

**WR Carpenter No. 1 Pty Ltd**

Electricity Generation Licence (EGL20)  
2025 Asset Management System Review

Final report

July 2025



ASSURANCE  
ADVISORY  
GROUP

Level 11, 251 Adelaide Terrace  
PERTH WA 6000

16 July 2025

Mr Chris Russell-Gibson  
Director, Infrastructure - PATRIZIA SE  
WR Carpenter No. 1 Pty Limited  
Level 12, Aurora Place  
88 Phillip Street  
SYDNEY NSW 2000

Dear Mr Russell-Gibson

**Electricity Generation Licence (EGL20) – 2025 Asset Management System Review Report**

We have completed the Electricity Generation Licence Asset Management System Review for WR Carpenter No 1 Pty Limited for the period 1 April 2020 to 31 March 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 audit procedures.

If you have any questions or wish to discuss anything raised in the report, please contact Andrew Cox at [acox@assuranceadvisory.com.au](mailto:acox@assuranceadvisory.com.au) or myself at [slinden@assuranceadvisory.com.au](mailto:slinden@assuranceadvisory.com.au).

Yours sincerely

**Stephen Linden**

Director  
Assurance Advisory Group Pty Ltd

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# 1. Independent Assurance Practitioner's Report

## Conclusion

We have undertaken a limited assurance engagement on the effectiveness of WR Carpenter No. 1 Pty Ltd's (**WRC**) Asset Management System (**AMS**), relating to its Electricity Generation Licence (EGL20) (the **Licence**) for the period 1 April 2020 to 31 March 2025 (**review period**).

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 WRC has not established and maintained, in all material respects, an effective AMS for assets subject to the Licence, as measured by the effectiveness criteria in the March 2019 issue of the Audit and Review Guidelines: Electricity and Gas Licences (**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.

## WRC's responsibility for the AMS

WRC 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.

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

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

### **Procedures performed**

The procedures we performed were based on our professional judgement and consisted primarily of:

- Utilising the 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 WRC 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 WRC's AMS requirements and standards
- Physical visit to operations located at the Worsley Alumina refinery
- Consideration of reports and references evidencing activity
- Consideration of activities performed by WRC that relate to operation of the assets.

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

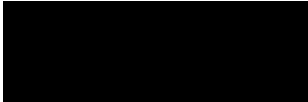
### **Inherent Limitations**

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

A limited assurance engagement relating to the period from 1 April 2020 to 31 March 2025 does not provide assurance on whether the effectiveness of WRC's AMS for assets subject to the Licence will continue in the future.

**Restricted use**

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



**Stephen Linden**

Director

Assurance Advisory Group Pty Ltd

16 July 2025

## 2. Executive Summary

### 2.1 Introduction and Background

The Economic Regulation Authority (the **ERA**) has under the provisions of the Electricity Industry Act 2004 (the **Act**), issued to WR Carpenter No. 1 Pty Ltd (**WRC**) an Electricity Generation Licence (EGL20) (**Licence**).

The Licence relates to WRC operating a Multi-Fuel Cogeneration power station facility (**MFC Facility**) for the purpose of base load steam production and co-generation of 104 MW electricity to the South32 Worsley Alumina Pty Ltd (**WAPL**) refinery, which is located near Collie approximately 170km south of Perth. Any excess electricity is exported to the South West Interconnected System. The MFC Facility is comprised of two multi-fuel boiler/turbine units, which primarily burn coal but are also capable of burning biomass and diesel.

Through an Operations & Maintenance Agreement with WRC, on 8 January 2014 WAPL assumed operational control and responsibility for final construction and commencement of the MFC Facility, including ongoing facility operations and maintenance. In February 2022 there was a change in management service provider for WR Carpenter No. 1 Pty Ltd following the acquisition of Whitehelm Capital by PATRIZIA SE. While WAPL carries out asset management and operations under a formal agreement, the responsibility for compliance with the Act and ERA licence obligations rests with WRC as the licence holder.

Section 14 of the Act requires WRC to provide to the ERA an asset management system (**AMS**) review (**review**) report conducted by an independent expert acceptable to the ERA not less than once in every 24-month period unless otherwise approved by the ERA. With the ERA's approval, Assurance Advisory Group (**AAG**) was appointed to conduct the review for the period 1 April 2020 to 31 March 2025 (**review period**).

The review has been conducted in accordance with the ERA's March 2019 issue of the *Audit and Review Guidelines: Electricity and Gas Licences* (**Guidelines**), which set out 12 key processes in the asset management life-cycle. The limited assurance review was undertaken in order to state whether, based on the procedures we have performed and the evidence we have obtained, anything has come to our attention to indicate that WRC has not established and maintained, in all material respects, an effective AMS for assets subject to the Licence, and that the systems have not operated effectively for the review period.

### 2.2 Findings

As WRC's Operations & Maintenance Agreement with WAPL provides for WAPL to assume full operational control and responsibility for MFC Facility operations and maintenance, WRC does not play any role in establishing or maintaining MFC Facility asset management functions.

For the purpose of this review, we have assessed the asset management functions and associated control procedures established and maintained by WAPL, as they apply to the MFC Facility.

In considering WAPL's (on behalf of WRC) 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, WAPL (on behalf of WRC) had maintained consistent procedures and controls within the MFC Facility AMS

- WAPL staff appeared to have a full working understanding of their roles, particularly displaying an understanding of the asset management processes within their area of responsibility.
- There are two opportunities for WAPL to further improve elements of its asset management processes and practices (where criteria are rated as “B” or “2”) in relation to staff training and independent review of the AMS.

This review assessed that, of the 58 elements of WRC’s AMS:

- For the asset management process and policy definition adequacy ratings:
  - 41 are rated as “Adequately defined”
  - 1 is rated as “Requires some improvement”
  - 16 are not rated.
- For the asset management performance ratings:
  - 40 are rated as “Performing effectively”
  - 2 are rated as “Opportunity for improvement”
  - 16 are not rated.

### **2.3 WRC’s response to previous review recommendations**

There were no recommendations from the previous review.

### **2.4 Recommendations to address current asset system deficiencies**

- Resolved during current review period
- Unresolved at end of current review period

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



## 2.5 Scope and objectives

The objective of the review was to independently examine the effectiveness and performance of the AMS established for assets subject to WRC's Licence during the review period.

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

Key processes	Effectiveness criteria
1. Asset Planning	1.1 Asset management plan covers the processes in this table 1.2 Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning 1.3 Service levels are defined in the asset management plan 1.4 Non-asset operations (e.g. demand management) are considered 1.5 Lifecycle costs of owning and operating assets are assessed 1.6 Funding options are evaluated 1.7 Costs are justified and cost drivers identified 1.8 Likelihood and consequences of asset failure are predicted 1.9 Asset management plan is regularly reviewed and updated
2. Asset creation and acquisition	2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options 2.2 Evaluations include all life-cycle costs 2.3 Projects reflect sound engineering and business decisions 2.4 Commissioning tests are documented and completed 2.5 Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood
3. Asset disposal	3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process 3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken 3.3 Disposal alternatives are evaluated 3.4 There is a replacement strategy for assets
4. Environmental analysis	4.1 Opportunities and threats in the asset management system environment are assessed 4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved 4.3 Compliance with statutory and regulatory requirements 4.4 Service standard (customer service levels etc) are measured and achieved.
5. Asset operations	5.1 Operational policies and procedures are documented and linked to service levels required 5.2 Risk management is applied to prioritise operations tasks 5.3 Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition 5.4 Accounting data is documented for assets [new criteria] 5.5 Operational costs are measured and monitored 5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities

Key processes	Effectiveness criteria
6. Asset maintenance	<p>6.1 Maintenance policies and procedures are documented and linked to service levels required</p> <p>6.2 Regular inspections are undertaken of asset performance and condition</p> <p>6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule</p> <p>6.4 Failures are analysed and operational/maintenance plans adjusted where necessary</p> <p>6.5 Risk management is applied to prioritise maintenance tasks</p> <p>6.6 Maintenance costs are measured and monitored</p>
7. Asset management information systems	<p>7.1 Adequate system documentation for users and IT operators</p> <p>7.2 Input controls include suitable verification and validation of data entered into the system</p> <p>7.3 Security access controls appear adequate, such as passwords</p> <p>7.4 Physical security access controls appear adequate</p> <p>7.5 Data backup procedures appear adequate and backups are tested</p> <p>7.6 Computations for licensee performance reporting are accurate</p> <p>7.7 Management reports appear adequate for the licensee to monitor licence obligations</p> <p>7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation [new criteria]</p>
8. Risk management	<p>8.1 Risk management policies and procedures exist and are applied to minimise internal and external risks</p> <p>8.2 Risks are documented in a risk register and treatment plans are implemented and monitored</p> <p>8.3 Probability and consequences of asset failure are regularly assessed</p>
9. Contingency planning	<p>9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks</p>
10. Financial planning	<p>10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve those</p> <p>10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs</p> <p>10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)</p> <p>10.4 The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period</p> <p>10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services</p> <p>10.6 Large variances in actual/budget income and expenses are identified and corrective action taken where necessary</p>

Key processes	Effectiveness criteria
11. Capital expenditure planning	<p>11.1 There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates</p> <p>11.2 The capital expenditure plan provides reasons for capital expenditure and timing of expenditure</p> <p>11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan</p> <p>11.4 There is an adequate process to ensure the capital expenditure plan is regularly updated and implemented</p>
12. Review of asset management system	<p>12.1 A review process is in place to ensure the asset management plan and the asset management system described in it remain current</p> <p>12.2 Independent reviews (e.g. internal audit) are performed of the asset management system</p>

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

## 2.6 Approach

Our approach for this review involved the following activities, which were undertaken during the period April to June 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 (refer Appendix A) for approval by the ERA
- Correspondence and interviews with WRC and WAPL/South32 staff to gain an understanding of process controls in place (refer Appendix B for staff involved)
- Site visit to the MFC Facility's operations with a focus on understanding the generation assets, their function, normal mode of operation, age and an assessment of the facilities against the AMS review criteria
- Review of documents, processes and controls to assess the overall effectiveness of WRC's AMS (refer Appendix B for reference listing)
- Consideration of the resourcing applied to maintaining those controls and processes
- Reporting of findings to WRC for review and response.

### 3. Summary of Ratings

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

For the avoidance of doubt, these ratings do not provide reasonable assurance.

**Table 1: Asset management process and policy definition adequacy ratings**

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

**Table 2: Asset management performance ratings**

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

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 definition adequacy (definition adequacy rating)
  - Asset management performance (performance rating).
- Detailed findings, including relevant observations and recommendations (Section 4). Descriptions of the effectiveness criteria can be found in section 4 and the Review Plan at Appendix A.

**Table 3: AMS effectiveness summary**

			Ratings	
Ref	Asset management process and effectiveness criteria	Review priority	Definition adequacy	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

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

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

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



## 4. Detailed Findings and Recommendations

The following tables contain:

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

## 4.1 Asset Planning

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

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

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

Effectiveness criteria	Findings
1.1 Asset management plan covers the processes in this table	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support and Reliability Engineer - MFC Powerhouse; and consideration of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>Throughout the review period, South32 maintained an overarching WAPL Energy Operating Strategy of which the MFC Facility Operating Strategy is a part. The MFC Facility forms part of WAPL's productivity KPIs as its availability and reliability directly impacts the refinery's production. South32 Operating Guidelines for the MFC and Powerhouse facilities provide the most current details of operating parameters and constraints associated with each asset within the MFC Facility and Powerhouse, taking relevant asset condition and asset life into consideration whilst maintaining the current strategy to minimise cost. South32 plans to update the WAPL Energy Operating Strategy to address Decarbonisation and Emissions reduction initiatives besides the current strategy to minimise costs</li> <li>A dedicated Reliability Team has been established which plays an integral role to analyse all PM01 and PM03 work orders so that operating parameters and PM02 tasks can be adjusted accordingly to ensure availability and reliability KPIs are met.</li> </ul> <p>Although there is no one document that provides MFC Facility's asset management plan, we are satisfied that South32 maintains a database and documents that:</p> <ul style="list-style-type: none"> <li>Provide an overview on the whole life cycle of the MFC Facility, covering those aspects that ensure the achievement of the business objectives for the assets, including safety of personnel and contractors, maximising commercial output and maintenance of acceptable conditions and risk profile</li> <li>Include the following elements: <ul style="list-style-type: none"> <li>Asset overview, including description of operations and assets</li> <li>Lifecycle overview, including milestones and end of life</li> <li>Current business objectives</li> <li>Lifecycle performance, including performance charts, historical performance, forecast performance, forecast cost, major changes to cost forecast and health and safety</li> <li>Asset performance, including cost performance indicators, condition assessment, operational risk summary</li> <li>Major works, including significant scheduled maintenance and refurbishment plan and opportunities.</li> </ul> </li> </ul>
	<div> <div>Adequacy Rating: Adequately defined (A)</div> <div>Performance Rating: Performing effectively (1)</div> </div>

Effectiveness criteria	Findings	
1.2 Planning processes and objectives reflect the needs of all stakeholders and is integrated with business planning	<p>WRC's contractual arrangements with WAPL enable WAPL to operate the MFC Facility in a manner which meets the needs of the WAPL refinery and in accordance with Good Operating and Maintenance Practice and OEM Instructions. Through consideration of WAPL's whole of refinery business planning processes, we observed that:</p> <ul style="list-style-type: none"> <li>WAPL's business model and resources specifically accommodate the operation and maintenance of the MFC Facility as an integral component of the WAPL refinery's operations, with the primary purpose of supplying steam and electricity to the refinery</li> <li>The MFC Facility's operations are dictated by the daily steam demand of WAPL's refinery</li> <li>The Major Events Calendar continues to integrate the refinery outage schedule and the MFC Facility outage schedule, including statutory inspections in order to be utilised to meet overall business objectives.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
1.3 Service levels are defined in the asset management plan	<p>Through discussions with South32 staff and consideration of the WAPL Energy Operating Strategy, we observed that:</p> <ul style="list-style-type: none"> <li>As the primary purpose of the MFC Facility is to supply steam and electricity to the WAPL refinery, MFC Facility availability requirements drive the required service levels</li> <li>The MFC Facility's performance requirements are outlined in the Energy Operating Strategy and service levels are clearly defined as KPIs in an Organisation Design Protocol, which continues to be displayed in the powerhouse control room.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
1.4 Non-asset operations (e.g. demand management) are considered	<p>As the primary purpose of the MFC Facility is to supply steam and electricity to the WAPL refinery (with WAPL's Energy group managing shortfalls or excess electricity through grid demand or feed-in), there is no requirement or opportunity for WAPL and WRC to consider non-asset options.</p>	
	<b>Adequacy Rating:</b> Not rated	<b>Performance Rating:</b> Not rated
1.5 Lifecycle costs of owning and operating assets are assessed	<p>Through discussions with Manager Production South32 and consideration of the WAPL Energy Operating Strategy, we determined that assessment of lifecycle costs of owning and operating the facility's assets is undertaken through WAPL's financial and capital planning processes, which addresses the following for each major item of equipment:</p> <ul style="list-style-type: none"> <li>Operating and maintenance philosophy</li> <li>Life cycle plan and critical outages</li> <li>Performance improvement opportunities which are identified each year through the improvement pipeline process.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings	
1.6 Funding options are evaluated	Owing to the nature of the Capacity Purchase Agreement between WRC and WAPL, the two parties continue to have no reason to consider alternative funding arrangements for MFC Facility assets.	
	<b>Adequacy Rating:</b> Not rated	<b>Performance Rating:</b> Not rated
1.7 Costs are justified and cost drivers identified	Through discussions with the Manager Production South32 and consideration of the WAPL Energy Operating Strategy, we determined that operating and maintenance costs are identified by each party and built into WAPL's annual budgeting process and business plans.	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
1.8 Likelihood and consequences of asset failure are predicted	Through discussions with the Manager Production South32 and consideration of relevant supporting documentation: <ul style="list-style-type: none"> <li>• The Risk Register, Energy considers several major items of equipment and provides specific details of existing controls, consequences and risk ratings against the Risk Management Standard</li> <li>• The MFC Facility assets are monitored on a continuous basis by WAPL's Process Control Improvement Group and Maintenance &amp; Analysis Improvement Group</li> <li>• Condition monitoring techniques are employed on a frequent basis. E.g. relating to oil, vibration, thermographic</li> <li>• Regular preventative maintenance performed by WAPL provides for regular assessment of asset performance</li> <li>• Equipment condition monitoring is analysed by the reliability team to prevent failures that could lead to WAPL's production losses</li> <li>• High level of priority is accorded to minimising instances of asset failure and the duration of any such failure to ensure operation of the WAPL refinery is not impacted</li> <li>• Major shutdown planning includes equipment condition monitoring.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
1.9 Asset management plan is regularly reviewed and updated.	Through discussions with the Manager Production South32 and consideration of WAPL's whole-of-site planning and reporting processes, and the WAPL Energy Operating Strategy, we determined that: <ul style="list-style-type: none"> <li>• Performance of the MFC Facility is monitored and reviewed via weekly and monthly reports</li> <li>• The MFC Facility detailed maintenance program is maintained as a forward-looking document to avoid unplanned outages and subjected to revision in accordance with continuous improvement with a view to maximising availability and aligning outages to WAPL refinery maintenance programs.</li> <li>• 1SAP and related software such as AMS holds detailed information for each major plant component</li> <li>• The key documents which make up the MFC Facility asset management plans are subject to regular reviews every 1, 2 or 5 years with risk related plans reviewed annually.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> 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:** Not rated

### Findings:

WRC and WAPL had not undertaken or contemplated any material asset creation and acquisition activities beyond minor improvement projects during the audit period. Accordingly, consideration has not yet been given to an asset creation and acquisition process relevant to the MFC Facility's ongoing operations.

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

## 4.3 Asset disposal

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

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

**Overall Adequacy/Performance rating:** Not rated

### Findings:

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

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

#### 4.4 Environmental analysis

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

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

**Overall 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	<p>Through discussions with the Environmental Supervisor and Senior Assurance Specialist, Energy Technical Support, South32 Worsley; and review of relevant supporting information, we determined that:</p> <ul style="list-style-type: none"> <li>WAPL's dedicated HSE function manages the MFC Facility's environmental licence obligations as part of the WAPL Refinery's site-wide operations. Aspects of the environmental licence that involve the MFC Facility such as SOx emissions, NOx emissions, Carbon Monoxide emissions, Fluoride and Particulate emissions which are measured by instruments calibrated and maintained by the MFC Facility, are addressed by the WAPL HSE team and MFC Facility staff and compared with environmental licence target emissions on a quarterly basis and externally tested annually</li> <li>The Energy Operations function has maintained the WAPL risk management processes and procedures to assist in managing opportunities and threats in the system environment across the site's power production facilities, including the MFC Facility.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings	
<p>4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved</p>	<p>Through discussions with the Environmental Supervisor and Senior Assurance Specialist, Energy Technical Support, South32 Worsley; and review of relevant supporting information, we determined that:</p> <ul style="list-style-type: none"> <li>• MFC Facility staff monitor environmental performance and communicate with WAPL's HSE team in relation to performance standards</li> <li>• WAPL uses the Honeywell historian database for monitoring and analysing key plant variables, enabling engineering staff to recognise abnormalities and to monitor the status of key equipment, plant availability, capacity and fan pressure</li> <li>• WAPL's HSE function is responsible for reporting any breaches of environmental standards such as SOx emission limits</li> <li>• Environmental performance is included in MFC Facility quarterly performance reports</li> <li>• Crisis and Emergency Management Procedure outlines the processes for emergency response and has testing and simulation frequency identified to ensure preparedness of personnel to deal with crisis and emergency response situations. This procedure is updated once every 2 years with the next revision due in July 2025</li> <li>• Testing and Simulation Exercises are undertaken annually to test operational readiness and effectiveness of CEM plans and/or business continuity responses.</li> </ul> <p>We observed a few instances in the audit period where there were excessive NOx exceedances against target KPIs, although these instances were not at the levels of non-compliance. Analysis has shown that the CEMS was over-stating NOx and this was confirmed by a third-party regulatory emissions testing entity. Few NOx exceedances were related to the FGR Fan and few SOx exceedances were related to the cycling of SO2 concentration in the combustor.</p>	
	<p><b>Adequacy Rating:</b> Adequately defined (A)</p>	<p><b>Performance Rating:</b> Performing effectively (1)</p>

Effectiveness criteria	Findings
4.3 Compliance with statutory and regulatory requirements	<p>Through discussions with the Environmental Supervisor, South32 Worsley; and review of relevant supporting information, we determined that WAPL has designed its processes and practices to operate and monitor its performance in accordance with the following statutory legislation and licences:</p> <ul style="list-style-type: none"> <li>• Environmental Operating Licence. Specific compliance activities include: <ul style="list-style-type: none"> <li>▪ Monitoring of SOx emissions is undertaken on a continuous basis to enable reporting of any breaches in accordance with licence requirements. Lime injection is used to assist with this requirement in relation to the MFC Facility</li> <li>▪ Water and waste is discharged into designated onsite disposal areas</li> </ul> </li> <li>• Greenhouse emissions under the NGER Act</li> <li>• Occupational Health and Safety Act and associated regulations</li> <li>• Pressure vessel inspection requirements</li> <li>• Mines Act and associated regulations.</li> </ul> <p>Since the previous audit in 2020, WAPL has implemented the G360 tracking tool to automate tasks, reminders and closeout of items in the Statutory Obligations Register.</p> <p>Most recent Statutory emissions compliance testing was undertaken on 19<sup>th</sup> and 20<sup>th</sup> November 2024 by Stack Testing Consultants and all Compounds and particulate were compliant.</p> <p>There were no non-compliance issues raised during the 5-year audit period.</p> <div> <div><b>Adequacy Rating:</b> Adequately defined (A)</div> <div><b>Performance Rating:</b> Performing effectively (1)</div> </div>
4.4 Service standard (customer service levels etc) are measured and achieved	<p>As the MFC Facility's primary purpose has been to supply steam and electricity to the WAPL refinery, customer service levels relate to the Facility's availability and reliability for supplying the required levels of steam and electricity. WAPL maintains full control over the MFC Facility's operations as part of its power production portfolio.</p> <p>The MFC Facility's required service levels are clearly defined as KPIs in an Organisation Design Protocol, which is displayed in the powerhouse control room and are closely monitored through monthly performance statistics published in every quarterly report.</p> <p>Through the audit period, there has been one instance of human error that caused MFC 5 to trip on 25th December 2024 after all three primary airflow transmitters faulted. This was due to the incorrect manual venting of the air on the manifold side of the transmitters in preparation of transmitter repairs.</p> <div> <div><b>Adequacy Rating:</b> Adequately defined (A)</div> <div><b>Performance Rating:</b> Performing effectively (1)</div> </div>



## 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	<p>Through discussions with the Reliability Engineer, Senior Assurance Specialist, Energy Technical Support, South32 Worsley; and consideration of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>WAPL's Energy Operations function recognises its responsibility for operating the MFC Facility in accordance with the Energy Operating Strategy and required reliability and availability service levels</li> <li>A well-structured Operating Guidelines Presentation for the Powerhouse is available for all operators for their quick reference and to ensure all are informed of the most recent operating parameters at all times</li> <li>Control and operation of the MFC Facility is dictated by overall refinery operations, to satisfy power and steam requirements of the refinery processes. The MFC Facility meets this demand in conjunction with the other powerhouse on site and several supplementary steam boilers. The plant is designed such that the MFC Facility acts as baseload generation, while the other units meet the instantaneous demand requirements</li> <li>WAPL has developed a comprehensive list of documented procedures, based on OEM documentation, to cover operational and maintenance tasks, including: <ul style="list-style-type: none"> <li>Control room operations, including management of alerts and faults</li> <li>Start-up activities</li> <li>Raising of work orders from 1SAP for planned work for action by the rostered maintenance team</li> <li>Maintenance planning</li> <li>Daily and weekly maintenance meetings attended by relevant WAPL staff</li> <li>Safe work instructions and associated safety assessment and permitting requirements</li> <li>Completion of work orders.</li> </ul> </li> <li>The Controlled Documents Procedure is followed to maintain links to the latest revisions of any procedures.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings
5.2 Risk management is applied to prioritise operations tasks	<p>Through discussion with the Senior Reliability Engineer, Senior Assurance Specialist, Energy Technical Support, South32 Worsley and Operations Superintendent MFC Powerhouse; and consideration of relevant supporting documentation, we observed that WAPL's operational processes include:</p> <ul style="list-style-type: none"> <li>• A designated MFC Facility risk register based on WAPL's business-wide risk management standards, which are in turn based on South32's corporate risk management standards</li> <li>• A Risk Register that outlines all HSEC Risks, Area based Risks, Task-based Risks, all historical events and hazards, Severity and Likelihood Tables and Risk Management Flowchart</li> <li>• Application of a risk management approach to all maintenance activities, whereby the maintenance tasks addressing higher risk issues are performed first in order, followed by lower priority tasks</li> <li>• A designated team to manage breakdowns across the WAPL refinery site, using a prioritisation approach (i.e. the most critical equipment to the overall refinery is addressed first, and so on). Guidance from staff within the area of the breakdowns provides support to this team as required</li> <li>• A dedicated reliability team whose sole purpose is to ensure reliable operation of the MFC Facility to provide the required power and steam so WAPL's production is not impacted</li> <li>• Dedicated performance meetings that hone into reasons for production losses every week with detailed failure analysis of any faults and drilling down the conditioning monitoring data to prevent any failures</li> <li>• Meetings at shift changeover to review performance of the outgoing shift and plan for the incoming shift</li> <li>• Use of a site-wide major events calendar to manage maintenance shutdowns across the plant. The production planning team manages this calendar to align shutdowns where possible and to prevent clashes.</li> </ul> <p>We observed that the WAPL Powerhouse team used risk management to prioritise operations and maintenance tasks having reviewed the major shutdown scope of work for MFC 5 Facility that commenced in April 2025 for 60 days and also for the upcoming 2-weeks shutdown scope of work for MFC 6 Facility that commences in April 2026. We reviewed the risk assessment document developed to establish the financial loss impact on business when WAPL Powerhouse made a decision to move the major shutdown of MFC-5 Facility from April 2021 to April 2022.</p>
	<div> <div data-bbox="651 1169 1350 1220">Adequacy Rating: Adequately defined (A)</div> <div data-bbox="1350 1169 2063 1220">Performance Rating: Performing effectively (1)</div> </div>

Effectiveness criteria	Findings	
5.3 Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	<p>Through discussion with the Senior Reliability Engineer, Senior Assurance Specialist, Energy Technical Support, South32 Worsley and Operations Superintendent MFC Powerhouse; and consideration of WAPL's information systems, we observed that:</p> <ul style="list-style-type: none"> <li>• The 1SAP system continues to act as the Asset Register for each of WAPL's assets, including the MFC Facility</li> <li>• 1SAP and related software such as AMS, holds detailed information for each major plant component, such as financial information, standing data (asset specifications, location etc.), scheduled maintenance tasks, past work orders performed and any relevant conditioning monitoring information.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
5.4 Accounting data is documented for assets	<p>Through discussion with Senior Assurance Specialist, Energy Technical Support, South32 Worsley; and consideration of WAPL's 1SAP system, we observed that WAPL's asset database captures:</p> <ul style="list-style-type: none"> <li>• Acquisition and retirement date</li> <li>• Original, historic and current capital cost</li> <li>• Depreciation rates and costs.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
5.5 Operational costs are measured and monitored	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support, South32 Worsley; and consideration of WAPL's information systems and relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>• Via 1SAP, WAPL tracks operational costs for the MFC Facility on a monthly basis. The costs measured and monitored include salaries and wages, suppliers, materials and WR Carpenter lease payments.</li> <li>• Costs are measured against budget, by cost centre (of which the MFC Facility is a designated cost centre)</li> <li>• Individual asset costs are captured in 1SAP via purchase orders.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings
5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities	<p>Through discussion with WAPL's Senior Assurance Specialist, Energy Technical Support and Process Analysis &amp; Improvement Specialist – Training &amp; Document Control; and consideration of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>• Each work pack contains relevant task lists and safe work instruction to enable the worker to perform the task required</li> <li>• Training for the entire WAPL refinery site continues to be managed through an Excel-based Learning Management System (LMS), which tracks training for all staff. The LMS is also used to track and highlight any training deficiencies, and internal or external training arranged as appropriate to address those deficiencies</li> <li>• Training is delivered in units, which are either site-wide or area-specific for the MFC Facility. Training is tenure-based, where in their first 24 months; staff receive core training before receiving tailored training to become a senior operator. Staff also receive control room training and where applicable, higher level and specific supervisor training</li> <li>• Supervisors are trained in mining regulations before being authorised by the refinery manager (mine manager) to act as a supervisor on site</li> <li>• WAPL continues to assign designated staff resources to the operation of the MFC Facility, with the following key arrangements in place: <ul style="list-style-type: none"> <li>▪ Two shifts are rostered to operate the MFC Facility</li> <li>▪ In the event that shift operators are unavailable to attend work, WAPL has the following capabilities to ensure the Facility continues to operate: <ul style="list-style-type: none"> <li>○ Skeleton shift arrangements, involving a rolling roster for the existing shift and using the medical bay as rest quarters</li> <li>○ The majority of administrative staff are fully trained operators and can run the MFC Facility if shift operators are unavailable</li> <li>○ Operators from the WAPL main powerhouse can be assigned to assist at the MFC Facility</li> </ul> </li> </ul> </li> <li>• Upon review of the MFC Facility Operations Training Matrix, we observed that training metrics showed 85.17% compliance and 14.83% non-compliance and Maintenance Training Metrics showed 82.89% compliance and 17.11% non-compliance</li> </ul>

Effectiveness criteria	Findings	
5.6 (cont.)	<ul style="list-style-type: none"> <li>• We observed discrepancies within the Operational training matrix showing safety training of two staff members expiring on 24th March 2024 and 14th March 2024 respectively, however they were still displaying in yellow (about to expire) status instead of red (expired or requirement not satisfied) status on the current system</li> <li>• We observed four discrepancies within the Maintenance Training Matrix showing expired driver licence dates in yellow (about to expire) status instead of red (expired or requirement not satisfied) status on the current system</li> <li>• We noted monthly reports do not track the training metrics as a KPI for the Facility.</li> </ul> <p>WAPL has an opportunity to improve the tracking and metrics of staff training requirements by tracking metrics monthly to ensure compliance and demonstrate continuous improvement. <i>We raised this matter with WAPL staff as an improvement opportunity.</i></p>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Opportunity for Improvement (2)

## 4.6 Asset maintenance

**Key process:** Asset maintenance is the upkeep of assets

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

**Overall 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	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support and consideration of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>WAPL's Power Operations and Maintenance Analysis &amp; Improvement functions recognise their responsibility for maintaining the MFC Facility in accordance with the Facility's Operating Strategy and in order to meet the WAPL refinery's reliability and availability requirements</li> <li>Control and operation of the MFC Facility is dictated by overall refinery operations, to satisfy power and steam requirements of the refinery processes</li> <li>WAPL has a comprehensive list of documented procedures in place to cover maintenance tasks, including: <ul style="list-style-type: none"> <li>Raising of work orders from 1SAP for planned work for action by the rostered maintenance team</li> <li>Maintenance planning</li> <li>Daily and weekly maintenance meetings attended by relevant WAPL staff</li> </ul> </li> <li>Procedures for the scope and frequency of routine maintenance of equipment have been developed based on OEM documentation, such as vendor manuals</li> <li>WAPL implements action plans aimed at minimising costs and improving reliability and operating efficiency</li> <li>Equipment condition monitoring is analysed by the reliability team to prevent failures that could lead to WAPL's production losses</li> <li>Major shutdowns planning is quite detailed having taken equipment condition monitoring into consideration.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings	
6.2 Regular inspections are undertaken of asset performance and condition	<p>Through discussion with Senior Assurance Specialist, Energy Technical Support, Reliability Engineer - MFC Powerhouse and Area Maintenance Analysis and Improvement Superintendent; and consideration of relevant supporting documentation, we observed that WAPL:</p> <ul style="list-style-type: none"> <li>• Has full-time third party inspection capabilities at the refinery to undertake rolling third party inspections of relevant equipment such as statutory pressure vessels, and any other items WAPL engineering teams consider key components to be monitored</li> <li>• Uses condition-based monitoring processes for several key components (fans, turbines, etc.): <ul style="list-style-type: none"> <li>▪ Oil samples are taken from the main components of the plant and sent to an external lab for detailed analysis. This analysis highlights any potential issues with equipment, which may require preventative maintenance</li> <li>▪ Vibration testing and thermographic imaging techniques are also used to monitor condition of key components of the plant and are used to guide maintenance requirements as appropriate.</li> </ul> </li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support, Reliability Engineer - MFC Powerhouse, Area Maintenance Analysis and Improvement Superintendent and Process Analysis &amp; Improvement Specialist – Training and Document Control; and consideration of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>• 1SAP is used to record all work schedules and work orders for the plant. Schedules and work orders are tracked on a daily basis, and used to guide maintenance of the plant</li> <li>• Daily meetings are held refinery wide for supervisors, to discuss production and execution of maintenance work, and to determine priorities</li> <li>• Powerhouse staff (MFC and WAPL's main powerhouse) meet on a weekly basis to review and endorse the maintenance plans for the upcoming fortnight</li> <li>• Safety Critical Equipment (SCE), if not done by due date, are taken out of service as they are not allowed to go overdue.</li> </ul> <p>We reviewed Week 11 SCE Report and noted that there were 3 overdue SCE Recertification tasks that led to the equipment being taken out-of-service accordingly.</p> <p>We noted one instance of human error during the audit period that caused MFC 5 to trip on 25th December 2024 after all three primary airflow transmitters faulted. This was due to the incorrect manual venting of the air on the manifold side of the transmitters in preparation of transmitter repairs. Accordingly, failure was analysed and corrective action was taken and plant brought back to service with minimal production loss.</p>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings	
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support, Reliability Engineer - MFC Powerhouse and Area Maintenance Analysis and Improvement Superintendent; and consideration of relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>• Unplanned outages that result in a loss of production greater than 1000t of alumina require formal investigation to determine the cause. Depending on the nature of the root cause, a more detailed report and investigation may be undertaken including detailed technical reports</li> <li>• As the MFC plant provides essential power and steam to WAPL's refinery, it is one of WAPL's primary interests to ensure the plant is operating correctly and to ensure any failures are investigated, and actions taken appropriately to prevent reoccurrence.</li> </ul>	
6.5 Risk management is applied to prioritise maintenance tasks	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support, Reliability Engineer - MFC Powerhouse and Area Maintenance Analysis and Improvement Superintendent; and consideration of relevant supporting documentation, we observed that WAPL's maintenance processes include:</p> <ul style="list-style-type: none"> <li>• Application of a risk management approach to all maintenance activities, whereby the maintenance tasks addressing higher risk issues are performed first in order, followed by lower priority tasks</li> <li>• A designated MFC Facility risk register based on WAPL's business-wide risk management standards, which are in turn based on South32's corporate risk management standards</li> <li>• Weekly site-wide meetings with representatives from each area, to plan for the upcoming month, 3 month and 2 yearly periods</li> <li>• Weekly meetings used to arrange the MFC Facility maintenance plan for the upcoming fortnight</li> <li>• Meetings at shift changeover include a review of the performance of the outgoing shift and planning for the upcoming fortnight</li> <li>• Use of a site-wide major events calendar to manage maintenance shutdowns across the plant. The production planning team manages this calendar to align shutdowns where possible and to prevent clashes</li> </ul> <p>A designated team to manage breakdowns across the WAPL refinery site, using a prioritisation approach (i.e. the most critical equipment to the overall refinery is addressed first, and so on). Guidance from staff within the area of the breakdown provides support to this team, as required.</p>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)



Effectiveness criteria	Findings	
6.6 Maintenance costs are measured and monitored	<p>Through discussion with the Senior Assurance Specialist, Energy Technical Support; and consideration of WAPL's information systems and relevant supporting documentation, we observed that:</p> <ul style="list-style-type: none"> <li>• Via 1SAP, WAPL tracks operational costs for the MFC Facility on a monthly basis. The costs measured and monitored include salaries and wages, suppliers, materials and WR Carpenter lease payments.</li> <li>• Costs are measured against budget, by cost centre (of which the MFC Facility is a designated cost centre)</li> <li>• Individual asset costs are captured in 1SAP via purchase orders.</li> <li>• Costs associated with any minor or major shutdowns is considered during the planning period to define shutdown scope of works accurately and utilise risk management to predict production losses whilst prioritising tasks for shutdown planning.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> 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 discussions with Manager Production South32 and consideration of relevant system documentation, we observed that WAPL manages the site using its 1SAP enterprise system that is aligned with South32 group level IT standards, policies and procedures. In particular, we observed that: <ul style="list-style-type: none"> <li>All documents are stored in South32's document management system, which has a tracker for document version control</li> <li>South 32's Information Management Standard defines information management requirements, the scope of which includes employees and contractors.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
7.2 Input controls include suitable verification and validation of data entered into the system	Through discussions with Manager Production South32 and consideration of relevant system documentation, we observed that: <ul style="list-style-type: none"> <li>Input controls are managed through input validation checks within 1SAP</li> <li>Processes are in place to verify and validate data entered into WAPL's core systems, including data reconciliations and validation of data as close as possible to the point of origin/source documentation</li> <li>Profiles are assigned to each employee based on their roles and position.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
7.3 Security access controls appear adequate, such as passwords	Through discussions with Manager Production South32 and consideration of relevant supporting documentation, we observed that WAPL has established and maintained procedures and controls which enable: <ul style="list-style-type: none"> <li>Access and permissions to be managed in accordance with South32's group level IT standards</li> <li>Maintenance of suitable password requirements to authenticate user access for differing authorisation levels</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings	
7.4 Physical security access controls appear adequate	<p>Through discussions with Manager Production South32 and consideration of relevant supporting documentation, we observed that WAPL has established and maintained South32 group level processes and procedures relating to the access of facilities and the physical protection of information assets and systems. Specifically in the context of access to computer server rooms on site, we observed that:</p> <ul style="list-style-type: none"> <li>• Swipe card system is used to lodge and track use of controlled areas</li> <li>• Reviews of access logs to the computer rooms are performed regularly to identify any unauthorised access</li> <li>• Contractors are required to be accompanied by appropriate IT personnel when entering the computer rooms.</li> </ul>	
7.5 Data backup procedures appear adequate and backups are tested	<p>Through discussions with Manager Production South32 and consideration of relevant supporting documentation, we observed that procedures for managing data backup and data restore of WAPL servers have been established and maintained and provide for:</p> <ul style="list-style-type: none"> <li>• Regular backups to be performed in accordance with the defined schedules and media rotation rules</li> <li>• Control systems to be subject to a very frequent back up regime</li> <li>• Backup data be stored securely and protected from environmental harm and unauthorised access</li> <li>• Access to the backup tapes to be limited to a sub-set of IT Operations personnel.</li> </ul>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.6 Computations for licensee performance reporting are accurate	WAPL's asset management information system does not directly provide data used in any computation related to WRC's licensee performance reporting.	
	Adequacy Rating: Not rated	Performance Rating: Not rated
7.7 Management reports appear adequate for the licensee to monitor licence obligations	<p>Through discussions with Manager Production South32 and consideration of relevant supporting documentation including MFC Alliance Quarterly reports, we determined that:</p> <ul style="list-style-type: none"> <li>• WAPL's information systems available on-site can generate a substantial variety of reports</li> <li>• Throughout the review period, scheduled reports were run on a regular basis including financial, operational and management reports relating to the MFC Facility.</li> </ul>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness criteria	Findings	
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	<p>Through discussions with Manager Production South32 and consideration of relevant supporting documentation, we observed that WAPL has established and maintained South32 group level processes and procedures relating to the protection of information assets and systems, including:</p> <ul style="list-style-type: none"> <li>• Comprehensive user access controls, including user permissions and remote access</li> <li>• Contemporary cyber security processes and procedures</li> <li>• Appropriate cyber security training for staff.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> 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	<p><i>8.1 and 8.2</i></p> <p>Through consideration of WAPL's risk management practices and examination of supporting documentation, we observed:</p> <ul style="list-style-type: none"> <li>WAPL maintains the South32 corporate-wide risk management approach, which is communicated and applied throughout the operations of the WAPL Refinery, including the MFC Facility</li> <li>The Risk Management Procedure and noted risk profiles reviews are to include changes in the internal and external environment and how they may impact risks on the baseline risk register</li> <li>The Risk Register, Energy and noted that it documents key risks and includes worksheets which are used for the identification, treatment and monitoring of risks.</li> </ul> <p>Since the previous audit in 2020, WAPL has fully implemented G360 to track and manage risks. We saw evidence that the risk register was reviewed during the audit period and observed evidence of risk reviews performed during the review period which were documented, kept in G360 and attached to the risk register.</p>	
8.2 Risks are documented in a risk register and treatment plans are implemented and monitored		
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings
8.3 Probability and consequences of asset failure are regularly assessed	<p>Through discussion with South32 and WAPL staff and consideration of WAPL's risk management practices and examination of supporting documentation, we observed that WAPL identifies and assesses the consequence and likelihood of power station asset failure through:</p> <ul style="list-style-type: none"> <li>• Regular preventative maintenance performed by WAPL which provides for regular assessment and maintenance of asset performance: <ul style="list-style-type: none"> <li>▪ Any issues, including defects are identified during routine assessments are raised in service bulletins that identify any additional maintenance requirements</li> <li>▪ Maintenance frequencies and activities are based on OEM recommendations, guided by WAPL experience and analysis where relevant</li> </ul> </li> <li>• Condition monitoring techniques that are frequently applied to identify defects and assist in assessing the probity and consequence of failure. We sighted examples of results and reports on vibration monitoring and pressure vessel inspection</li> <li>• The MFC Facility risk register considers several major items of equipment and provides specific details of its operation and maintenance strategy and key life cycle issues and remedial plans</li> <li>• A detailed forward maintenance program is maintained in accordance with OEM guidelines and is reviewed on a daily basis.</li> </ul> <p>The management structures, skills and resources assigned to WAPL's asset management processes appear to be appropriate for enabling the regular assessment of the probability and consequences of asset failure.</p>
	<div> <div data-bbox="651 938 1346 978">Adequacy Rating: Adequately defined (A)</div> <div data-bbox="1346 938 2072 978">Performance Rating: Performing effectively (1)</div> </div>

## 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	<p>Through discussion with the Manager Production South32 and examination of WAPL's contingency planning mechanisms and documents, we determined that:</p> <ul style="list-style-type: none"> <li>• WAPL maintains site-wide emergency plans, including a Crisis and Emergency Management Plan, Crisis and Emergency Management Procedure, and Evacuation Procedure. All site-wide plans accommodate the MFC Facility</li> <li>• The Boiler Explosion - Material Risk Crisis and Emergency Management Boiler Explosion plan has three emergency levels to determine urgency of response</li> <li>• The WAPL refinery maintains 24/7 onsite fire, ambulance and general emergency management teams, including contractor personnel when required</li> <li>• A number of contingency arrangements are in place, inherent within the design of the overall refinery, and through contractual or operating arrangements. In particular, we observed: <ul style="list-style-type: none"> <li>▪ Coal: <ul style="list-style-type: none"> <li>○ Coal is primarily sourced from the Griffin Coal Mines via rail to the main WAPL stockpile</li> <li>○ The MFC Facility maintains bunkers with storage capacity of approximately 20 hours</li> <li>○ In the event of a supply constraint, delivery can be arranged via an alternative local supplier - Premier Coal</li> <li>○ In the event of constraints relating to all local suppliers, WAPL continues to maintain the capability to source coal from international suppliers. That capability has been previously tested and proven at WAPL's main coal power plant facility</li> </ul> </li> <li>▪ Diesel <ul style="list-style-type: none"> <li>○ Due to Boiler conversion, only three days' worth of diesel is required to be held</li> <li>○ Suppliers are contracted to address any further requirements.</li> </ul> </li> </ul> </li> </ul>

Effectiveness criteria	Findings
9.1 (cont.)	<ul style="list-style-type: none"> <li>▪ Water: <ul style="list-style-type: none"> <li>○ As part of the master management system, WAPL has established high and low trigger points for inputs</li> <li>○ Water for the MFC Facility is sourced from the refinery as a steam condensate return, via a dedicated water purification system</li> <li>○ Make-up water is sourced from WAPL's onsite freshwater lake and supplied to the MFC Facility via WAPL's main powerhouse</li> <li>○ Water can also be directly pumped between WAPL's main powerhouse and the MFC Facility.</li> </ul> </li> <li>▪ Staff resources: <ul style="list-style-type: none"> <li>○ Two daily shifts are rostered to operate the MFC Facility</li> <li>○ In the event that shift operators are unavailable to attend work, WAPL has the following capabilities to ensure the Facility continues to operate: <ul style="list-style-type: none"> <li>• Skeleton shift arrangements, involving a rolling roster for the existing shift and using the medical bay as rest quarters</li> <li>• The majority of administrative staff are fully trained operators and can run the MFC Facility if shift operators are unavailable</li> <li>• Operators from the WAPL main powerhouse can be assigned to assist at the MFC Facility.</li> </ul> </li> </ul> </li> </ul> <p>We sighted evidence of:</p> <ul style="list-style-type: none"> <li>• Crisis and Emergency Management Plan including testing and simulation frequency to ensure preparedness of personnel to deal with crisis and emergency response situations <ul style="list-style-type: none"> <li>○ A key aspect of ensuring the ongoing effectiveness of this plan is conducting regular planned emergency training exercises to test understanding and capability for managing emergencies. All members of the WAPL CEM response organisations are required to attend training programs and participate in exercises on a regular basis</li> </ul> </li> <li>• The Crisis and Emergency Management Exercise and Training Calendar which included exercises throughout 2024.</li> </ul> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <span><b>Adequacy Rating:</b> Adequately defined (A)</span> <span><b>Performance Rating:</b> Performing effectively (1)</span> </div>



#### 4.10 Financial planning

**Key process:** Financial plan 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	<p>Through discussion with the Manager Production South32 and consideration of WAPL's financial planning mechanisms, we observed that:</p> <ul style="list-style-type: none"> <li>The MFC Facility's financial plan takes the form of a designated Operations and Maintenance budget, which: <ul style="list-style-type: none"> <li>Forms part of the overall WAPL Refinery budget and business plan, prepared on a rolling five-year basis</li> <li>Reflects the Facility's financial objectives and strategies that are driven by its contractual agreements for generation and supply of steam and electricity</li> </ul> </li> <li>The financial plan puts together the financial elements of the Facility's operations to reflect its financial viability over the long term.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs	<p>Through discussion with the Manager Production South32 and consideration of WAPL's financial planning mechanisms, we determined that the MFC Facility Operations and Maintenance budget:</p> <ul style="list-style-type: none"> <li>Is aligned with WAPL's overall business plan</li> <li>Identifies the source of funds for all costs associated with the Facility.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	<p>Through discussion with the Manager Production South32, and consideration of WAPL's financial planning mechanisms, we determined that the annual MFC Facility Operations and Maintenance budget:</p> <ul style="list-style-type: none"> <li>Contains a summary of expenses from the supply of steam and electricity subject to the Capacity Purchase Agreement between WRC and WAPL</li> <li>Provides projections of operating profits or losses and the overall financial position of the Facility</li> <li>Contains up-to-date projections that are sufficient to cover the future costs of operating the Facility, including capital works expenditure.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)

Effectiveness criteria	Findings	
10.4 The financial plan provides firm predictions on income for the next five years and reasonable predictions beyond this period	<p>Through discussion with the Manager Production South32 and consideration of WAPL's financial planning mechanisms, we determined that the annual MFC Facility Operations and Maintenance budget:</p> <ul style="list-style-type: none"> <li>• Provides projections of expenditure up to five years in advance</li> <li>• Includes a summary of planned project expenditure for that five-year period.</li> </ul> <p>The concept of income is not applicable to WAPL's management of the MFC Facility. The Capacity Purchase Agreement between WRC and WAPL recognises that the income relevant to the Facility's operations is apparent in the agreed monthly charge payable by WAPL to WRC.</p>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	<p>Through discussion with the Manager Production South32 and examination of the annual MFC Facility Operations and Maintenance budget, we determined that the Budget:</p> <ul style="list-style-type: none"> <li>• Provides a detailed monthly view of operational, maintenance, minor capital works and administration expenses on a rolling five-year basis</li> <li>• Includes a summary of current and planned project expenditure for that five-year period.</li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
10.6 Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	<p>Through discussion with the Manager Production South32 and consideration of WAPL's financial planning mechanisms, we determined that:</p> <ul style="list-style-type: none"> <li>• WAPL closely monitors actual expenditure against budgeted expenditure</li> <li>• A monthly variance analysis report is generated from WAPL's 1SAP system to: <ul style="list-style-type: none"> <li>▪ Assess actual v budgeted expenditure</li> <li>▪ Identify areas that have exceeded budget or otherwise require attention, including corrective action.</li> </ul> </li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> 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:** Not rated

##### Findings:

Due to the nature of the Capacity Purchase Agreement between WRC and WAPL, other than for minor capital works undertaken and planned for the MFC Facility (recognised by WAPL as minor capital works projects), during the review period all costs associated with the operations and maintenance of the MFC Facility have been treated as operational costs. That is, minor capital works are captured in the annual MFC Facility Operations and Maintenance Budget, with no separate capital expenditure planning process in place.

As the MFC Facility remains in the early phase of its life-cycle, and WRC and WAPL has not planned or contemplated any material asset creation and acquisition activities beyond minor improvement projects in the foreseeable future, we also do not anticipate WRC requiring a separate capital expenditure planning process in the foreseeable future. Accordingly, all process and controls relevant to minor capital works are addressed in the Financial Planning process (refer to 4.10 above).

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

#### 4.12 Review of asset management system

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

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

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

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	<p>Through discussions with the Manager Production South32 and examination of relevant documentation and correspondence, we determined that:</p> <ul style="list-style-type: none"> <li>Internal reviews are performed by WAPL to assess the currency of the AMS, including: <ul style="list-style-type: none"> <li>Ongoing review of the Energy Operating Strategy</li> <li>Review of crisis and emergency management plans</li> <li>Regular review of compliance of WAPL practices and key documents to relevant industry standards</li> <li>Internal review of risk registers by the analysis and improvement teams</li> <li>Quarterly scenario testing</li> <li>Annual testing of critical controls.</li> </ul> </li> </ul>	
	<b>Adequacy Rating:</b> Adequately defined (A)	<b>Performance Rating:</b> Performing effectively (1)
12.2 Independent reviews (e.g. internal audit) are performed of the asset management system	<p>Although the AMS applicable to the MFC Facility (as part of WAPL's Production Energy operations) has been subject to internal review and update, during the review period we could not find evidence that an independent party had been assigned to assess the effectiveness and performance of the AMS.</p> <p>Notwithstanding WAPL'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. <i>We raised this matter with WAPL staff as an improvement opportunity</i></p>	
	<b>Adequacy Rating:</b> Requires some improvement (B)	<b>Performance Rating:</b> Opportunity for improvement (2)

## 5. Status of Recommendations Addressing Asset System Deficiencies from Previous Review

Reference (no./year)	Process and policy deficiency / Performance deficiency (Rating / Reference number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's recommendation or action planned	Date resolved	Details of further action required (including current recommendation <b>Further action required</b> (Yes/No/Not Applicable) reference, if applicable)
<b>A. Resolved during current review period</b>				
<b>B. Unresolved at end of current review period</b>				
Not applicable - there were no recommendations addressing asset system deficiencies from the previous 2020 review.				

## Appendix A - Review Plan

## Appendix B - References

### WRC representatives participating in the review:

#### WRC

- Director Infrastructure, PATRIZIA SE
- Associate Infrastructure, PATRIZIA SE

#### South 32 and WAPL

- Senior Assurance Specialist, Energy Technical Support
- Manager Production South32
- Senior Reliability Engineer
- Reliability Engineer - MFC Powerhouse
- Environmental Supervisor
- Area Maintenance Analysis and Improvement Superintendent
- Process Analysis & Improvement Specialist – Training & Document Control.

### AAG staff participating in the review:

#### Hrs

- |                       |                              |      |
|-----------------------|------------------------------|------|
| • Andrew Cox          | Lead Auditor                 | 33   |
| • Tanuja Sanders      | Senior Engineer              | 40   |
| • Margaret-Mary Gauci | Consultant                   | 18.5 |
| • Andrew Baldwin      | Executive Director (Support) | 10   |

### Key documents and other information sources examined

- WAPL Energy Operating Strategy
- Operating Guidelines – Powerhouse and MFC
- MFC Facility quarterly performance reports
- Risk Register, Energy
- Crisis and Emergency Management Procedure
- Risk Management Procedure
- History of risk reviews report
- Boiler Explosion – Material Risk Business Continuity Plan
- 1SAP system records, including asset information, scheduled maintenance tasks, work orders and costing
- Energy Maintenance Training Matrix Summary Report
- Work orders report PM01, PM02, PM03
- Boiler and Turbine Shutdown report
- Example inspection reports – pressure vessel

- Example Log & Boiler Inspection Check sheets
- Energy - Continuous Emissions Monitoring System – QA Plan
- Boiler NOx exceedance reports
- Energy Equipment Performance Meeting April 2025
- MFC budget spreadsheet, FY24-25
- MFC maintenance Bottom Up Budget FY23-24
- MFC Major Events Calendar (MEC)
- Weekly KPI Sheet – MFC overdue work orders, examples
- Information Management Standard, South32
- Controlled Documents Procedure, South 32
- Event Investigation Report 25/1/2024
- Risk Management Procedure
- Recent incidents and or simulations Global 360 report
- CEM Exercise and Training Calendar 2024/2025