operations, engineering, planning and finance, for capital projects and asset condition review.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5.4 Accounting data is documented for assets	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of AETRH's asset accounting practices, we determined that AETRH has continued to maintain an asset database that captures relevant information for accounting purposes, including: • Acquisition and retirement date • Original, historic and current capital cost • Depreciation rates and written down values.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5.5 Operational costs are measured and monitored	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; examination of relevant documentation and observations during our site visit, we determined that AEC has applied processes to measure and monitor operational costs, which include: • Monthly profit and loss extracts provided to the Head of Operations, Alinta Energy, with analysis on total operational costs and variances between budgeted costs and actuals • Automatically assignment of costs against assets based on allocated work orders, with external costs charged to associated cost centres • Recording operational spend in Ellipse.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings
5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; examination of relevant documentation and observations during our site visit, we determined AETRH has continued to demonstrate that: • Staff have detailed job descriptions with defined responsibilities • Staff mandatory training is registered in a skills/training matrix. We observed that the training matrix at the time of our site-visit showed several overdue training requirements, with some up to 4 years overdue (refer to further details below) • Contractor training and competence is managed using Rapid Global system • Records are maintained for the induction of personnel and contractors, as appropriate to their role on site. For example, a maintenance contractor is required to undergo a more detailed induction than an escorted visitor to ensure they understand the procedures for working on site, such as work permit procedures • The training officer plans the training together with the plant manager • Non-mandatory training is registered in staff personal development plans and KPIs **Staff training and emergency response drills** At the time of our site visit, AETRH's training matrix showed some overdue training dating back as far as 2018. Of particular note, a significant risk to AETRH's operations relates to the biannual training requirements for site emergency response (per the requirements of AETRH's Emergency Response Plan (ERP) Version 2.8 dated March 2022), which was recorded as overdue for all staff assigned to operations managed from the Newman Power Station. We consider this issue reflects a lack of dedicated effort to ensure training requirements are maintained. Corrective action is required to improve AETRH's performance against the requirements outlined in its ERP. **Recommendation 1/2022 (B3 Rating)** *AETRH:* *(a) Schedule staff training to clear all overdue requirements with special emphasis given to site-specific emergency response drills* *(b) Ensure sufficient resources are allocated to maintaining key training requirements and emergency response drills.* Potential improvement opportunity We also observed during our site-visit that there was no dedicated Health and Safety Officer at the Newman site, whose job-description would include maintaining the training matrix up-to-date and ensuring all aspects of staff training and skills are covered including undertaking of Emergency Response Drills to test the effectiveness of the Shared Services Agreement with BHP that is in place for provision of services such as fire-fighting, emergency response, etc. This may have contributed to the extent of overdue training. *This matter was discussed with AETRH staff as a potential improvement opportunity.*
	Process and Policy Rating: Requires some improvement (B) / **Performance Rating:** Corrective action required (3)

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)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">6.1 Maintenance policies and procedures are documented and linked to service levels required</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy, Operations Manager, Pilbara and Plant Superintendent – Newman Power Station; examination of relevant documentation and observations during our site visit, we determined that:
• AETRH's two relevant AMPs clearly outline the basis of the power station and transmission assets operations and maintenance strategy and program
• Asset maintenance strategies, policies and procedures for all major assets and site specific maintenance activity are documented and readily available to staff via Alinta Energy's SharePoint platform
• Maintenance plans are loaded into the maintenance module of AETRH's Ellipse enterprise asset management system. The Ellipse system references major equipment maintenance procedures, equipment details, maintenance intervals, costs and equipment history and is linked to service levels required
• AETRH's service levels requirements are either defined explicitly (e.g. firm or non-firm purchase) or derived from these documents and documented in the AMPs
• Statutory work is dictated by the regulatory requirements
• Weekly and monthly performance reports have KPIs linked to service level requirements.
Inventory management
We observed during our site-visit that AETRH can improve its inventory management practices in order to further streamline its maintenance works. In particular, we observed:
• There were no minimum and maximum stock levels identified against each of the inventory items based on their criticality
• A lack of dedicated site-based resources (e.g. maintenance planner) to closely manage and monitor site inventory requirements
• Performance of maintenance metrics in 2022 show a decline compared with previous years
○ 2022 - 87% YTD Conformance to DM Plan with total overdue maintenance tasks recorded as 58 in Jan 2022
○ 2020 - 96.6% YTD Conformance to DM Plan with total overdue maintenance tasks recorded as 29 in November 2020.
This matter was discussed with AETRH staff as a potential improvement opportunity.</td></tr>
<tr><td>Process and Policy Rating: Requires some improvement (B)</td><td>Performance Rating: Improvement required (2)</td></tr>
</table>

Effectiveness criteria	Findings	
6.2 Regular inspections are undertaken of asset performance and condition	Through discussion with the Head of Operations, Alinta Energy, Operations Manager, Pilbara and Plant Superintendent – Newman Power Station; examination of relevant documentation and observations during our site visit, we determined that: • Regular inspections are carried out at the plant in forms of daily rounds, statutory inspections and planned outages • Any changes required on the inspections are implemented in the maintenance standards • Condition-based inspection are carried out • Regular reviews of plant/asset conditions are carried out and the plant condition dashboard updated. We sighted the following evidence of inspections of asset performance and condition • Several inspection reports prepared by Original Equipment Manufacturers (OEM), per the OEM Inspection Guidelines • Several example of Asset Performance and Condition maintenance metrics, which track performance of assets and summarise of the results of inspections undertaken in accordance with OEM plans. • Several maintenance compliance summaries and performance dashboards.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Through discussion with the Head of Operations, Alinta Energy, Operations Manager, Pilbara and Plant Superintendent – Newman Power Station; inspection of relevant documentation and observations during our site visit, we determined that: • For all core equipment and assets, the Ellipse system contains plans for scheduled maintenance as well as required emergency and corrective works • All maintenance work undertaken is recorded in the Ellipse system • Annual work plan compliance has remained around 95% • Section 4.3 of the Newman AMP details the power station's major maintenance history We sighted evidence of: • Scheduled maintenance plans being effectively executed through examination of a sample of inspections, field service reports and Weekly Performance Dashboards • Emergency maintenance required to address forced outages from lightning strikes.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	

6.4 Failures are analysed and operational/maintenance plans adjusted where necessary	Through discussion with the Head of Operations, Alinta Energy, Operations Manager, Pilbara and Plant Superintendent – Newman Power Station; and examination of records of asset/equipment failures during the review period, we determined that:
	• AETRH's maintenance procedures provide for:
	  ○ Failures to be analysed and operational/maintenance plans adjusted to reduce the likelihood of the failure to be repeated
	  ○ Emergency and corrective actions to be taken, followed by a root cause analysis of the failure event such as a trip or fail-to-start
	  ○ Unplanned outages that result in a loss of availability or production are required to be investigated and are reported into AETRH's InControl incident reporting system. The incident report includes an explanation of the outage and possible causes, and also tracks who is responsible for any investigation and what actions are in place to correct the fault. Where appropriate, a work order is raised to undertake preventative actions to limit the fault's recurrence. Incident reports are prepared by the person who found the fault, reviewed by a supervisor, then assigned to the Operations Manager for investigating further corrective actions
	• AETRH maintains appropriate evidence of failures being recognised, analysed and treated/corrected.
	We sighted evidence of a root cause analysis performed for an incident relating to bearing temperature readings in two gas turbine units.	

	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 Head of Operations, Alinta Energy and Operations Manager, Pilbara; examination of relevant documentation and observations during our site visit, we determined that AETRH maintained the following risk management practices during the review period:
	• Any change to the maintenance plans is based on risk assessments and the plant conditions dashboard
	• Prioritisation is made in the power station work scheduling following a predefined ranking defined in the customer PPA and other associated documents
	• AETRH's Maintenance Work Process Manual document defines how operations and maintenance tasks are given priority ratings, whereby tasks addressing higher risk issues are performed first in order, followed by lower priority tasks. The timelines defined for task priorities are:
	  ○ Priority 1 (Extreme - Starts Immediately - Breaks Daily Schedule)
	  ○ Priority 2 (High - Starts within 1 week - Breaks Weekly Schedule and Finishes within 2 weeks of start)
	  ○ Priority 3 (Medium - Starts within 3 weeks - Finishes within 4 weeks of start)
	  ○ Priority 4 (Low - Starts within 7 weeks - Finishes within 20 weeks of start)
	  ○ Priority 5 (Planned Outage Activity included in the scope of work).
	• All projects contain risk assessments
	• The Plant condition dashboard is regularly reviewed, updated, and used in planning operations and maintenance activities
	• Weekly scheduling meetings are used to set work time frames based on work order prioritisation and scheduled outages.
	Through walkthrough of sample scheduled maintenance tasks, we confirmed that:
	• Tasks were given a risk priority rating and high priority tasks were completed within the required timeframe
	• Maintenance performance metrics included maintenance tasks that were started and completed within the required timeframes based on risk prioritisation, plus maintenance tasks that were not completed within the scheduled.
	We observed that Maintenance Metrics during the review period show Plant Availability and Start Reliability to remain consistently high.	

	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
6.6 Maintenance costs are measured and monitored	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and examination of relevant documentation, we determined that AETRH has applied processes to measure and monitor maintenance costs, which include: • Monthly profit and loss extracts provided to the Head of Operations, Alinta Energy, with analysis on total operational costs and variances between budgeted costs and actuals • Automatically assignment of costs against assets based on allocated work orders, with external costs charged to associated cost centres • Recording operational and maintenance spend in Ellipse • Benchmarking of maintenance costs.	
	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)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">7.1 Adequate system documentation for users and IT operators</td><td colspan="2">Through discussions with AETRH staff and consideration of relevant IT security system documentation, we observed that:
AETRH utilises the Ellipse computerised maintenance management system and monitors live plant performance through Alinta Energy’s Honeywell Experion software
Alinta Energy maintains technical documentation for the Ellipse and Honeywell Experion applications, with that documentation readily available to AETRH
AETRH is also supported by Alinta Energy’s Group IT policies and procedures, which are stored on Alinta’s SharePoint site and are readily accessible for all users.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">7.2 Input controls include suitable verification and validation of data entered into the system</td><td colspan="2">Through discussions with AETRH staff and consideration of relevant IT security system documentation, we observed that:
AETRH’s Ellipse system maintains a series of input validation checks
AETRH applies a range of data verification and validation controls and techniques (including reconciliations and analyses) to provide additional assurances over the completeness, accuracy and validity of data entered into AETRH’s core systems.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">7.3 Security access controls appear adequate, such as passwords</td><td colspan="2">Through discussions with AETRH staff and consideration of Alinta Energy’s relevant IT security and access management policies, procedures and standards, we observed that in relation to AETRH’s Ellipse and Honeywell systems:
The process of granting and managing access is undertaken online through Alinta Energy’s IT helpdesk. Access requests are required to be approved by the relevant departmental head prior to being processed by IT
End-users are granted the minimum level of access privileges required to perform their job function and to prevent segregation of duties conflicts
Appropriate password requirements are maintained to authenticate user access to the Alinta network and the Ellipse and Honeywell systems. Additional authentication is required for remote user access
Staff are made aware of the consequences for breach of policy and misuse of user privileges.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

Effectiveness criteria	Findings	
7.4 Physical security access controls appear adequate	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; consideration of Alinta Energy's relevant IT security and access management policies, procedures and standards and observations during our site visit, we observed that AETRH 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 restricted by security fencing and swipe card entry to the premises • General safety precautions are maintained to contain fire and other damaging events in computer rooms on site • Visitors are required to be registered and be accompanied by AETRH staff • Access to the building is monitored by CCTV.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7.5 Data backup procedures appear adequate and backups are tested	Through discussions with AETRH staff and consideration of relevant Alinta Energy IT security system documentation, we observed that procedures for managing data backup and data restore of AETRH servers have been established and maintained in accordance with accepted industry practice for : • Scheduling and executing daily backups of production data • Secure management of backup data and restoration of data • Testing of data recovery and restoration procedures.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7.6 Computations for licensee performance reporting are accurate	AETRH's asset management information system does not directly provide data used in any computation related to its licence performance reporting.	
	Process and Policy Rating: Not rated	**Performance Rating:** Not rated
7.7 Management reports appear adequate for the licensee to monitor licence obligations	Through discussions with AETRH staff and consideration of relevant supporting documentation and management reporting procedures, we determined that: • AETRH's Ellipse and Honeywell Experion systems are capable of generating a substantial variety of daily, weekly, monthly and ad hoc reports, including for plant operations, routine and first line intervention maintenance and generation activity • 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 discussions with AETRH staff and consideration of Alinta Energy's relevant IT security policies, procedures and standards, we observed that AETRH 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 • Master service agreements and non-disclosure agreements to enable sharing of restricted or confidential data with third parties • 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: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">8.1 Risk management policies and procedures exist and are applied to minimise internal and external risks</td><td colspan="2">Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and consideration of AETRH's risk management and reporting framework, we determined that:
Alinta Energy's Enterprise Risk Management Framework applies throughout Alinta Energy's business structure, including AETRH's operations. In particular, all maintenance activities are based on AETRH's risk management approach, whereby the maintenance tasks addressing higher risk issues are performed first in order, followed by lower priority tasks. We sighted several examples of risk based practices being applied to AETRH's monitoring of asset operations, asset condition and incidents. AETRH maintains appropriate records of those activities
AETRH's two AMPs include several references to risk assessment and management activities, including material risks, risk mitigation options and links to risk reduction recommendations.
Based on our examination of the risk management processes in place, we determined that AETRH uses a well-established and consistent system for identifying and managing risks, including formal supporting procedural documentation.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

Effectiveness criteria	Findings	

8.2 Risks are documented in a risk register and treatment plans are implemented and monitored	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; consideration of AETRH's risk management and reporting framework and examination of AETRH's risk records, we determined that:
	• AETRH uses several references and applications to capture its material and operational risks, including:
	  ○ Its two AMPs, which include several references to risk assessment and management activities, including material risks and risk mitigation options and plans
	  ○ Alinta Energy's Power Generation Fleet reports material Asset Fleet risks on a quarterly basis, including AETRH's material risks, mitigations and actions
	  ○ A Risk Management SharePoint tool, which rates site, environmental and personnel risks and summarises treatment action and/or requirements
	  ○ A Plant Condition SharePoint tool, which rates plant condition risks and summarises treatment action and/or requirements.
	• Although AETRH has applied a consistent approach and timeframe for preparing and reviewing risk treatment plans and reports, it has not maintained a single, clear reference to the complete suite of risk records and registers that make up AETRH's risk profile. Accordingly, it can be a challenging task to form a complete view of the power station's and transmission network's risk profile at any one point in time
	• A project is currently being undertaken by Alinta Energy to expand the use of its InControl platform (which is currently used to record hazards, incidents and operational events) as a single risk register for each site. This enhancement should facilitate that more complete view of the power station's and transmission network's risk profile at any one point in time. *No further recommendation is made by this review in relation to this matter*.	

	Process and Policy Rating: Requires some improvement (B)	**Performance Rating:** Performing effectively (1)

Effectiveness criteria	Findings	
8.3 Probability and consequences of asset failure are regularly assessed	Through discussion with the Head of Operations, Alinta Energy and Plant Superintendent – Newman Power Station; examination of AETRH's two AMPs and consideration of AETRH's asset planning and risk management practices, we determined that AETRH has applied the following mechanisms for identifying and assessing the consequence and likelihood of power station asset failure: • AETRH's AMPs are major tools used for predicting the likelihood and consequences of asset failure. The AMPs consider each major item of equipment and provide specific details of its operation and maintenance strategy and key lifecycle issues and remedial plans • A detailed maintenance program in accordance with the manufacturer's guidelines and expert experience is maintained for the power station and transmission network assets. The program is executed daily and updated as needed • Alinta's operations and maintenance staff operate the power station and transmission network and perform routine and first line intervention maintenance on a scheduled basis controlled by work orders generated through Ellipse • External contractor maintenance standards/requirements are governed by specific contractual arrangements • Condition monitoring techniques are employed on a frequent basis to identify defects, including oil analysis, vibration analysis, and radiography and thermography to identify any surface or internal defects • During scheduled outages, main components of the plant are inspected for defects by site staff and external contractors • Classified plant inspections are conducted in accordance with the statutory requirements imposed upon the plant • A high level of priority is accorded to minimising instances of asset failure and the duration of any such failure The management structures, skills and resources assigned by AETRH to the required asset management processes appear to be appropriate for enabling the regular assessment of the probability and consequences of asset failure.	
	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) / Improvement required (2)

Effectiveness criteria	Findings	
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Through discussion with the Head of Operations, Alinta Energy and Operations Manager, Pilbara; and examination of relevant supporting documentation, we determined that: • Contingency planning is inherent in the design and setup of the power station and associated transmission network. Normal operation processes and procedures used to maintain, control and operate the power station include contingency aspects to allow staff to react to emergencies and implement necessary actions in order to minimise the extent of disruption to power station and transmission network assets • Contingencies are in place for major business operational risks relating to fuel supply, water supply, turbine failure/error and transmission line failure • AETRH maintains a comprehensive Emergency Response Plan for the Newman Power Station, which provides guidance for all probable hazards, with incidents grouped by type and assigned a specific colour code in accordance with Australian Standard AS3745. The emergency response plan provides for: ○ Emergency exercises that are to be undertaken twice each year; one a desktop exercise and a "live" exercise with emergency services involved. The results of exercises are documented in Alinta Energy's SharePoint system ○ Monthly alarm testing ○ Six monthly evacuation procedure testing ○ Employee training requirements As detailed at sections 4.2 and 5.6 above, AETRH has not maintained key emergency response training and drills outlined in its Emergency Response Plan. Although this matter requires correction per Recommendation 1/2022, as it has less impact on AETRH's contingency planning arrangements, a Performance Rating of "Improvement Required (2)" is appropriate. • Alinta Energy has a Cybersecurity Business Continuity Management Standard in place. In response to previous AMS review recommendations, AETRH reconsidered its approach to capturing its contingency plans for each key risk, concluding that the AMPs, plus AETRH's comprehensive system recovery plans and existing records of risk mitigations effectively capture relevant contingency plans. We are satisfied that AETRH's current approach and records sufficiently document action required to deal with the unexpected failure of an asset and to minimise any major disruptions to service standards.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Improvement required (2)

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)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve those</td><td colspan="2">Through consideration of AETRH's asset and financial planning mechanisms and examination of its AMPs, we observed that:
AETRH's financial plan takes the form of an annual operational budget, prepared on a rolling five year basis to reflect its financial objectives and strategies that are driven by its contractual agreements for generation and supply of electricity
The financial plan outlines the financial elements of the power station's and transmission network's operations to reflect its financial viability over the long term
AETRH's AMPs reflect the business objectives outlined in its business plans.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs</td><td colspan="2">Through consideration of AETRH's financial planning mechanisms and examination of its AMPs, we determined that:
The AETRH annual budget is aligned with AETRH's overall business plans
Operational cash flows are retained for budgeted maintenance and capital expenditure, based on retained funds or by submission through the Alinta Energy corporate structure for non-budgeted expenditure.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)</td><td colspan="2">Through consideration of AETRH's financial planning mechanisms, and inspection of AETRH's five-year plan, profit and loss report and its AMPs we determined that:
AETRH's financial plan constitutes a summary of budgeted income and expenditure from the supply of electricity under its contractual agreements, which is prepared and updated annually and includes a rolling forecast for the next five years
An income statement and a position statement are prepared as part of consolidated financial statements on a six-monthly and annual basis
A monthly Profit and Loss report is generated which provides a detailed breakdown of financial projections.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

Effectiveness criteria	Findings	
10.4 The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Through consideration of AETRH's financial planning mechanisms, we determined that AETRH's financial plan: • Is prepared on an annual basis and updated for the projections of income and expenses based on five year outage and maintenance schedules • Includes a summary of planned capital expenditure projects for the next five years with a brief description of the intended purpose of the project • Forms part of Alinta Energy's budgeting and forecasting processes, which assess costs associated with overall fleet asset life.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Through consideration of AETRH's annual financial plans, we observed that those plans: • Provide a sufficient level of detail relating to forecast operational, maintenance and administrative costs. i.e. operations maintenance and administration expenses on a rolling five year basis • Include a summary of current and planned capital expenditure projects over the following five years, with a brief description of each project's purpose and assumptions.	
	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 consideration of AETRH's financial planning and monitoring mechanisms, we observed 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: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
11.1 There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Through discussion with the Head of Operations, Alinta Energy and consideration of AETRH's capital planning procedures, and examination of the capital expenditure plan and the AMPs we determined that: • A capital expenditure plan is included in the annual financial plan • Capital expenditure planning is undertaken along with financial planning on a rolling five year basis • The plan provides information on the amount, purpose and description of budgeted capital expenditure • The plan does not provide information on roles and responsibilities, but they can be found in AETRH's business plans and work orders.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
11.2 The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Through consideration of AETRH's capital planning procedures, we determined that AETRH's capital expenditure plan specifies the reasons for the capital expenditure and the financial year in which the capital expenditure amount is planned.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Through consideration of AETRH's capital planning procedures, we determined that: • AETRH's procedures require lifecycle costs of assets to be assessed and recorded in the AMPs for each major item of equipment, including key lifecycle issues, critical outages and operating and maintenance philosophy • The capital expenditure plan concurs with the assessed lifecycle costs of the power station's and transmission network's assets.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
11.4 There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Through consideration of AETRH's asset and business planning processes and inspection of AETRH's Capital Expenditure Plan and AMPs, we determined that AETRH's capital expenditure requirements are reviewed and updated where relevant on an annual basis.	
	Process and Policy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.12 Review of asset management system

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

Expected outcome: Review of the AMS to ensure the effectiveness of the integration of its components and their currency.

Overall Process and Policy/Performance rating: Adequately defined (A) / Improvement required (2)

<table>
<tr><th>Effectiveness criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="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</td><td colspan="2">Through consideration of Alinta Energy's Asset Management Policy and Framework and supporting AMS documentation, we observed that:
AETRH's AMPs, which are the main reference to its Asset Management System, have been reviewed and updated on an annual basis. With the support of designated engineering staff, the Alinta Energy Asset Engineer has the primary responsibility for that annual review, with the Operations Manager, Pilbara responsible for reviewing and the Alinta Energy Head of Optimisation responsible for approving the revised version
Alinta Energy's Asset Management Framework provides for asset management activities to be subject to performance assessment and continuous improvement. Provision is made for independent audits and reviews to be conducted either internally or through third parties.
As described in the 2019 AMS Review report, an independent review of Alinta Energy's asset management systems conducted by Wave International in 2018 assessed the alignment of Alinta Energy's asset management framework to its asset management policy, plus Alinta Energy's compliance with that asset management framework. Recommendations made by that review had been implemented and remained incorporated into AETRH's asset management systems.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">12.2 Independent reviews (e.g. internal audit) are performed of the asset management system</td><td colspan="2">As noted in section 12.1 above, components of AETRH's asset management system are subject to regular review and update, including by independent consultants from time to time.
<u>Improvement opportunity</u>
To assist in demonstrating that its asset management framework and systems are subject to independent review in the appropriate timeframes and circumstances, it may be useful for Alinta Energy assign a schedule or clear criteria for subjecting its asset management framework and systems to independent review. This matter was discussed with AETRH staff as a potential improvement opportunity.</td></tr>
<tr><td>Process and Policy Rating: Adequately defined (A)</td><td>Performance Rating: Improvement required (2)</td></tr>
</table>

5. Status of recommendations addressing asset system deficiencies from the previous review

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) **Further action required** (including current recommendation reference, if applicable)
A. Resolved during current review period				
1/2019	**C2** ***Asset planning:*** *1.1 Asset management plan covers key requirements.* The AMP does not include the following mandatory elements of an effective AMP: • Contingency arrangements • Future demand and forecast (demand drivers highlighted) • Arrangements for review and update of the AMP. ***Review of AMS****: 12.1 A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.* The Newman AMP for FY2019 - FY2023 was last reviewed on 2 July 2018, is still in a draft iteration with the following sections remaining to be completed: • 4.1.2 Basis of Operation and Maintenance Program - Asset Strategy • 4.1.3 Basis of Operation and Maintenance Program - Risk and Opportunities • Key Assets • 5.2 Historical Asset Performance	**Action Plan** Alinta will: 1. Consider updating the AMP to reflect the 12 key processes in the asset management effectiveness criteria by referencing: • Contingency arrangements (Section 9) • Future demand and forecast (Section 10) • Arrangements for review and update of the AMP (Section 12). 2. Complete the following sections in the AMP which are currently not finalised: • 4.1.2 Basis of Operation and Maintenance Program - Asset Strategy • 4.1.3 Basis of Operation and Maintenance Program - Risk and Opportunities • 5.2. Historical Asset Performance 3. Endorse and approve the finalised iteration of the AMP. **Responsible Person**: Head of Operations **Target Date:** 30 June 2020	June 2020	No further action required

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)	Reviewer's recommendation or action planned	**Further action required** (Yes/No/Not Applicable) **Further action required** (including current recommendation reference, if applicable)
Not applicable.			

Appendix A – Review Plan

ASSURANCE ADVISORY GROUP

Alinta Energy Transmission (Roy Hill) Pty Ltd

Electricity Integrated Regional Licence (EIRL6)

2022 Asset Management System Review

Review Plan

October 2022

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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 Alinta Energy Transmission (Roy Hill) Pty Ltd (**AETRH or Alinta**) Electricity Integrated Regional Licence (EIRL 6) (the **Licence**).

Section 14 of the Act requires AETRH 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 2022 review for the for the three year period 1 October 2019 to 30 September 2022 (**review period**).

The Licence relates to AETRH's electricity generation, transmission, distribution and retail activity in relation to its supply of power from its Newman Power Station to the Roy Hill mine site, all located in the East Pilbara region of Western Australia. AETRH operates as a subsidiary within the Alinta Group and is supported by the resource and system capabilities of Alinta Energy.

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 AETRH 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 systems established for the assets subject to AETRH's Licence during the review period.

Scope

In accordance with the Review Guidelines, the review will consider the effectiveness of AETRH'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 AETRH'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.
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

Key processes	Effectiveness criteria
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 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
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

Key processes	Effectiveness criteria
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

AETRH's responsibility for maintaining an effective asset management system

AETRH 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 AETRH'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 1 October 2019 to 30 September 2022. 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 risks.

Limitations of use

Our report will be produced solely for the information and internal use of AETRH 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 AETRH'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 report.

This plan is intended solely for the use of AETRH 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 1 October 2019 to 30 September 2022 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, the 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 AETRH's asset management systems established for the assets subject to the AETRH Licence. The risk assessment considers changes to AETRH's relevant systems and processes and any matters of significance raised by the ERA and/or AETRH. 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 AETRH 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 AETRH 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 Review 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 Review 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	Review 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 AETRH 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 AETRH'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 AETRH representatives and key operational and administrative staff responsible for the development and maintenance of policies and procedural type documentation
- Consideration of AETRH's response to the recommendations made by the 2019 review
- Examination of documented policies and procedures for key functional requirements and consideration of their relevance to AETRH's asset management system requirements and standards.

The policy and procedure 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 AETRH representatives and key operational and administrative staff
- Consideration of AETRH's response to the recommendations made by the 2019 review
- Physical visit to the power station facilities at Newman and the associated transmission and distribution assets used to supply electricity to the Roy Hill mine site
- Consideration of the facilities' 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 AETRH's Newman facility, plus meetings with staff at Alinta Energy's Perth office.

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 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 AETRH's asset management system.

AETRH 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 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 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 AETRH contacts

The key contacts for this review are:

- Operations Manager, Pilbara
- Manager, Merchant Compliance
- Head of Operations
- Manager, WA Retail Regulation.

AAG Staff

AAG staff who will be involved with this assignment are:

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

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

Timing

The initial risk assessment phase was completed on 20 October 2022, after which the draft review plan and risk assessment were submitted to the ERA for review and approval.

The remainder of the fieldwork phase is scheduled to be performed over the period October to early December 2022, enabling a draft and final report to be submitted to the ERA by the due dates of 21 December 2022 and 21 January 2023 respectively.

AAG time and staff commitment to the completion of the review is outlined in the proposal accepted by AETRH. In summary, the estimated time allocated to AMS Review activity is as follows:

- Planning (including risk assessment): 6 hours
- Fieldwork (including system analysis/walkthrough and testing/review): 36 hours
- Reporting: 20 hours.

Appendix 1 - Risk assessment key

1-1 Criteria for classification of consequence of ineffective performance

Source: Modified from Electricity Compliance Reporting Manual February 2022

Classification	Criteria for classification
Major	Classified on the bases 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	Strong	Priority 4
1.3	Service levels are defined in the asset management plan	Moderate	Probable	Medium	Strong	Priority 4
1.4	Non-asset options (e.g. demand management) are considered	Minor	Unlikely	Low	Strong	Priority 5
1.5	Lifecycle costs of owning and operating assets are assessed	Minor	Probable	Low	Strong	Priority 5
1.6	Funding options are evaluated	Minor	Unlikely	Low	Strong	Priority 5
1.7	Costs are justified and cost drivers identified	Minor	Probable	Low	Strong	Priority 5
1.8	Likelihood and consequences of asset failure are predicted	Major	Probable	High	Strong	Priority 2
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	Probable	Medium	Strong	Priority 4
2.2	Evaluations include all life-cycle costs	Moderate	Probable	Medium	Strong	Priority 4
2.3	Projects reflect sound engineering and business decisions	Moderate	Probable	Medium	Strong	Priority 4
2.4	Commissioning tests are documented and completed	Moderate	Probable	Medium	Strong	Priority 4
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	Major	Probable	High	Strong	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	Minor	Unlikely	Low	Strong	Priority 5
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Minor	Unlikely	Low	Strong	Priority 5
3.3	Disposal alternatives are evaluated	Minor	Unlikely	Low	Strong	Priority 5
3.4	There is a replacement strategy for assets	Moderate	Probable	Medium	Strong	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	Strong	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	Probable	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	Strong	Priority 4
5.2	Risk management is applied to prioritise operations tasks	Moderate	Probable	Medium	Strong	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	Strong	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	Strong	Priority 2
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Major	Probable	High	Strong	Priority 2
6.5	Risk management is applied to prioritise maintenance tasks	Major	Probable	High	Strong	Priority 2
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	Strong	Priority 5
7.2	Input controls include suitable verification and validation of data entered into the system	Moderate	Probable	Medium	Strong	Priority 4
7.3	Security access controls appear adequate, such as passwords	Minor	Probable	Low	Strong	Priority 5
7.4	Physical security access controls appear adequate	Minor	Probable	Low	Strong	Priority 5
7.5	Data backup procedures appear adequate and backups are tested	Moderate	Probable	Medium	Strong	Priority 4
7.6	Computations for licensee performance reporting are accurate	Minor	Unlikely	Low	Moderate	Priority 5
7.7	Management reports appear adequate for the licensee to monitor licence obligations	Minor	Probable	Low	Strong	Priority 5
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Minor	Probable	Low	Moderate	Priority 5

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	Probable	Medium	Moderate	Priority 4
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Moderate	Probable	Medium	Moderate	Priority 4
8.3	Probability and consequences of asset failure are regularly assessed	Major	Probable	High	Strong	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	Unlikely	Medium	Strong	Priority 4
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Minor	Unlikely	Low	Strong	Priority 5
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Minor	Unlikely	Low	Strong	Priority 5
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Minor	Unlikely	Low	Strong	Priority 5
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Minor	Unlikely	Low	Strong	Priority 5
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Minor	Unlikely	Low	Strong	Priority 5

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	Unlikely	Medium	Strong	Priority 4
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Minor	Unlikely	Low	Strong	Priority 5
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Minor	Unlikely	Low	Strong	Priority 5
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Minor	Unlikely	Low	Strong	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	Weak	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 following recommendations were made by the 2019 review.

Issue 1/2019

Asset planning

1.1 Asset Management Plan covers key requirements, 1.9 Plans are regularly reviewed and updated

Review of AMS: 12.1 A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current

The AMP did not include the following mandatory elements of an effective AMP:

- Contingency arrangements
- Future demand and forecast (demand drivers highlighted)
- Arrangements for review and update of the AMP.

The Newman AMP for FY2019 - FY2023 was last reviewed on 2 July 2018, was still in a draft iteration with the following sections remaining to be completed:

- 4.1.2 Basis of Operation and Maintenance Program - Asset Strategy
- 4.1.3 Basis of Operation and Maintenance Program - Risk and Opportunities
- 5.1 Key Assets
- 5.2 Historical Asset Performance

Recommendation 1/2019	**Action Plan 1/2019**
AETRH should expand the AMP to include: 1. The following elements: a) Contingency arrangements (Section 9) b) Future demand and forecast (Section 10). c) Arrangements for review and update of the AMP (Section 12) d) Ideally the AMP would reference the 12 key processes in the asset management lifecycle 2. Guidance on processes utilised in the below sections, which are currently incomplete: a) 4.1.2 Basis of Operation and Maintenance Program - Asset Strategy b) 4.1.3 Basis of Operation and Maintenance Program - Risk and Opportunities c) 5.1 Key Assets d) 5.2 Historical Asset Performance 3. Once the above recommendations have been completed, AETRH should endorse and approve the AMP which is currently in a draft iteration.	AETRH will: 1. Consider updating the AMP to reflect the 12 key processes in the asset management effectiveness criteria by referencing: a) Contingency arrangements (Section 9) b) Future demand and forecast (Section 10) c) Arrangements for review and update of the AMP (Section 12). 2. Complete the following sections in the AMP which are currently not finalised: a) 4.1.2 Basis of Operation and Maintenance Program - Asset Strategy b) 4.1.3 Basis of Operation and Maintenance Program - Risk and Opportunities c) 5.1 Key Assets d) 5.2. Historical Asset Performance. 4. Endorse and approve the finalised iteration of the AMP **Responsible Person**: Head of Operations **Target Date**: 30 June 2020

Appendix B – References

AETRH representatives participating in the review

- Operations Manager, Pilbara
- Plant Superintendent, Newman Power Station
- Head of Operations, Alinta Energy
- Manager WA Retail Regulation, Alinta Energy.

AAG staff participating in the review		**Hrs**
• Margaret-Mary Gauci	Senior Consultant	3
• Tanuja Sanders	Senior Engineer	34
• Andrew Baldwin	Executive Director	28.5
• Stephen Linden	Director (QA review)	1

Key documents and other information sources examined

- Alinta Energy Asset Management Policy
- Alinta Energy Asset Management Framework
- Newman Power Station Asset Management Plan
- Alinta Energy 220kV Transmission Line Asset Management Plan
- Power Purchase Agreement – Roy Hill Iron Ore Pty Ltd
- Interconnection Agreement – Alinta Energy Transmission (Chichester) Pty Ltd
- Alinta Energy Compliance records specific to AETRH
- Newman Power Station Equipment Hierarchy
- Roy Hill Transmission Line Equipment Hierarchy
- Extensive list of Operations & Maintenance Procedures & Strategies
- Planned Outage Schedules
- Operator Rounds Check Sheets
- Emergency Response Plan, Newman Power Station
- Trainee Training Reports
- Sample Ellipse system records of maintenance activity
- Example Plant Condition Dashboard
- Example monthly transmission asset performance reports
- Sample Field Service Reports
- Vegetation Management Plan
- Sample Ellipse Work Order records and screenshots
- Alinta Energy Group IT policies and procedures
- Alinta Energy Risk Management Framework
- Alinta Energy Fleet Risk Summary
- Example Risk Management Tool

- Example InControl Event Reports
- AETRH P&L Budget vs Actuals FY22
- Capital Project Forecasts
- Representations from the Head of Operations, Alinta Energy and Operations Manager, Pilbara