

Robe River Mining Co Pty Ltd

Water Services Licence (WL45)

2025 Asset Management System Review

Final report

October 2025



ASSURANCE
ADVISORY
GROUP

Level 11, 251 Adelaide Terrace
PERTH WA 6000

28 October 2025

Sara O'Connor
Executive Director Regulation
Economic Regulation Authority
Level 4, Albert Facey House
469 Wellington Street
PERTH WA 6000

Dear Sara

Water Service Licence (WL45) – 2025 Asset Management System review report

We have completed the Water Services Licence Asset Management System Review for Robe River Mining Co Pty Limited for the period 1 May 2021 to 30 April 2025 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

Stephen Linden

Director

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1. Independent auditor's assurance report

Conclusion

We have undertaken a limited assurance engagement on the effectiveness of Robe River Mining Co. Pty Ltd's (**Robe River**) Asset Management System (**AMS**), relating to its Water Services Licence (WL45) (the **Licence**) for the period 1 May 2021 to 30 April 2025 (**review period**).

In our opinion, based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Robe River 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: Water 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 conclusion

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.

Robe River's responsibility for the AMS

Robe River 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 Robe River's AMS for assets subject to the Licence for the period from 1 May 2021 to 30 April 2025. ASAE 3500 requires that we plan and perform our procedures to obtain limited assurance about whether Robe River has established and maintained, in all material respects, an effective AMS for assets subject to the Licence, as measured by the effectiveness criteria in the Guidelines.

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

Our procedures included:

- Utilising the Review Guidelines as a guide for development of a risk assessment, which involved discussions with key staff and review of documents to perform a preliminary controls assessment
- Development of a Review Plan for approval by the ERA, and an associated work program
- Interviews with and representations from Robe River 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 Robe River's AMS requirements and standards
- Physical visit to operations located Pannawonica
- Consideration of reports and references evidencing activity
- Consideration of activities performed by Robe River that relate to operation of the assets.

Inherent Limitations

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

A limited assurance engagement relating to the period from 1 May 2021 to 30 April 2025 does not provide assurance on whether the effectiveness of Robe River's AMS for assets subject to the Licence will continue in the future.

Restricted use

This report has been prepared for use by the intended users as specified in Section 25 of the Water Services Act 2012 for the purpose of expressing a limited assurance conclusion on the effectiveness of Robe River's AMS for assets subject to the Licence for the period from 1 May 2021 to 30 April 2025. We disclaim any assumption of responsibility for any reliance on this report to any person other than the intended users as specified in Section 25 of the Water Services Act 2012, or for any other purpose other than that for which it was prepared.

Assurance Advisory Group

Stephen Linden
Director

28 October 2025

2. Executive Summary

2.1 Introduction and Background

The Economic Regulation Authority (the **ERA**) has under the provisions of the Water Services Act 2012 (the **Act**), issued to Robe River Mining Co. Pty Ltd (**Robe River**) a Water Services Licence (WL 45) (the **Licence**). Robe River is a member of Rio Tinto Iron Ore, a product group of Rio Tinto Limited (**Rio Tinto**). The Utilities Division (**Utilities**), a division within Rio Tinto Iron Ore, manages the WL45 licence on behalf of Robe River.

The Licence relates to Robe River providing a potable water supply and sewerage services in the town of Pannawonica in the Pilbara region of Western Australia. The town has approximately 400 residential and commercial properties which were built in 1970 to provide accommodation for mining staff, their families and the small number of non-mining support personnel. The operating area includes: the bore field; transmission pipeline (potable) to the town; distribution system (potable) within the town; sewerage and wastewater services assets within the town; and pipeline (sewerage and wastewater) from the town to the Waste Water Treatment Plant. The assets are well-established with potable water and sewerage systems that have been in service for 40+ years and are critical to the wellbeing of the township and operation of the mine.

Section 25 of the Act requires Robe River to provide to the ERA an asset management system review (the **review**) report conducted by an independent expert acceptable to the ERA at least 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 May 2021 to 30 April 2025 (**review period**).

The review has been conducted to assess the effectiveness of Robe River's asset management system in accordance with the ERA's March 2019 issue of the *Audit and Review Guidelines: Water Services* (**Review Guidelines**), which set out 12 key processes in the asset management life-cycle.

2.2 Findings

In considering Robe River'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 review period, Robe River had maintained a consistent suite of procedures and controls for the effective maintenance and operation of the assets providing water and sewerage services the residents of Pannawonica. Those procedures and controls are supported by Rio Tinto Iron Ore governance and Utilities Division asset management arrangements
- Robe River staff demonstrated a strong working understanding of their roles, particularly displaying an understanding of the asset management processes within their area of responsibility
- There are four opportunities for Robe River to further improve elements of its asset management processes and practices (where criteria are rated as "B" or "2"). *We raised these potential improvement opportunities with Robe River staff.*

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

- For the asset management process and policy definition adequacy ratings:
 - 55 are rated as "Adequately defined"
 - 1 is rated as "Requires some improvement"
 - 2 are not rated
- For the asset management performance ratings:
 - 46 are rated as "Performing effectively"
 - 4 are rated as "Opportunity for improvement"
 - 8 are not rated.

2.3 Robe River's response to previous review recommendations

There were no recommendations from the previous review.

2.4 Recommendations to address current asset system deficiencies

A. Resolved during current review period

B. Unresolved at end of current review period

Not applicable – this review does not make any recommendations to address asset system deficiencies.

3. Scope of works

3.1 Scope and objectives

We have conducted a limited assurance engagement in order to state whether, in our opinion, based on our procedures, Robe River has established and maintained, in all material respects, an effective AMS for assets subject to the Licence during the period 1 May 2021 to 30 April 2025, as measured by the effectiveness criteria in the Guidelines.

Our engagement was conducted in accordance with Australian Standard on Assurance Engagements ASAE 3500 Performance Engagements, issued by the Australian Auditing and Assurance Standards Board and provides reasonable assurance as defined in ASAE 3500. The procedures we performed are described in more detail in section 3.2 below.

A limited assurance engagement in accordance with ASAE 3500, to report on the effectiveness of Robe River's AMS for assets subject to the Licence involves performing procedures to obtain evidence about processes and controls designed and implemented within Robe River's AMS for assets subject to the Licence. The procedures selected depend on our judgement, including the identification and assessment of risks of Robe River'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 Robe River'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 1.1 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 2.1 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 3.1 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 4.1 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 5.1 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 6.1 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 7.1 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 8.1 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 10.1 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 11.1 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 12.1 Independent reviews (e.g. internal audit) are performed of the asset management system

Each key process and effectiveness criterion is applicable to Robe River'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.

3.2 Approach and work schedule

Our approach for this review involved the following activities, which were undertaken during the period May to September 2025:

- 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, and an associated work program
- Correspondence and interviews with Robe River and Rio Tinto staff to gain an understanding of process controls in place (see Appendix B for staff involved)
- Site visit to Robe River's Pannawonica township operations with a focus on understanding the 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 Robe River's AMS (see Appendix B for reference listing)
- Obtained representations from Robe River staff regarding the occurrence of activities related to asset management processes and sub-criteria assessed by this review
- Consideration of the resourcing applied to maintaining those controls and processes
- Validated findings with Robe River staff.

Review fieldwork was performed through a combination of a site visit to Robe River's operations in the Pilbara Region of WA and remotely via email exchange and Microsoft Teams calls.

4. Summary of Ratings

In accordance with the Guidelines, the assessment of both the process and policy definition adequacy 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 significant 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 5). Descriptions of the effectiveness criteria can be found in section 5 and the Review Plan at Appendix A.

Table 3: AMS effectiveness summary

Table 3: AIMS 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 4	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	Not rated	Not rated
1.7	Costs are justified and cost drivers identified	Priority 5	A	1
1.8	Likelihood and consequences of asset failure are predicted	Priority 4	A	1
1.9	Asset management plan is regularly reviewed and updated.	Priority 5	A	1
2. Asset creation and acquisition			A	Not rated
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	Priority 4	A	Not rated
2.2	Evaluations include all life-cycle costs	Priority 4	A	Not rated
2.3	Projects reflect sound engineering and business decisions	Priority 4	A	Not rated
2.4	Commissioning tests are documented and completed	Priority 4	A	Not rated
2.5	Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	Priority 2	A	Not rated
3. Asset disposal			A	1
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Priority 4	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

			Ratings	
Ref	Asset management process and effectiveness criteria	Review priority	Process and policy	Performance
4. Environmental analysis			A	1
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	1
4.3	Compliance with statutory and regulatory requirements	Priority 4	A	1
4.4	Service standard (customer service levels etc) are measured and achieved.	Priority 4	A	1
5. Asset operations			A	1
5.1	Operational policies and procedures are documented and linked to service levels required	Priority 4	A	2
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	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	A	1
6. Asset maintenance			A	1
6.1	Maintenance policies and procedures are documented and linked to service levels required	Priority 4	A	1
6.2	Regular inspections are undertaken of asset performance and condition	Priority 2	A	2
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Priority 2	A	1
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Priority 4	A	1
6.5	Risk management is applied to prioritise maintenance tasks	Priority 4	A	1
6.6	Maintenance costs are measured and monitored	Priority 4	A	1
7. Asset management information systems			A	1
7.1	Adequate system documentation for users and IT operators	Priority 5	A	1
7.2	Input controls include suitable verification and validation of data entered into the system	Priority 4	A	1
7.3	Security access controls appear adequate, such as passwords	Priority 5	A	1
7.4	Physical security access controls appear adequate	Priority 5	A	1
7.5	Data backup procedures appear adequate and backups are tested	Priority 4	A	1
7.6	Computations for licensee performance reporting are accurate	Priority 5	A	1
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	A	2
8.3	Probability and consequences of asset failure are regularly assessed	Priority 2	A	1
9. Contingency planning			A	1
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Priority 2	A	1
10. Financial planning			A	1
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve those	Priority 4	A	1
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Priority 5	A	1
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Priority 5	A	1
10.4	The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	Priority 5	A	1
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Priority 4	A	1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Priority 4	A	1
11. Capital expenditure planning			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 4	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	1
12.1	A review process is in place to ensure the asset management plan and the asset management system described in it remain current	Priority 5	A	1
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Priority 5	B	2

5. 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 Adequacy/Performance rating: [Adequately defined \(A\)](#) / [Performing effectively \(1\)](#)

Effectiveness criteria	Findings
1.1 Asset management plan covers the processes in this table	Via the Rio Tinto Iron Ore, Utilities Division, Robe River has maintained an Asset Management Improvement Plan (AMIP) – Water and Wastewater Services since 2001, with reviews and updates on an annual basis since 2007. We examined in detail the most current version, last revised in December 2024. The AMIP includes the following information: • A comprehensive introduction including: ▪ Operating and Maintenance Environment; Legislative and Licensing Environment; and Corporate Environment ▪ Structure; Responsibilities for Asset Management ▪ Risk Management ▪ Drinking water quality management ▪ Training and Development ▪ Operating and Maintenance manuals ▪ Spares ▪ Operating Costs ▪ Asset Utilisation ▪ Condition Based Risk Management ▪ Customer Services • A comprehensive description of the asset management system, including: ▪ Asset Management System Overview (flowchart) ▪ Policy statements, flowcharts and descriptions for each of the 12 key processes in the asset management life cycle 12 processes outlined in the Review Guidelines • A comprehensive asset system plan, outlining strategic objectives for each function, key tasks, actions, supporting data references, target dates and measures • Additional information included in Appendices 1 to 7.
	Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
1.2 Planning processes and objectives reflect the needs of all stakeholders and is integrated with business planning	We observed that Robe River's AMIP provides for related business and asset planning processes in line with Rio Tinto Iron Ore Group's hierarchical business planning. Specifically: • The Iron Ore Group Strategy informs the Group's Business Plan over a five year horizon, which in turn informs the Group's Annual Plan • The Utilities Division, which manage Robe River's operations, is fully incorporated into the Iron Ore Group's planning processes and objectives • The Utilities Business Plan (last updated in 2021) also provides explanatory context for the Division's business and asset planning, including a vision for ensuring best practice asset management to provide uninterrupted water and wastewater services.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.3 Service levels are defined in the asset management plan	We observed that Robe River's water and wastewater service levels are defined in the AMIP, which references the following two key performance areas: • Health, Safety, Environment and Quality compliance, which addresses drinking water quality, wastewater quality, safe operation and maintenance of water and wastewater assets for customers, employees and other persons, the control of discharge to the environment, and the management of water services in a manner that does not adversely affect the environment • Reliability Assurance, which addresses provision of water and wastewater services of a high standard of quality and continuity, with a minimum of breakdowns. The defined services levels are: ▪ Less than 20 water main breaks per 100km of main ▪ Percentage of properties receiving pressure and flow that meets the standards set out in the Operating Licence (minimum static pressure = 15m, maximum static pressure = 100m, minimum flow = 20 litres per minute) ▪ Less than 40 sewer breaks/chokes per 100km of main.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.4 Non-asset operations (e.g. demand management) are considered	We observed that: • Water assets maintained in Pannawonica are designed to service the current size and maximum intended size of the town, with very little (if any) further development or extension planned • Robe River's operations and the long-standing stability in the Pannawonica town population means there is no driver for capital investment to address any growth in demand and therefore there is limited capacity for any effective demand management or other non-asset options.	
	Adequacy Rating: Not rated	Performance Rating: Not rated

Effectiveness criteria	Findings	
1.5 Lifecycle costs of owning and operating assets are assessed	We observed that Robe River's: - Asset Lifecycle Planning process is detailed at Item K of the Asset System Plan outlined in the AMIP - Asset management process provides for effective asset lifecycle planning, including measurement and recording of asset lifecycle costs at the point of Asset Creation.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.6 Funding options are evaluated	The costs of providing water and wastewater services at Pannawonica are fully funded by Rio Tinto as an operating cost of the Rio Tinto Iron Ore Group's mining operations. Other funding options are not relevant to Robe River's operations.	
	Adequacy Rating: Not rated	Performance Rating: Not rated
1.7 Costs are justified and cost drivers identified	We observed that: - Robe River applies zero-based budgeting, with cost drivers justified to provide safe, efficient and reliable water and wastewater services - Robe River's operations and maintenance costs are reported quarterly with variance from budget to actual identified for review by management.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.8 Likelihood and consequences of asset failure are predicted	We observed that Robe River has applied the following mechanisms for predicting the consequences and likelihood of water and wastewater asset failure: - The RTIO-AM-0202897 Water & Wastewater Asset Risk Contingency Robe Valley (including the Pannawonica Town) shows the predicted likelihood, consequence and risk of various asset failures together with existing contingency plans for possible failure events - Regular preventative maintenance provides for regular assessment of asset performance.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.9 Asset management plan is regularly reviewed and updated.	We observed that over the duration of the review period, Robe River's AMIP was reviewed and updated on an annual basis.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

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 Adequacy/Performance rating: Adequately defined (A) / Not rated

General Findings: For the period subject to this review, Robe River had not undertaken any material asset creation and acquisition activities beyond minor upgrade or repair projects. Also, Rio Tinto Iron Ore's RIO-AM-0170583 Asset Strategy for Ageing Water & Wastewater Towns indicates that no town growth is forecast for Pannawonica with the population remaining constant for the foreseeable future. Consequently, there are no major planned infrastructure upgrades for at least five years. Therefore, we have not rated the performance of Robe River's Asset creation and acquisition process.

Effectiveness criteria	Findings	
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	We observed that through Rio Tinto Iron Ore's Capital Expenditure Application approval process, Robe River has the following processes in place to manage the evaluation of projects for new assets: • An Initiation Form is used to describe the problem statement (or opportunity), the consequence of the project not proceeding and the project priority • The "Blue Sheet" planning tool which details risks, assesses options and describes the business justification (e.g. health, safety, environment, reliability, compliance or regulatory). The Bluesheet requires approval of the Maintenance Manager • Presentation of the project business case in the formal Capital Expenditure Application, which incorporates information on approvals (e.g. environmental) and lifecycle costing. Capital Expenditure Applications are reviewed by Rio Tinto Iron Ore's Business Analysts.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated
2.2 Evaluations include all life-cycle costs	We observed that Robe River's capital planning process provides for all lifecycle costs to be assessed as part of the Capital Expenditure Application approval process.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated

Effectiveness criteria	Findings	
2.3 Projects reflect sound engineering and business decisions.	We observed that through Rio Tinto Iron Ore's Capital Expenditure Application approval process, Robe River has the following processes in place to manage the assessment of projects: • Evaluation of project applications are conducted with both engineering and finance personnel input • Evaluation results are detailed and approved by relevant personnel to ensure all engineering, finance, environmental, health and safety, compliance and regulatory and aspects are addressed.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated
2.4 Commissioning tests are documented and completed.	We observed that Rio Tinto Iron Ore's Asset Management Guideline 'Operational Readiness' (GN-A016) adequately describes the commissioning process, which provides for: • Commissioning tests to be documented and completed prior to handover • Commissioning test results to be formally shared with site operations for sign-off.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated
2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	We observed that: • Robe River utilises the Rio Tinto Iron Ore LAORS Approval / Agreement and Legislative Requirements Register as a centralised repository for the ongoing legal, regulatory and safety obligations related to the water and wastewater assets • Those obligations are tracked using the Utilities Division Statutory Reporting & Communications Guide and quarterly status reports • Appendix 6 of Robe River's AMIP outlines the legal, regulatory and safety obligations related to Robe River's Water Service License obligations.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated

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 Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process.	We observed that: - Robe River's AMIP provides for an annual, structured review of under-utilised and under-performing assets - During the review period: - No assets were determined to be under-utilised - Underperforming assets were identified through sewer condition monitoring programs. Provision is also made for underperforming assets to be identified through maintenance tasks and day to day operations.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	We observed that: - Robe River's AMIP provides for the Utilities Division Maintenance and Maintenance Engineering team to perform a structured assessment of the reasons for any under-utilisation or under-performance of assets, with corrective action to be determined. That corrective action could involve replacement, maintenance, servicing or disposal - Robe River's asset disposal process is detailed in the Rio Tinto Iron Ore Capital Accounting Manual, and is accommodated by the Asset Management Guidance Note on Asset Management Tactics Development and Management - During the review period: - No assets were determined to be under-utilised - Suitable corrective action was initiated for underperforming assets - No assets were disposed of.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings
3.3 Disposal alternatives are evaluated.	We observed that: • The Utilities Division Asset Strategy for Ageing Water and Wastewater Assets (including the Pannawonica Town) provides for potential replacement of assets if refurbishment or rolling upgrade options are determined to be unsuitable • During the review period: ▪ The rolling upgrade option continued to be applied to Robe River's assets ▪ No assets were determined to be under-utilised and no disposal alternatives were evaluated.
	Adequacy Rating: Adequately defined (A) Performance Rating: Not rated
3.4 There is a replacement strategy for assets.	We observed that: • The Utilities Division Asset Strategy for Ageing Water and Wastewater Assets (including the Pannawonica Town) reflects the risk and condition-based replacement strategy for assets • During the review period, the rolling upgrade option continued to be applied to Robe River's assets and no assets were replaced (in accordance with the strategy and plan) • The Pannawonica town is forecast to have a remaining life in the order of 10-15 years, which is aligned with the life of Rio Tinto Iron Ore's mining operations. This expected timeframe supports the current strategy for refurbishment or rolling upgrades rather than replacement.
	Adequacy 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 Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
4.1 Opportunities and threats in the asset management system environment are assessed.	We observed that: • Opportunities and threats are addressed in the AMIP, with specific references to asset risk assessments (as part of Site Reliability Plans), drinking water quality risk assessments (within drinking water quality management plans), the Utilities risk register (for external risks) and chlorine system risk assessments • Risk management policies, including assessment consequences of failure, are applied in: ▪ Utilities Division risk registers ▪ Water / wastewater – asset risk / contingency plans ▪ Recycled Water Quality Management Plan risk assessment ▪ Site reliability plans ▪ Drinking Water Quality Management Plan ▪ Sewerage Services Risk Management Plan ▪ Chlorine management manual.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved.	Through discussion with Utilities Compliance team members, consideration of relevant supporting documentation and review of relevant data, we observed that the following practices and results demonstrate that water services performance standards for the Pannawonica town are appropriately measured and achieved: • Drinking water quality testing achieved 100% compliance for microbiological and health related chemical parameters for the Pannawonica town. Note that 50% compliance was achieved for Aesthetic criteria for pH in the year 2023/24 • There were no customer complaints relating to the quality of drinking water supplied by Pilbara Utilities during the review period • Emergency Response Plan RTIO-0958706 outlines all scenarios and management of any incident that could have a significant impact on the site • The WWTP licence operates in accordance with Operating licences issued pursuant to the Environmental Protection Act 1986 (WA) by the Department of Water and Environmental Regulation. Copies of all annual reports tracking performance of the WWTP effluent quality against internal standards were sighted • Unplanned service outages are recorded in an Outages Database – no unplanned outages were recorded for Pannawonica during the audit period • The Mock Incident Scenario exercise was conducted at the RTIO Perth, Operations Centre on 17 April 2024 for both Hamersley Iron and Robe River MOUs.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
4.3 Compliance with statutory and regulatory requirements.	We observed that: • A new MoU with the Department of Health for Robe River Mining Co Pty Ltd for Drinking Water Quality was executed in January 2020 and is currently operational. As required by Water Licence 45, issued pursuant to the Water Services Act 2012 (WA), this MoU covers the operating area of the Pannawonica town • Drinking water quality testing achieved 100% compliance for microbiological and health related chemical parameters for the Pannawonica town • Robe River is not required to enter into an MOU with the Department of Health for Sewerage Services as the customer base is less than 400 customers. • Annual performance reports are provided to ERA and publicly available on the Robe River website • Annual environmental compliance reports in relation to the Wastewater Treatment Plant reflected Robe River's full compliance with its environmental licences • Annual groundwater monitoring summaries and three yearly groundwater monitoring reviews provided to the Department of Environment and Water Regulation reflect Robe River's full compliance with its Groundwater Licence.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
4.4 Service standard (customer service levels etc) are measured and achieved.	Robe River's water and wastewater service levels are defined in the AMIP, which references the two key performance areas as Health, Safety, Environment and Quality compliance, and Reliability Assurance (refer to Criteria 1.3 for detail). We observed that Robe River measures and demonstrates that it has achieved those service levels via the following practices and results: • Health, Safety, Environment and Quality compliance: ▪ Robe River maintains a number of customer policies to ensure customers are informed on all aspects of their water supply. These policies are publicly available online and available to all customers ▪ Robe River engages customers via phone, email and letters in response to queries and requests for information on a daily basis. In addition to this, ad hoc information is also published in print and distributed to customers ▪ Robe River maintains a thorough Complaint and dispute resolution policy and process, including provision of customers with an external avenue for complaint resolution ▪ The Annual Drinking Water Quality Report is made available to the community ▪ There were no customer complaints relating to the provision of water and wastewater services during the review period ▪ Annual environmental compliance reports in relation to the Wastewater Treatment Plant reflected Robe River's full compliance with its internal standards and environmental licences • Reliability Assurance: ▪ An Outages database records any unplanned interruptions to water and wastewater services ▪ There were no interruptions to water and wastewater services during the review period ▪ Service pressures (between 15m and 100m) and flow (min 20L/minute) are not measured for the Pannawonica town as the simple gravity supply system ensures the level of pressure supplied to customers remains within this range.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.5 Asset operations

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

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

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings
5.1 Operational policies and procedures are documented and linked to service levels required	Through discussion with Utilities Compliance team members and the Utilities Maintenance Supervisor, examination of relevant supporting documentation and walkthrough of typical operational tasks performed on site, we observed that: • The AMIP refers to the Water and Wastewater Site Reliability Plans and Operational Procedures as the documents which provide operational policies and procedures linked to service levels. Defined service levels are listed at Effectiveness criterion 1.3 above • In relation to water and wastewater services to the Pannawonica town, the HSEQ area covers groundwater quality, drinking water quality, wastewater quality, safe operation and maintenance of water and wastewater assets for customers, employees and other persons, the control of discharge to the environment, and the management of water services in a manner that does not adversely affect the environment • The majority of water assets are operated remotely from the Rio Tinto Iron Ore Operations Centre in Perth via CITECT Control System. Where possible, operational process are automated, to improve reliability and reduce HSEQ risk: ▪ Bore operation – automated operation based on CITECT operating hierarchy and linked to collector tank levels ▪ Chlorination operation – automated via CITECT, based on flow pace / residual trim, automatic duty / standby cylinder changeover, leak detection shutdown, and Failsafe operation (linked to pump station operation) ▪ Water quality operational monitoring (refer Drinking Water Quality Risk Management Plan) – online chlorine residual for Pannawonica) ▪ Delivery pump operation – automated based on storage tank levels via CITECT ▪ Wastewater operation – gravity-based systems with associated pond overflows to licence discharge points • Non-automated operational procedures are conducted using Standard Work Procedures (SWP's) such as: ▪ Chlorine cylinder / drum changeout ▪ Chlorine leak procedure ▪ Removal and installation of bore pumps ▪ Managing a sewer overflow

Effectiveness criteria	Findings
5.1 (cont.)	• The reliability assurance area relates to the provision of water and wastewater services of a high standard of quality and continuity, with a minimum of breakdowns • Site Reliability Plans provide an overview of the operation of the water and wastewater systems, outline the relevant regulatory requirements, list key performance indicators, list critical assets (from the Asset Risk and Contingency Plan) and the resulting prioritisation of operational tasks. Operating and Maintenance (O&M) procedures are listed with reference to SAP system for access to the actual procedures. The operating protocols briefly outline the responsibility for remote and local operations, responsibilities for developing, undertaking and reviewing O&M plans, responsibility for attending to critical alarms and attending to incidents • The WWTP Operations and Maintenance Guide outlines O&M activities for the WWTP • Standard work procedures (SWPs) have been developed for operating tasks. SWPs outline resourcing, training required, tools and PPE required for the task, and are detailed in a SWP register • O&M tasks are loaded into SAP to be carried out. A sample spreadsheet report of planned (PM02) and corrective tasks (PM03) was sighted for the month of May 2025 • Operators conduct daily routine inspections in accordance with the Infrastructure maintenance standard specification and used hand-held electronic tablets to record and sign all their log sheets. The Supervisor then checks all weekly logs at the end of each week. During our site visit, we observed that the WWTP operator log sheets for 19 and 20 May 2025 were incomplete, although the operator had finished his rounds and displayed detailed knowledge of the working condition of assets. By not completing logs in a timely manner (i.e. waiting to the end of the week), key records and potentially critical observations could be missed. This also promotes a degree of complacency among experienced staff. <i>We raised this matter with Robe River staff as an improvement opportunity.</i>
	Adequacy Rating: Adequately defined (A) Performance Rating: Opportunity for Improvement (2)

Effectiveness criteria	Findings
5.2 Risk management is applied to prioritise operations tasks	Through discussion with Utilities Compliance team members and the Utilities Planner, and examination of relevant supporting documentation, we observed that: • O&M tasks are assigned with a priority code by the Planner in the SAP Work Order System. Priority ratings (I, II, III, IV) reflect aspects such as asset criticality, regulatory requirements and corrective activities • I, II, III and IV tasks are carefully scheduled to avoid over allocation of high priority tasks • Risk assessment documents are prepared for water and wastewater operational activities, including consequence and likelihood descriptors and contingencies such as maintenance tasks, monitoring, and use of backups or spares • Water Safety Plans identify the ongoing operational monitoring required to verify the risk assessment for each hazardous event considered • Associated Process Control tables are developed, and for every parameter monitored there is a target (and critical limit if applicable) and monitoring frequency specified, together with a response action for out-of-spec results. Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)
5.3 Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition.	Through discussion with Utilities Compliance team members and the Utilities Planner, and review of the Asset Register on-line, we determined that: • The Asset Register, which is a module of the Rio Tinto Iron Ore SAP system, contained details of all assets such as asset type, location, material and asset condition fields and accounting data • The Asset Register does not include pipeline infrastructure as those pipeline assets are managed in a plan format. The latest design drawings for the pipeline assets are readily available on-line in Water and Wastewater Boundary Agreement documents. Pilbara Utilities has also developed a GIS based asset register (ARMS – Asset Register Mapping System) to ensure that data can be analysed based on asset condition and geographic location. The SAP system for recording any maintenance or incidents on a pipeline also allows the asset history to be reviewed. Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)
5.4 Accounting data is documented for assets.	We observed that throughout the review period, as part of the Rio Tinto Iron Ore Utilities Division, Robe River maintained corporate records to capture appropriate accounting data for Robe River's assets, including relevant costs, values and dates/periods. Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)
5.5 Operational costs are measured and monitored.	We observed that throughout the review period, Robe River monitored operational and maintenance costs through monthly Utilities Cost Reports, which are divided by area, asset, and functional task. These costs are derived from the SAP system, reflect true costs of operations and maintenance, and provide for comparison of actual and target cost. Adequacy 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 Utilities Maintenance Supervisor, and review of relevant documents, we determined that: • Each regionally based team consists of a combination of residential and fly-in, fly-out employees. Staffing levels at Pannawonica consist of a Mechanical Supervisor plus a team of four staff. The Supervisor and teams work on a 6/8 day roster allowing change-over of the Supervisor and team on a regular basis • Staff training is completed both internally (e.g. inductions, awareness training), and externally (e.g. chlorine awareness training, and Certificate 3 in Water Operations). In addition, staff can complete Asset Management System training through the Rio Tinto Asset Management Professional Development Program • Training programs are based on an assessment of needs / gap analysis, performed by the Utilities Training Team. Training programs are class or web based and are booked via the Rio Tinto Iron Ore Prospect system. We reviewed the current Training Requirement Matrix • In relation to the completion of O&M tasks allocated each week, in instances where tasks are not completed, these are tracked and reallocated in the following week for completion. We sighted a sample of the dashboard used to track tasks not completed, showing the % resource utilisation which was consistently between 88% and 98%. These indicate consistently low numbers of incomplete tasks and staff resourcing matched well to the scheduled tasks.
	Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)

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 Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
6.1 Maintenance policies and procedures are documented and linked to service levels required.	Through discussion with the Utilities Maintenance Supervisor and consideration of relevant supporting documentation, we observed that: - Operational and maintenance policies and procedures are documented in Site Reliability Plans and within the SAP system. Those policies and procedures are linked to the defined service levels that are listed at Effectiveness criterion 1.3 above - The SAP Work Management system contains the overall maintenance system, including maintenance plans, maintenance procedures, maintenance tactics, process descriptions (PRTs), function locations, costs, and the notification system - Maintenance plans are developed and implemented by long term and short term Planners and Schedulers with status recorded in SAP. A 12 week Look Ahead process is used to refine the plans based on ongoing and current operational conditions.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings
6.2 Regular inspections are undertaken of asset performance and condition.	Through discussion with the Utilities Maintenance Supervisor, consideration of relevant supporting documentation and walkthrough of typical maintenance tasks performed on site, we observed that: - Asset inspections are undertaken in accordance with the maintenance plan inspections and Maintenance Engineering Condition Monitoring program. Findings from these inspections are raised as notifications in SAP, and also inform the Utilities Water and Wastewater Asset Register (including Health Index) and Capital Plans - Sewer mains are inspected by CCTV so that condition assessments and health index scores can be updated, and to determine assets for replacement in capital plans, along with ongoing sewer maintenance activities - Strategic objectives for assets are driven by the requirement to provide safe and reliable water and sewer systems and are identified by a cascading series of plans (e.g. Utilities business plan, Utilities asset management strategy, divisional business plan, water and wastewater strategic plan, Asset Management Improvement plan, and asset replacement strategy), which are updated on an annual basis - No assets were determined to be underutilised in 2022, however some underperforming assets were identified from the maintenance tasks, day to day operations, and the condition monitoring program. Underperforming assets are reviewed by the Maintenance and Maintenance Engineering teams. This can be based on follow up work from a maintenance task (subsequent notification) or a condition monitoring finding, or a planned condition review - Corrective actions based on these reviews and condition monitoring program findings can include replacement, maintenance, servicing and disposal. In 2024, no assets were found to be underperforming beyond those identified in previous sewer condition monitoring programs - Sites inspected during our site visit on 20 May 2025 included the wastewater pump station, the wastewater treatment plant, the town potable water tank site and chlorinator and a typical bore. All sites were clean and tidy and the assets appeared in good condition, however we observed that some of the pressure gauges on the pipeline from the groundwater bores were non-functional and some had caps missing. These instruments are considered to be crucial components of the asset system as they provide the operator with ongoing data such as over-pressurisation of mains at times when there may be loss of communication (e.g. in the event of telemetry failure [through fault, weather damage or malicious damage], decommissioning or re-commissioning after an outage), or the telemetry trailers have been removed due to bad weather conditions. We also observed that the chlorinator which is serviced annually displayed "SERVICED 15/06/24, NEXT DUE 15/12/24" indicating the stickers were not replaced with new dates although the equipment was serviced. <i>We raised these matters (relating to replacement of non-functional pressure gauges and display of accurate dates of service on the equipment) with Robe River staff as an improvement opportunity.</i>
	Adequacy Rating: Adequately defined (A) Performance Rating: Opportunity for Improvement (2)

Effectiveness criteria	Findings	
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	Through discussion with the Utilities Maintenance Supervisor and the Utilities Planner, consideration of relevant supporting documentation, and sample testing of evidence of inspections and maintenance activity, we determined that: • Maintenance plans and tactics are regularly reviewed (generally annually), in conjunction with water and wastewater risk assessments and contingency plans. This review process continuously informs the prioritisation of maintenance activities • Throughout the review period, Robe River maintained adequate practices and procedures to ensure that all emergency, preventative and corrective maintenance tasks were documented and completed on schedule • Records of preventative and corrective maintenance activity are maintained in SAP and monitored via scheduled and ad-hoc reporting to ensure scheduled tasks are performed.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary.	Through discussion with the Utilities Maintenance Supervisor and the Utilities Planner, consideration of relevant supporting documentation such as Project Justification Reports and Capital Proposal Forms for Pannawonica Sewer Upgrade Works 2023 and Pannawonica WWTP RAB Tank Upgrade Works 2022, we determined that: • Failures are analysed and operational / maintenance plans are adjusted based on the condition monitoring of the assets and assessment consequences of failures. The Utilities Division's Condition Based Risk Management approach takes the concept of assessing asset condition further by examining an asset's condition within its operating context (i.e. duty and environment) and applying a health index, which then allows a quantified assessment of risk and therein a basis for forming a business case • System failures are analysed by the Utilities and Asset Management Reliability Assurance teams, and Failure Mode and Effect Analysis reports are produced.	
	Adequacy 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 Utilities Compliance team members and the Utilities Planner, and examination of relevant supporting documentation, we observed that: • O&M tasks are assigned a priority code by the Planner in the SAP Work Order System. Priority ratings (I, II, III, IV) reflect aspects such as asset criticality, regulatory requirements and corrective activities • I, II, III and IV tasks are carefully scheduled to avoid over allocation of high priority tasks • Risk assessment documents are prepared for water and wastewater operational activities, including consequence and likelihood descriptors and contingencies such as maintenance tasks, monitoring, and use of backups or spares • Water Safety Plans identify the ongoing operational monitoring required to verify the risk assessment for each hazardous event considered • Associated Process Control tables are developed, and for every parameter monitored there is a target (and critical limit if applicable) and monitoring frequency specified, together with a response action for out-of-spec results.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.6 Maintenance costs are measured and monitored.	We observed that throughout the review period, Robe River monitored operational and maintenance costs through monthly Utilities Cost Reports, which are divided by area, asset, and functional task. These costs are derived from the SAP system, reflect true costs of operations and maintenance, and provide for comparison of actual and target cost.	
	Adequacy 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 Adequacy/Performance rating: [Adequately defined \(A\)](#) / [Performing effectively \(1\)](#)

Effectiveness criteria	Findings	
7.1 Adequate system documentation for users and IT operators	Through discussion with Utilities Compliance staff and consideration of relevant system documentation, we observed that: - The Robe River asset management system is supported by the following Rio Tinto Iron Ore Corporate systems and processes: - SAP maintenance planning system - SCADA CITECT water and wastewater operating and control system - HSEQ controlled document management system - Prospect business management system, including incident reporting - Active Risk Manager system - Robe River (through Rio Tinto Iron Ore) maintains an appropriate suite of technical documentation for its core SAP and SCADA applications, with that documentation readily available to Robe River staff.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.2 Input controls include suitable verification and validation of data entered into the system	Through discussion with Utilities Compliance staff, consideration of relevant system documentation, and walkthrough of a sample of functions managed by the SAP asset maintenance planning system we observed that Robe River' core systems maintained appropriate data verification and validation controls and techniques.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.3 Security access controls appear adequate, such as passwords	Through discussion with Utilities Compliance staff and consideration of relevant supporting documentation, we observed that Robe River (through Rio Tinto Iron Ore) has established and maintained procedures and controls which enable all key system access and permissions (including remote access) to be managed in accordance with Rio Tinto Iron Ore IT standards, policies and procedures.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings
7.4 Physical security access controls appear adequate	Through discussion with Utilities Compliance staff and consideration of relevant supporting documentation, we observed that Robe River (through Rio Tinto Iron Ore) has established and maintained appropriate processes and procedures relating to the access of facilities and the physical protection of information assets and systems, including physical access restrictions to the Perth Administration office. Specifically in the context of access to computer server rooms and other control systems on site (Pannawonica), we observed that: • Access to site operations buildings, main control rooms and key plant control facilities is via secure, fenced and locked compounds, with all keys managed by designated Utilities staff • All visitors and contractors are required to report to and be accompanied by designated Utilities staff. Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)
7.5 Data backup procedures appear adequate and backups are tested	Through discussion with Utilities Compliance staff and consideration of relevant supporting documentation, we observed that: • Procedures for managing data backup to cloud storage have been established and maintained with Rio Tinto Iron Ore Corporate IT standards • Rio Tinto Iron Ore procedures provide for regular backups of all key data in accordance with accepted industry practice, with regular testing of back-ups performed • Rio Tinto Iron Ore IT staff provide full support for Utilities staff, including management of backups for Utilities (including Robe River) data. Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)
7.6 Computations for licensee performance reporting are accurate	For the purpose of Robe River's licence performance reporting to the ERA in accordance with its Licence requirements, Robe River extracts data from the EnviroSys system, which interfaces directly with the data contained within SCADA Citect systems. i.e. data available in EnviroSys reflects the same data contained in SCADA Citect systems. Utilities Compliance staff are responsible for ensuring the completeness and accuracy of data compiled into performance reports, including the use of valid extracts from EnviroSys. Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
7.7 Management reports appear adequate for the licensee to monitor licence obligations	Through discussion with Utilities Compliance staff and consideration of relevant supporting documentation and management reporting procedures, we determined that: • Robe River's SAP and SCADA CITECT systems are capable of generating a substantial variety of reports • Management reports relating to the operation and performance of the water and wastewater service assets are produced on a scheduled basis and can also be produced on request.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Through discussion with Utilities Compliance staff and consideration of relevant supporting documentation, we observed that Robe River (through Rio Tinto Iron Ore) has established and maintained appropriate processes and procedures relating to the protection of information assets and systems, including: • Comprehensive user access controls, including user permissions and remote access • Contemporary cyber security processes and procedures.	
	Adequacy 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 Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings
8.1 Risk management policies and procedures exist and are applied to minimise internal and external risks.	Through discussion with Utilities Compliance staff and the Utilities Maintenance Supervisor; consideration of the Utilities Division's risk management practices and examination of supporting documentation, we observed that: • Robe River maintains a combination of the Rio Tinto Iron Ore corporate risk management standards (Management System Standard Element 3 – Hazard Identification & Risk Management) and the Utilities Division's operational risk management processes • From an operational perspective, Robe River incorporates risk management as a fundamental aspect of its decision making process to support and enhance its water and wastewater services. In particular: ▪ Risk-based policies and procedures are applied to the Utilities Division's operational and maintenance activities, including assignment of priority tasks based on asset criticality, regulatory requirements and corrective activities. We sighted several examples of risk based practices being applied to the Utilities Division's monitoring of water and wastewater operations, and in its asset planning process ▪ Risk assessment documents are prepared for water and wastewater operational activities, including consequence and likelihood descriptors and contingencies such as maintenance tasks, monitoring, and use of backups or spares ▪ Water Safety Plans identify the ongoing operational monitoring required to verify the risk assessment for each hazardous event considered ▪ Utilities staff displayed an understanding of known operational risks and issues, with evidence of tasks being initiated and completed to address those risks and issues. • There is evidence of risk status and risk treatment plans being monitored. We sighted evidence of risk-based decision making and instructions relevant to management of Robe River's water and wastewater assets during the review period, including contributions to asset planning. Based on our examination of the risk management processes in place, we determined that Robe River uses a well-established and consistent system for identifying and managing risks, including formal supporting procedural documentation.
	Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings
8.2 Risks are documented in a risk register and treatment plans are implemented and monitored.	Through discussion with Utilities Compliance staff; consideration of the Utilities Division's risk management practices and examination of supporting documentation, we observed that: • Robe River maintains records of its core risk management activities in the Utilities risk register (administered by the Utilities Risk Management Principal) using the Active Risk Manager system • The results of external risk assessments, assessment of service levels and asset failures, and condition monitoring programs are used in the review and update of the Site Asset Risk and Contingency Plans. A critical risk assessment of water supply, wastewater and hydrocarbons systems was updated in October 2021, and October 2022) by an external consultant, HawCroft. No critical risks were identified for the Pannawonica town systems' water and wastewater assets • The AMIP captures key actions, including those resulting from risk and contingency planning activities, which demonstrates that Robe River's risk profile is understood and used in annual planning. Our examination of the 2020 HSEQ Qualitative Risk Analysis Workshop results (RTIO-HSE-0185973) and the Asset Risk / Contingency Register for Robe Valley (RTIO-AM-0202897 – last updated December 2023) indicates that Robe River maintains an understanding of what are considered to be relatively stable operational risks and issues relating to the Pannawonica town systems' water and wastewater assets. However we also observed the following matters which indicate Robe River has an opportunity to better demonstrate the currency of its risk and risk treatment records: • The results of the most recent HSEQ Qualitative Risk Analysis (Level 2) Workshop held in December 2020 show risks were last reviewed in 2012 and did not include an update to the assigned Improvement Actions. Although we understand that this risk analysis is performed on a 5 yearly cycle (next due for review in December 2025), and that there is typically little movement in key risks, these results do not reflect risk related information contained in more current documents such as the AMIP • The Asset Risk / Contingency (Robe Valley) Register was last updated in December 2023 with very little change to the August 2022 update. The spreadsheet record itself does not reference how the register is to be reviewed for currency and what action, if any is required, particularly in relation to contingency spares, for which many are listed as "TBC" (to be confirmed). <i>We raised this matter with Robe River staff as an improvement opportunity.</i> Adequacy Rating: Adequately defined (A) Performance Rating: Opportunity for Improvement (2)

Effectiveness criteria	Findings	
8.3 Probability and consequences of asset failure are regularly assessed.	Through discussion with Utilities Compliance staff and the Utilities Maintenance Supervisor; consideration of the Utilities Division's risk management practices and examination of relevant support documentation, we observed that Robe River has applied the following mechanisms for assessing the probability and consequences of water and wastewater asset failure: • The RTIO-AM-0202897 Water & Wastewater Asset Risk Contingency Robe Valley (including the Pannawonica Town) shows the predicted likelihood, consequence and risk of various asset failures together with existing contingency plans for possible failure events • The Utilities Division's Condition Based Risk Management approach allows a quantified assessment of risk, including the probability and consequences of asset failure. This approach is reflected in the AMIP and supporting references • Regular preventative maintenance provides for regular assessment of asset performance • System failures are analysed by the Utilities and Asset Management Reliability Assurance teams, and Failure Mode and Effect Analysis reports are produced.	
	Adequacy 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 Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	Through discussion with Utilities Compliance staff and examination of the Utilities Division's emergency response and contingency planning mechanisms, we determined that: • The RTIO-AM-0202897 Water & Wastewater Asset Risk Contingency for Robe Valley (including the Pannawonica Town) shows existing contingency plans for possible asset failure events, which may impact Robe River's ability to meet its service standards. The plan is regularly reviewed, with the last review performed in December 2023 • In accordance with the Rio Tinto Iron Ore Business Continuity Work Practice, and Business Resilience and Emergency Response Guidance note, the Utilities Division has maintained a suite of emergency response procedures and management plans, which cover Robe River's operations. Those procedures and plans include: ▪ Business Continuity Plan and Recovery Strategy ▪ Business Resilience Management Plan ▪ Emergency Response Plan ▪ Natural Hazards Plan ▪ Bushfire Management Plan ▪ Cyclone Management ▪ Local Emergency Management Plans (specific to Robe River's operations) ▪ Chlorine Management Plan ▪ Unplanned Effluent Release Plan • The Utilities Division has maintained site water and wastewater contingency plans, including for failure of water mains, storage tank, water pump station, chlorination system, sewer pump station and sewer main. The contingency plans outline responses, actions and responsibilities associated with mitigating an incident or emergency, and are reviewed on an annual basis. We sighted results of desktop tests performed in 2023 • Robe River schedules annual Drinking Water Quality Emergency Response exercises. We sighted evidence of the planning and reporting for exercises held in 2021, 2022, 2023 and 2024. As an example of the exercise, the June 2022 exercise used a scenario requiring maintenance of supply during an unplanned communications outage.
	Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)

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 Adequacy/Performance rating: [Adequately defined \(A\)](#) / [Performing effectively \(1\)](#)

Effectiveness criteria	Findings	
10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve those.	We observed that throughout the review period, Robe River maintained the following processes: • The Rio Tinto Iron Ore Group Strategy informs the Group's Business Plan over a five year horizon, which in turn informs the Group's Annual Plan • The Utilities Division, which manages Robe River's operations, is fully incorporated into the Rio Tinto Iron Ore Group's planning processes and objectives, which is managed by the Rio Tinto Iron Ore Business Planning function • The Rio Tinto Iron Ore Financial Plan forms the basis of the Utilities Division operating and maintenance budget, which is prepared on a two year cycle, for the current year and following year • the Utilities Division Leadership team provides input into the Utilities Division's financial planning processes.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs.	The Utilities Division's annual operating and capital expenditure budget is aligned with Rio Tinto Iron Ore's overall business plans and is fully funded through contributions from Rio Tinto Iron Ore's mining revenue.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	The Utilities Division's financial plans focus on operating and capital expenses, which are fully funded through contributions from Rio Tinto Iron Ore's mining revenue. Accordingly, Robe River's financial plans and performance are consolidated into the Utilities Division's and ultimately, Rio Tinto Iron Ore's operating performance and statement of financial position. Note that Robe River does not generate any revenue as it does not charge customers for its services.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
10.4 The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period.	The Utilities Division's financial plans focus on operating and capital expenses, which are fully funded through contributions from Rio Tinto Iron Ore's mining revenue, which is forecast as part of Rio Tinto Iron Ore's Business Plans.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	We observed that throughout the review period, Robe River maintained the following processes: • Operations, maintenance and administration expenditure requirements are budgeted using zero based budgeting, with cost drivers justified on the basis of providing safe, efficient and reliable water and wastewater services for the Pannawonica town • Capital expenditure requirements are forecast and budgeted in line with key planning activities such as Rio Tinto Iron Ore's Asset Strategy for Ageing Water & Wastewater Towns, and in accordance with Rio Tinto Iron Ore's Capital Expenditure Application approval process.	
	Adequacy 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	We observed that throughout the review period, Robe River monitored operational and maintenance costs through monthly Utilities Cost Reports, which are divided by area, asset, and functional task. These costs are derived from the SAP system, reflect true costs of operations and maintenance, and provide for comparison of actual and target cost to enable variances to be identified and investigated where required to determine whether corrective action is required.	
	Adequacy 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 Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

Effectiveness criteria	Findings	
11.1 There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	We observed that: - Throughout the review period, Robe River maintained the following capital expenditure planning processes: - Capital expenditure requirements are forecast and budgeted in line with key planning activities such as Rio Tinto Iron Ore's Asset Strategy for Ageing Water & Wastewater Towns, and in accordance with Rio Tinto Iron Ore's Capital Accounting Manual - The Utilities Division's Capital Plan is reviewed on an ongoing basis by the Maintenance Engineering Manager and the Maintenance Engineering Leadership team and assessed in monthly management reports - The Utilities Division's current 5 Year Capital Plan lists Water and Wastewater capital projects by site (including relevant Pannawonica town sites), project status, prioritisation and funding allocation per year - For the period subject to this review, Robe River had not undertaken any major capital projects, with capital expenditure confined to minor upgrade or repair projects for water and sewer mains. Also, Rio Tinto Iron Ore's Asset Strategy for Ageing Water & Wastewater Towns indicates that no town growth is forecast for Pannawonica with the population remaining constant for the foreseeable future. Consequently, there are no major planned infrastructure upgrades for at least five years. This outcome is reflected in the AMIP.	
11.2 The 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 that the capital expenditure plan is regularly updated and actioned.		
	Adequacy 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: The asset management system is regularly reviewed and updated

Overall Adequacy/Performance rating: Adequately defined (B) / Performing effectively (2)

Effectiveness criteria	Findings	
12.1 A review process is in place to ensure the asset management plan and the asset management system described in it remain current	Robe River's AMIP, which is the main reference to Robe River's AMS, has been reviewed and updated on an annual basis by the Utilities Maintenance Engineering Water team. The most recent update is dated March 2025.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
12.2 Independent reviews (e.g. internal audit) are performed of the asset management system	Although elements of the AMS applicable to Robe River's water services assets have been subject to internal review and update, plus there have been independent reviews or audits of specific components of the system, Robe River's AMIP does not provide for an independent party to be assigned to assess the effectiveness and performance of the AMS as a whole. Notwithstanding Rio Tinto Iron Ore's robust internal practices for reviewing and updating its asset management systems, there remains value in ensuring independent advice is obtained to provide assurances on the effectiveness and performance of those systems. Note that this AMS Review in itself is not considered to meet the intent of Effectiveness criterion 12.2. <i>We raised this matter with Robe River staff as an improvement opportunity</i>	
	Adequacy Rating: Requires some improvement (B)	Performance Rating: Opportunity for improvement (2)

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

Not applicable - there were no recommendations addressing asset system deficiencies from the 2021 AMS review.

Appendix A - Review Plan

Robe River Mining Co Pty Ltd

WL45 Asset Management System Review

Review Plan

May 2025

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Introduction

Overview

The Economic Regulation Authority (the **ERA**) has under the provisions of the Water Services Act 2012 (the Act), issued to Robe River Mining Co Pty Ltd (**Robe River**) a Water Services Licence (WL 45) (the **Licence**).

Section 25 of the Act requires Robe River to provide to the ERA an asset management system review (the review) report conducted by an independent expert acceptable to the ERA at least 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 May 2021 to 30 April 2025 (review period).

The Licence relates to Robe River providing a potable water supply and sewerage services in the town of Pannawonica in the Pilbara region of Western Australia. The operating area includes: the bore field; transmission pipeline (potable) to the town; distribution system (potable) within the town; sewerage and wastewater services assets within the town; and pipeline (sewerage and wastewater) from the town to the Waste Water Treatment Plant. The assets are well-established with potable water and sewerage systems that have been in service for 40+ years and are critical to the wellbeing of the township and operation of the mine.

The review will be conducted in accordance with the ERA's March 2019 issue of the *Audit and Review Guidelines: Water Services (Review Guidelines)*. In accordance with the Review Guidelines this document represents the Review Plan (the **Plan**) that is to be presented to the ERA for approval.

Objective

The objective of the review is to independently assess Robe River's asset management system, which includes the asset management plan, and the staff and IT resources that support the plan during the audit period.

Scope

In accordance with the Review Guidelines, the review will consider the effectiveness of Robe River'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 Robe River'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
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

Key processes	Effectiveness criteria
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
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

This review will be performed as a limited assurance engagement as none of the criteria listed in the Review Guidelines are applicable for determining that a reasonable assurance engagement is required.

Robe River's responsibility for maintaining an effective asset management system

Robe River 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 Robe River's AMS for assets subject to its Licence have 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 May 2021 to 30 April 2025. 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 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.

Limitations of use

Our report will be produced solely for the information and internal use of Robe River 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 Robe River's reporting requirements of section 24 of the Act. We agree that a copy of our report may be provided to the ERA for its information in connection with this purpose, however we accept no responsibility to the ERA or to anyone who is provided with or obtains a copy of our reports.

This plan is intended solely for the use of Robe River for the purpose of its reporting requirements under section 24 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.

Independence

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

Approach

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

Risk assessment

The review will focus on identifying or assessing those activities and management control systems to be examined and the matters subject to review. Therefore, the purpose of conducting the risk assessment as a preliminary phase enables the reviewer to focus on pertinent/high risk areas of Robe River's asset management systems established for the assets subject to Robe River's licence. The risk assessment considers changes to Robe River's relevant systems and processes and any matters of significance raised by the ERA and/or Robe River. 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 Robe River 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 Robe River 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. 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 Table 18 of 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

Likelihood	Consequence		
	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 listed at Table 20 of the Guidelines. Once inherent risks and control risks are established, the audit priority can then be determined using the matrix listed at Table 21 of the Guidelines (refer to Table 3 below). Essentially, the higher the level of risk the more substantive testing is required.

Table 3: Assessment of Review Priority

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

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

Table 4: Review Priority Table

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

The key sources considered in reaching our preliminary assessment of the risk and control ratings were based on:

- Prior assessments of the state of controls during the 2021 WL45 AMS review
- Our understanding of Robe River'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 Robe River representatives and key operational and administrative staff responsible for the development and maintenance of policies and procedural type documentation
- Examination of documented policies and procedures for key functional requirements and consideration of their relevance to Robe River's asset management system requirements and standards.

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

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

Examination of performance

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

- Consideration of reports and references evidencing activity
- Interviews with Robe River representatives and key operational and administrative staff
- Physical visit to the facility's site
- Consideration of the facility's function, normal modes of operation and age.

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

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

Review fieldwork will include a visit to Pannawonica, plus meetings with Robe River and staff who are located primarily in Perth and Pannawonica. Meetings will be virtual where appropriate.

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

In accordance with the Review Guidelines, the reviewer must provide an assessment of both the process and policy definition rating (refer to Table 5 below and Table 9 of the Guidelines) and the performance rating (refer to Table 6 below and Table 10 of the Guidelines) for each of the key processes in Robe River's asset management system. Robe River is responsible for providing a separate post review implementation plan, if required.

Table 5: Asset management process and policy definition adequacy ratings

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

Table 6: Asset management performance ratings

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

Resources and team

Key Robe River contacts

The key contacts for this review are:

- Senior Advisor Regulatory Compliance, Utilities, Rio Tinto Iron Ore
- Specialist Regulatory Compliance, Utilities, Rio Tinto Iron Ore

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
- Steven Linden Director.

Resumes for key AAG staff are outlined in the proposal accepted the ERA.

Timing

The review fieldwork is scheduled to be performed over the period May to July 2025, enabling draft and final reports to be submitted to the ERA by the due dates of 30 June 2025 and 31 July 2025 respectively.

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

- Planning (including risk assessment): 7 hours
- Fieldwork (including system analysis/walkthrough and testing/review): 46 hours
- Reporting: 24.5 hours.

Appendix 1 - Risk assessment key

1-1 Criteria for classification of consequence of ineffective performance

Source: Modified from Water Compliance Reporting Manual July 2024

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

1-2 Likelihood ratings

Source: Audit and Review Guidelines: Water 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: Audit and Review Guidelines: Water 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	Moderate	Priority 4
1.2	Planning process and objectives reflect the needs of all stakeholders and are integrated with business planning	Moderate	Unlikely	Medium	Moderate	Priority 4
1.3	Service levels are defined in the asset management plan	Moderate	Unlikely	Medium	Moderate	Priority 4
1.4	Non-asset options (e.g. demand management) are considered	Minor	Unlikely	Low	Moderate	Priority 5
1.5	Lifecycle costs of owning and operating assets are assessed	Minor	Unlikely	Low	Moderate	Priority 5
1.6	Funding options are evaluated	Minor	Unlikely	Low	Moderate	Priority 5
1.7	Costs are justified and cost drivers identified	Minor	Probable	Low	Moderate	Priority 5
1.8	Likelihood and consequences of asset failure are predicted	Moderate	Probable	Medium	Moderate	Priority 4
1.9	Asset management plan is regularly reviewed and updated	Minor	Probable	Low	Moderate	Priority 5

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

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

4. Environmental analysis						
Key process		Environmental analysis examines the asset management system environment and assesses all external factors affecting the asset management system				
Outcome		The asset management system regularly assesses external opportunities and threats and identifies corrective action to maintain performance requirements				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
4.1	Opportunities and threats in the asset management system environment are assessed	Moderate	Probable	Medium	Moderate	Priority 4
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Moderate	Probable	Medium	Moderate	Priority 4
4.3	Compliance with statutory and regulatory requirements	Moderate	Probable	Medium	Moderate	Priority 4
4.4	Service standard (customer service levels etc) are measured and achieved.	Moderate	Unlikely	Medium	Moderate	Priority 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)				
Outcome		The asset operation plans adequately document the processes and knowledge of staff in the operation of assets so service levels can be consistently achieved				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
5.1	Operational policies and procedures are documented and linked to service levels required	Moderate	Probable	Medium	Moderate	Priority 4
5.2	Risk management is applied to prioritise operations tasks	Moderate	Probable	Medium	Moderate	Priority 4
5.3	Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	Moderate	Probable	Medium	Moderate	Priority 4
5.4	Accounting data is documented for assets	Moderate	Probable	Medium	Moderate	Priority 4
5.5	Operational costs are measured and monitored	Moderate	Probable	Medium	Moderate	Priority 4
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Moderate	Probable	Medium	Moderate	Priority 4

6. Asset maintenance						
Key process	Asset maintenance is the upkeep of assets					
Outcome	The asset maintenance plans cover the scheduling and resourcing of the maintenance tasks so work can be done on time and on cost					
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
6.1	Maintenance policies and procedures are documented and linked to service levels required	Moderate	Probable	Medium	Moderate	Priority 4
6.2	Regular inspections are undertaken of asset performance and condition	Major	Probable	High	Moderate	Priority 2
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Major	Probable	High	Moderate	Priority 2
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Moderate	Probable	Medium	Moderate	Priority 4
6.5	Risk management is applied to prioritise maintenance tasks	Moderate	Probable	Medium	Moderate	Priority 4
6.6	Maintenance costs are measured and monitored	Moderate	Probable	Medium	Moderate	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	Unlikely	Low	Strong	Priority 5
7.2	Input controls include suitable verification and validation of data entered into the system	Moderate	Probable	Medium	Moderate	Priority 4
7.3	Security access controls appear adequate, such as passwords	Minor	Unlikely	Low	Strong	Priority 5
7.4	Physical security access controls appear adequate	Minor	Unlikely	Low	Strong	Priority 5
7.5	Data backup procedures appear adequate and backups are tested	Moderate	Probable	Medium	Moderate	Priority 4
7.6	Computations for licensee performance reporting are accurate	Minor	Probable	Low	Moderate	Priority 5
7.7	Management reports appear adequate for the licensee to monitor licence obligations	Minor	Probable	Low	Moderate	Priority 5
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Moderate	Unlikely	Medium	Strong	Priority 4

8. Risk management						
Key process		Risk management involves the identification of risks and their management within an acceptable level of risk				
Outcome		The risk management framework effectively manages the risk that the licensee does not maintain effective service standards				
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
8.1	Risk management policies and procedures exist and are applied to minimise internal and external risks	Moderate	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	Moderate	Priority 2

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

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

11. Capital expenditure planning						
Key process	The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure for these works over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates					
Outcome	The capital expenditure plan provides reliable forward estimates of capital expenditure and asset disposal income. Reasons for the decisions and for the evaluation of alternatives and options are documented					
Ref	Effectiveness criteria	Consequence	Likelihood	Inherent risk rating	Controls assessment	Review priority
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Moderate	Probable	Medium	Moderate	Priority 4
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Minor	Probable	Low	Moderate	Priority 5
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Moderate	Probable	Medium	Moderate	Priority 4
11.4	There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented	Minor	Probable	Low	Moderate	Priority 5

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

Appendix 3 - Previous review recommendations

There were no recommendations from the 2021 AMS review.

Appendix B - References

Robe River representatives participating in the audit

- Senior Advisor Regulatory Compliance, Utilities, Rio Tinto Iron Ore
- Specialist Regulatory Compliance, Utilities, Rio Tinto Iron Ore

AAG staff participating in the audit

		Hrs
• Andrew Baldwin	Executive Director	38.5
• Tanuja Sanders	Senior Engineer	46.5
• Margaret-Mary Gauci	Senior Consultant	4.5
• Stephen Linden	Director (QA review)	0.5

Key documents and other information sources examined

- WL45 2021 Audit and Review Report
- Water Services Licence, Robe River Mining Co Pty Ltd WL45, version3, 31 August 2022
- 2019 Audit and Review Guidelines, Water Licences, March 2019
- Rio Tinto Iron Ore, Utilities Division Asset Management Improvement Plan – Water and wastewater services (2025)
- Rio Tinto Iron Ore, Utilities Division Business Plan (2021)
- Rio Tinto Iron Ore, Asset Management Guidance Note – Asset Management Tactics Development and Management (2013)
- Rio Tinto Iron Ore, Asset Management Guidance Note – Operational Readiness (2012)
- Rio Tinto Iron Ore, Utilities Division Water and Wastewater Asset Management System Overview (2025)
- Utilities Division Asset Strategy for Ageing Water and Wastewater Assets (Towns) (2025)
- Rio Tinto Iron Ore Drinking Water Quality Policy (2025)
- Utilities Division Drinking Water Quality Annual Reports – Towns (2020/21, 2022/23 and 2023/24)
- Annual Audit Compliance Reports – Pannawonica Sewerage Treatment Plant (2022, 2023, 2024)
- Annual Aquifer Reviews – Pannawonica Town (2021 – 2023)
- Pannawonica WWTP RAB Tank Capital Proposal Form (2021)
- Pannawonica WWTP RAB Tank Upgrade Short Form Capital Expenditure Approval – 2022
- Pannawonica Sewer Network Upgrades Short Form Capital Expenditure Approval – 2023
- Pannawonica Town WWTP Plant O&M Manual (2006)
- Rio Tinto Iron Ore Groundwater Operating Strategy (2017)
- Register of Utilities Division, Pannawonica staff qualifications and training (May 2025 extract)
- Register of Utilities Division, Pannawonica staff training requirements (May 2025 extract)
- Utilities Division Standard Work Procedure – Water Main Inspections (2021)
- Utilities Division Standard Work Procedure – Sewer Pump Inspection (2023)

- Utilities Division Standard Work Procedure - 70 Kg Chlorine Cylinder Change Out (2025)
- Utilities Division Standard Work Procedure - Disconnection and Connection of 920kg Chlorine Drums (2025)
- Rio Tinto Iron Ore Wastewater Treatment Plant Standard Specification (2023)
- Rio Tinto Iron Ore Waste Infrastructure – Maintenance Standard Specification (2021)
- Schedule of Works – Mechanical Robe Valley May 2025
- PM01 Mechanical Works Audit Report 2024-25
- PM02 Mechanical Works Audit Report 2024-25
- PM03 Mechanical Works Audit Report 2024-25
- Example reports of preventative and corrective maintenance works performed
- Rio Tinto Iron Ore Management System Standard Element 3 – Hazard Identification & Risk Management (2024)
- Utilities Division HSEQ Qualitative Risk Analysis Workshop record sheet (2020)
- Pannawonica Town Water Safety Plan (2024)
- Asset Risk / Contingency (Robe Valley) Register (2022 and 2023)
- Utilities Division Drinking Water Quality Risk Assessment (2024)
- Utilities Division Drinking Water Quality Annual Emergency Exercise report (2021, 2022, 2023, 2024)
- Utilities Division Drinking Water / Wastewater Contingency Plans (last updated 2024)
- Utilities Division Emergency Action Plan – Unplanned Effluent Release (2025)
- Utilities Division Local Emergency Response Plan – Chlorine (Pannawonica) (2024)
- Utilities Division Emergency Action Plan – Chlorine Management Plan (2020)
- Rio Tinto Iron Ore Business Continuity Plan Water Infrastructure and Supply (2020)
- Rio Tinto Iron Ore Emergency Response Plan (2025)
- Rio Tinto Iron Ore Bushfire Management Plan (2024)
- Rio Tinto Iron Ore Natural Hazards Plan (2025)
- Rio Tinto Iron Ore Group Procedure – Information and Cyber Security (2025)
- Rio Tinto Iron Ore Cloud Security and Data Privacy Requirements (2019)
- Utilities Division Hydrocarbons and Water 5 year capital plan (Robe Valley) (2022, 2023 and 2025)
- Robe Valley Operational Cost report (January to August 2025)