KPMG

Asset Management System Review Report

Regional Power Corporation (Horizon Power)
Electricity Integrated Regional Licence (EIRL2)

December 2020
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Our ref Horizon Power AMS Review

Ms Tiri Sanderson
General Manager Operations
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10 December 2020

Dear Tiri

Horizon Power – Asset Management System Review – 2020

We have completed the Horizon Power Asset Management System Review for the period 1 July 2017 to 30 June 2020 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 procedures.

If you have any questions or wish to discuss anything raised in the report, please contact me on 9263 7271.

Yours sincerely

[redacted]

Travis McAuliffe
Partner

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Abbreviations

Abbreviation	Definition
ALARP	As Low As Reasonably Practicable
AMP	Asset Management Plan
AMR	Asset Management Report
AMS	Asset Management System
AS	Australian Standards
ASAE	Australian Standard on Assurance Engagements
Authority	Economic Regulation Authority
Capex	Capital Expenditure
CEMP	Crisis Emergency Management Plan
CMMS	Computerised Maintenance Management System
CURA	Horizon Power's risk management software
Covid-19	Novel Coronavirus
DCT	Distribution Commissioning Test sheet
DM	Horizon Power's document management system
DR	Data Restoration
EMT	Emergency Management Team
ENSMS	Electricity Network Safety Management System
ERA	Economic Regulation Authority
ERP	Enterprise Resource Planning
FAR	Fixed Asset Register
FY	Financial Year
GIS	Geographic Information System
GM	General Manager
HP	Horizon Power
HPCC	Horizon Power Control Centre
HV	High Voltage
ISO	International Organisation for Standardisation
ICT	Information of Communication Technology
IT	Information Technology
JRA	Job Risk Assessment
KPI	Key Performance Indicator
kV	Kilovolt
LCC	Lifecycle Cost
LV	Low Voltage
MSC	Master Services Contract
MST	Maintenance Scheduled Tasks
NPV	Net Present Value
NWIS	North West Interconnected System

Opex	Operational Expenditure
P1	Planned Preventative Maintenance
P2	Planned Corrective Maintenance
PSR	Project Status Report
R1	Reactive Maintenance (Faults/Breakdowns)
R2	Reactive Corrective Maintenance
RVM	Risk Value Movement
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SCI	Statement of Corporate Intent
SJ	Standard Job
SPS	Standalone Power System
TCT	Transmission Commissioning Test sheet
TMG	Technical Maintenance Guideline
WO	Work Order
WM	Work Management

1. Independent Limited Assurance Report

Conclusion

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 Regional Power Corporation has not complied in all material respects, with the requirements of Section 14 of the Electricity Industry Act 2004 as evaluated against the criteria set out in Appendix 5 of the Economic Regulation Authority's 2019 Audit and Review Guidelines for the period 1 July 2017 to 30 June 2020.

Scope

The subject of our limited assurance engagement is whether anything has come to our attention that causes us to believe that Regional Power Corporation ("Horizon Power") has not complied, in all material respects, with the requirements of Section 14 of the Electricity Industry Act 2004 as evaluated against the criteria set out in Appendix 5 of the Economic Regulation Authority's 2019 Audit and Review Guidelines for the period 1 July 2017 to 30 June 2020.

Section 14 of the Act that requires Horizon Power to provide the Authority with an Asset Management System (AMS) Review conducted by an independent third party acceptable to the Authority every 24 months (or any longer period that the Authority allows) .

Basis of Our Conclusion

We conducted our engagement in accordance with Australian Standard on Assurance Engagements *ASAE 3100 Compliance Engagements* (ASAE 3100) issued by the Auditing and Assurance Standards Board. We believe that the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

In accordance with ASAE 3100 we have:

- Used our professional judgement to plan our procedures and assess the risks that may cause material non-compliance with each of the requirements to be concluded upon;
- Considered internal controls implemented to meet the compliance requirements; however, we do not express a conclusion on their effectiveness; and
- Ensured that the engagement team possess the appropriate knowledge, skills and professional competencies.

Summary of Procedures Performed

In a limited assurance engagement, the assurance practitioner performs procedures, primarily consisting of discussion and enquiries of management and others within the entity, as appropriate, and observation and walk-throughs and evaluates the evidence obtained. The procedures selected depend on our judgement, including identifying areas where the risk of material non-compliance with the Requirements is likely to arise.

Our limited assurance conclusion is based on the evidence obtained from performing the following procedures:

- Utilising the Guidelines as a guide for development of a risk assessment and document review to assess controls.
- Development of an Audit Plan for approval by the ERA and an associated work program, approved by the ERA on 1 September 2020.
- Interviews with and representations from relevant Horizon Power staff to gain an understanding of process controls.
- Review of documents and walkthrough of processes and controls to support the assessment of compliance with the requirement to maintain an effective Asset Management System.
- Physical site visits to Karratha and Kununurra.
- Sample testing or walkthroughs based on the sample size guide in the approved Review Plan.

The procedures performed in a limited assurance engagement vary in nature and timing 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 a reasonable assurance engagement been performed.

Accordingly, we do not express a reasonable assurance opinion on compliance with the Requirements as evaluated against the Guidelines.

Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the internal control structure it is possible that fraud, error or non-compliance with the Requirements may occur and not be detected.

A limited assurance engagement covering the period 1 July 2017 to 30 June 2020 does not provide assurance on whether compliance with the Requirements will continue in the future.

Use of this Assurance Report

This report has been prepared for the Directors of Horizon Power and the Authority for the purpose set out in the Scope section above and may not be suitable for another purpose. We disclaim any assumption of responsibility for any reliance on this report, to any person other than the Directors of Horizon Power and the Authority, or for any other purpose than that for which it was prepared.

We acknowledge a copy of this report will be provided to the Authority for the purpose of reporting on the performance of the License. We agree that a copy of this report may be provided to the Authority in connection with this purpose, but only on the basis that we accept no duty, liability or responsibility to any party, other than Horizon Power and the Authority in connection with the report or this engagement.

Horizon Power Management's responsibility

Management are responsible for:

- the compliance activities undertaken to meet the Requirements;
- identification of risks that threaten the Requirements identified above being met and identifying, designing and implementing controls to enable the compliance requirements to be met and, monitoring ongoing compliance;
- Ensuring that it has complied in all material respects with the requirements of the Licence;
- Establishing and maintaining an effective system of internal control over its systems designed to achieve its compliance with the Licence requirements;
- Implementing processes for assessing its compliance requirements and for reporting its level of compliance to the ERA;
- Implementing corrective actions for instances of non-compliance (if any).

Our responsibility

Our responsibility is to perform a limited assurance engagement in relation to Horizon Power's compliance with the Requirements as evaluated against the Guidelines for the period 1 July 2017 to 30 June 2020 and to issue an assurance report that includes our conclusion.

Our Independence and Quality Control

We have complied with our independence and other relevant ethical requirements of the *Code of Ethics for Professional Accountants* issued by the Accounting Professional and Ethical Standards Board and complied with the applicable requirements of Australian Standard on Quality Control 1 to maintain a comprehensive system of quality control.

KPMG

10 December 2020

2. Executive Summary

2.1 Introduction

This document presents the findings from Regional Power Corporation trading as Horizon Power's ("Horizon Power") Asset Management Systems Review ("AMSR") (collectively referred to as "the Review"). The Review has been carried out in accordance with the Audit and Review Guidelines: Electricity and Gas Licences (March 2019).

Horizon Power is a State Government-owned, commercially focused corporation that provides safe and reliable power to about 100,000 residents and 10,000 businesses across regional and remote Western Australia. Horizon Power operates in the Pilbara, Kimberley, Gascoyne, Mid-West and the southern region of WA which includes the Southern Goldfields, Esperance, Hopetoun and Norseman. It has regional depots based in Karratha, Broome, Kununurra, Carnarvon, Esperance and Port Hedland.

The Review was undertaken in accordance with the Review Plan that was presented and approved by the Authority on 1 September 2020.

2.2 Objectives

The Review was conducted to assist Horizon Power in meeting its compliance requirements with Section 14 of the Electricity Industry Act 2004.

Section 14 of the Act requires Horizon Power to provide to the ERA an Asset Management System Review conducted by an independent expert acceptable to the ERA not less than once in every 24 month period (or any longer period that the ERA allows).

The Review covered the period 1 July 2017 to 30 June 2020.

2.3 Limited assurance engagement

The Review was conducted and reported as a limited assurance engagement in accordance with Australian Standard on Assurance Engagements ASAE 3100 Compliance Engagements (ASAE 3100).

Our responsibilities

KPMG's responsibility was to perform a limited assurance engagement in relation to Horizon Power's compliance with the requirements of Section 14 of the Electricity Industry Act 2004 (the Requirements) as evaluated against the criteria set out in Appendix 5 of the Economic Regulation Authority's 2019 Audit and Review Guidelines (the Criteria) for the period 1 July 2017 to 30 June 2020.

Applicable assurance standard

We conduct our engagement in accordance with ASAE 3100. The ASAE 3100 requirements are outlined below.

- We used our professional judgement to assess the risk of Horizon Power not meeting the Requirements and plan and perform the engagement to obtain limited assurance that we are not aware of any instances of material non-compliance with the Requirements as evaluated against the Criteria for the period 1 July 2017 to 30 June.
- We will consider relevant internal controls when designing our assurance procedures, however we do not express a conclusion on their effectiveness.
- The KPMG team will possess the appropriate knowledge, skills and professional competencies.

Our engagement is not designed to and will not necessarily disclose all irregularities, errors or fraud related to the compliance requirements, should any exist. However, we will inform you of any such matters that come to our attention. Similarly, if during our engagement we identify opportunities to

strengthen compliance activities and/or controls we will report those as recommendations for improvement.

Limited assurance and material misstatement

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 a reasonable assurance engagement been performed.

Inherent limitations in assurance engagements

Because of the inherent limitations of an assurance engagement, together with the internal control structure it is possible that fraud, error, or non-compliance with the Requirements as evaluated against the Criteria may occur and not be detected.

A limited assurance engagement throughout the specified period does not provide assurance on whether compliance with the Requirements will continue in the future.

2.4 Scope

This limited assurance engagement was undertaken in order to report whether, based on the work performed, in all material respects, anything has come to our attention to indicate that Horizon Power has not complied in all material respects, with the requirements of Section 14 of the Electricity Industry Act 2004 as evaluated against the criteria set out in the Economic Regulation Authority's 2019 Audit and Review Guidelines for the period 1 July 2017 to 30 June 2020.

The scope required an assessment of the adequacy and effectiveness of Horizon Power's AMS for the period by evaluating the twelve asset management processes below and the effectiveness criteria outlined in Appendix 5 of the Economic Regulation Authority's 2019 Audit and Review Guidelines:

Key Asset Management Processes	
Asset planning	Asset management information system
Asset creation / acquisition	Risk management
Asset disposal	Contingency planning
Environmental analysis	Financial planning
Asset operations	Capital expenditure planning
Asset maintenance	Review of the asset management system

Exclusion

The scope of this Review includes assets subject to the Licence. KPMG are advised by Horizon Power that Generation Assets are excluded from this Licence.

Site visits

The scope of the Review included two regional site visits, with Karratha and Esperance selected.

2.5 Approach

In developing the Review Plan, KPMG adopted a risk-based approach, consistent with the Authority's methodology for assessing risk, which is based on the ISO 31000:2018.

The supporting tables to this risk based approach are shown at **Appendix 3**.

Risk based approach

The initial step involved a high level risk review of the AMS to analyse and verify the priority ratings for each of the 58 AMS elements. This review allowed KPMG to determine the high risk areas of Horizon Power's asset management system. Higher risk areas were prioritised to ensure appropriate review coverage was applied.

Firstly, KPMG identified the potential consequences, should Horizon Power not maintain an effective asset management system for assets subject to its License. Consequences were reviewed in regard to the effect on supply quality and reliability, consumer protection and breaches of legislation or other license conditions as detailed in *Table 11*.

The likelihood of Horizon Power not maintaining their asset management system for assets subject to its License was then assessed using the likelihood ratings listed in *Table 12*. The consequence and likelihood assessment then provide overall inherent risk rating for each element of the AMS system as detailed in *Table 13.*

Next the strength of the existing internal controls that mitigate the inherent risks was assessed. Controls were assessed as weak, moderate or strong as detailed in *Table 14*. The inherent risk rating and existing controls assessments was then compared to the 2017 AMSR Report and supporting rationale documented for any changes.

KPMG also reviewed actions undertaken by Horizon Power during the review period to determine if any of the ratings should be amended. A number of documents have been supplied by Horizon Power to assist in this assessment including:

- Internal asset management audits undertaken during the review period;
- Internal risk reviews undertaken or updated during the review period; and
- A detail of the actions undertaken in response to the 2017 AMSR.

The outcomes from this activity created a Priority Rating for each element of the AMS as outlined in *Table 15*.

Priority ratings

The detailed risk assessment for each effectiveness criteria element and priority ratings is attached in Appendix 4 and summarised in Table 1 below.

Table 1: Summary of Review Priority Ratings

Asset Management Process	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5
Asset planning	0	1	0	3	5
Asset creation / acquisition	0	1	0	4	0
Asset disposal	0	0	1	0	3
Environmental analysis	0	0	0	4	0
Asset operations	0	1	3	2	0
Asset maintenance	0	5	0	1	0
Asset management information system	0	1	2	0	5
Risk management	0	2	0	1	0
Contingency planning	0	1	0	0	0
Financial planning	0	0	0	3	3
Capital expenditure planning	0	0	0	2	2
Review of the asset management system	0	0	0	0	2
	0	**12**	**6**	**20**	**20**

2.6 Execution of the Review Plan

The Review Plan inclusive of the risk assessment, priority ratings and proposed review procedures was submitted to the ERA and subsequently approved on 1 September 2020.

There were no deviations from the Review Plan in executing the fieldwork.

Based on the Review priority identified for each effectiveness criteria element we carried out specific assurance procedures in order to obtain sufficient and appropriate evidence. In selecting the assurance procedures, we used our judgment and assessment of the level of risk involved having regard to the example procedures below.

Table 2: Examples of possible procedures

Review Priority		Examples of audit procedures
1	High Priority	Interview supervisory and operational personnel Inspect relevant documents Obtain evidence policies, procedures and controls are in place and working effectively Examine compliance reports and breach register Obtain confirmations from third parties if applicable Examine reports and correspondence with other regulators (e.g. Building and Energy) Inspect applicable asset infrastructure Examine asset management system effectiveness criteria Sample, at a high level, output and timeliness procedures
2		
3	Moderate Priority	Interview supervisory and operational personnel Inspect relevant documents Obtain evidence policies, procedures and controls are in place and controls are working effectively Examine compliance reports and breach register Physically examine applicable asset infrastructure Examine asset management system effectiveness criteria Sample output and timeliness procedures Walkthrough the process to calculate relevant performance indicators
4		
5	Low Priority	Interview supervisory or operational personnel Undertake a desktop review of relevant documents Undertake a desktop review of policies, procedures and controls in place View compliance reports and breach register Visit applicable asset infrastructure Undertake a desktop review of asset management system effectiveness criteria Sample, at a low level, output and timeliness procedures

A list of the licensee's representatives who participated in the Review is provided in **Appendix 1**.

A list of key documents and other information sources examined during the course of the Review is provided in **Appendix 2**.

2.7 Summary of action for previous review recommendations

The table below illustrates the profile of action taken by the licensee in response to the recommendations in the previous audit report dated 4 December 2017. Further details can be found in Section 3 - Previous Review Recommendations.

Table 3: Actions in Response to Previous Report Recommendations

	Resolved during current review period	Unresolved at the end of the current review period	Total
Total	**6**	**0**	**6**

2.8 Review Team Members and Time Undertaken to Complete Review

The following table outlines the auditor's personnel who undertook the review and time taken to complete the review procedures.

Fieldwork commenced on 7 September 2020 and was completed on 19 October 2020.

Fieldwork at the Esperance Depot was performed on 16th – 17th September and the Karratha Depot fieldwork was conducted on 23rd – 24th September 2020.

Table 4: Audit Members and Hours

Audit Members	Hours
Travis McAuliffe, Engagement Partner	12
Ben Lambert, Director - Asset Management	8
Alex Cesa, Associate Director – Asset Management	65
Neil Hamerton, Associate Director – Asset Management	7
Fish Sim, Manager	30
Therese Brooks, Senior Consultant – Asset Management	200
Sarah McCague, Consultant	70
Total	**392**

2.9 Summary of outcomes from current review

Through conducting the 2020 Asset Management System Review, we note that Horizon Power management and staff have a positive, proactive culture and attitude towards continuous improvement in the effectiveness of the Asset Management System. Staff demonstrated initiative through extensive preparation of policy and procedural documentation and promptly responded to all data requests.

Since the 2017 Review, Horizon has implemented various key improvements including:

- Introduction of ENSMS, which includes defining works management process, standard work packaging requirements and safety assessments.
- A resource to conduct bi-annual self-assessments within Asset Services directorate.
- Undertaking an asset management maturity assessment.
- The development of a number of asset class strategies and technical maintenance guides.
- Increased consistency in work order content recording across regions.
- The implementation and continuous refinement of the mobile application "FieldReach".
- Closure of 2017 AMS report recommendations (See Section 3).

We also note some key future initiatives being underway (or being considered) include:

- Developing a "bad actor"[1] analysis approach by asset types / locations / application / etc.

[1] *"Bad Actor" is the data analysis process dedicated to identify and benchmark trends of discrete physical asset fleets' reliability performance*

- Developing an inspection guide to reduce subjectivity around assessing particular assets condition.
- Progressing with the development and/or refinement of asset class strategies.
- Converting MSTs into work orders prior to hand over to the Regions (which improves compliance / cost control visibility).

Where areas of potential improvement were identified during audit fieldwork, Horizon Power is proactively considering implementation.

The tables below provides a high level summary of the outcomes from the current review for each of the 58 effectiveness criteria. Definitions of the rating scale and more details for each process and effectiveness criteria are contained in:

- Section 4 - Performance Summary; and
- Section 5 – Observations – Asset Management Review Details

In accordance with the ERA 2019 Audit and Review Guidelines no formal recommendations have therefore been raised during this Review as there were no instances where asset management processes or effectiveness criteria were rated C, D (process and policy rating) or 3, 4 (performance rating).

We have identified areas of opportunity for improvement (i.e. B and/or 2 ratings). These are included in Section 5 with more detail provided directly to Horizon Power.

Table 5.1: Performance summary – by the 12 Asset Management process areas

Asset Management Process	Process & Policy Rating	Performance Rating
Asset planning	A	1
Asset creation / acquisition	A	1
Asset disposal	A	1
Environmental analysis	A	1
Asset operations	A	1
Asset maintenance	B	1
Asset management information system	A	1
Risk management	A	1
Contingency planning	B	1
Financial planning	A	1
Capital expenditure planning	A	1
Review of the asset management system	A	1

Table 6.2: Performance summary – by the 58 effectiveness criteria

EIRL2 – Asset Management System Review		Process and policy rating			
		A – Adequately defined	B - Requires some improvement	C – Requires substantial improvement	D – Inadequate
Performance Rating	1 – Performing effectively	50	7	-	-
	2 – Improvement required	-	1	-	-
	3 – Corrective action required	-	-	-	-
	4 – Serious action required		-	-	-
	Total	**50**	**8**	**0**	**0**

3. Previous Review Recommendations

3.1 Previous recommendations resolved during current Review Period

Issue	Details of Issue	Auditors' Recommendations	Date Resolved	**Further action required** (Yes/No/Not Applicable) **& Details of further action required** (including current recommendation reference if applicable)
1/2017	**B1** **1.5 Asset creation and Acquisition:** Evaluation includes all lifecycle costs	Recommendation: Horizon Power consider updating: • Part B of its business case template to include consideration of: o Costs for disposal o Options relating to decommissioning, divestment or replacement • The AMP Guidelines to include a checklist item for consideration of disposal costs at acquisition. Action: 1. Finance will communicate with the PMO Custodian to make the relevant changes to Business Case Part B to consider o Cost of Disposal o Option relating to decommissioning, divestment or replacement. 2. AMP Guidelines will be updated to consider disposal cost (if required) at acquisition or factor in disposal costs as an OPEX cost element.	16/03/2018	Business case part B template was updated to include the following note: *The financial evaluation model MUST also include consideration for disposal, divestment and / or decommissioning of existing HP Assets*. The AMP Guidelines, Module 2 – Project Evaluation have been updated to incorporate the recommendation to consider the cost of asset disposal and remediation when replacing asset. *No further action required*
2/2017	**A2** **2.5 Asset creation and acquisition** Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	Recommendation: Horizon Power review and update all overdue EMPs to ensure consistency and accuracy of information. Action: All EMPs will be reviewed and updated.	02/02/2018	Regional environmental plans have been replaced with an organisation wide Environmental Plan. This plan is current. *No further action required*

Issue	Details of Issue	Auditors' Recommendations	Date Resolved	**Further action required** (Yes/No/Not Applicable) **& Details of further action required** (including current recommendation reference if applicable)
3/2017	**B2** **6.3 Asset Maintenance** Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Recommendation: Horizon Power consider: o Enhancing, based on risk, the granularity of its work order prioritisation to clearly indicate the age of overdue work orders o Developing a monitoring mechanism whereby outstanding work orders requiring immediate action are reported to regional managers o Scheduling future work orders to reflect the enhanced prioritisation approach. Action: ASD will: 1. Refine the AMR/Qlikview to incorporate time based aged overdue work orders KPIs. Communicate to the regions to ensure all work order have a prioritisation identifier.	30/06/2018	We note that an improvement to the tracking of overdue work orders has been implemented since the last review. Overdue work orders (30 days and 90 days overdue) are now tracked in the monthly AMRs. *No further action required*
4/2017	**B1** **8.2 Risk Management** Risks are documented in a risk register and treatment plans are actioned and monitored	Recommendation: Horizon Power consider revising its processes for updating CAPEX project dates (that relate to risk treatment plans) to require update within CURA against the relevant risk treatment plan. Action: 1. The Risk Function will send out a communication to the General Managers and Level 3 Managers reminding them to conduct more frequent reviews of their CURA tasks and to follow-up on overdue tasks. Furthermore, the communication will recommend that treatment plan owners synchronise the CAPEX project dates with the CURA treatment plan due dates and that risk treatment plan closure is reported within the AMRs. The Risk Function will continue to report overdue treatment plans to the Executive Team as part of the corporate risk consolidation process that is held every 6 months.	14/12/2017	The Risk Function presented the AMS Review finding and recommendation at each division's corporate risk workshop (attended by General Managers and all Level 3 Managers) with instructions to review alignment between CURA/CAPEX project dates and to review any overdue Treatment Plans. The Risk and Audit Function continue to remind treatment plan owners to review and update treatment plans as part of the annual and interim corporate risk process *No further action required*

Issue	Details of Issue	Auditors' Recommendations	Date Resolved	**Further action required** (Yes/No/Not Applicable) **& Details of further action required** (including current recommendation reference if applicable)
5/2017	**B1** **8.2 Risk Management** Risks are documented in a risk register and treatment plans are actioned and monitored	Recommendation: Review the current risk categories in CURA to confirm coverage of asset failure risks • Update its risk registers to include relevant extreme or high risks relating to asset failure (e.g. substation failure where N-1 has not been achieved). Actions: The implementation of the ENSMS on 6 August 2017 has identified asset safety risk. The ENSMS Working Group will review all Extreme and High Asset Failure Risks and these will be captured in CURA, which will be Horizon Power's up-to-date risk register.	13/07/2018	Horizon Power's Risk Management framework encompasses risks associated with "Asset Failure or Design Weaknesses" and this directs focus to elevated risk exposures on HP as a result of this type of risks. In addition, HP's ENSMS working group focus now encompasses a review Extreme and High Asset Failure Risks in order to ascertain whether any potential risk exposure movements have occurred. *No further action required*
6/2017	**B1** **9.1 Contingency planning** Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Recommendation: Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks Action: 1. ASD will develop a template and standardised approach to the content of the contingency plans to ensure all key tactical steps are identified and actionable. Regional Managers will update the standardised contingency plan to include all key tactical steps.	11/04/2018	On review of the contingency plans for the Esperance and Karratha Regions, it appears that a standardised approach has been implemented, and tactical steps are identified and actionable. *No further action required*

4. Performance summary

The overall effectiveness rating for each asset management process is based on the combination of the process and policy adequacy rating and the performance rating, as defined in *Table 7* and *Table 8*.

Table 7: Asset management process and policy definition adequacy ratings

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

Table 8: Asset management performance ratings

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

Table 8 summarises KPMG's assessment of each of the twelve key asset management processes together with the effectiveness criteria for each key component.

Table 9: Asset management system effectiveness summary

Asset planning

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
1	**Asset planning**		**A**	**1**
1.1	Asset management plan covers the processes in this table	Priority 4	A	1
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	Priority 5	A	1
1.3	Service levels are defined in the asset management plan	Priority 5	B	1
1.4	Non-asset options (e.g. demand management) are considered	Priority 5	A	1
1.5	Lifecycle costs of owning and operating assets are assessed	Priority 4	A	1
1.6	Funding options are evaluated	Priority 5	A	1
1.7	Costs are justified and cost drivers identified	Priority 4	A	1
1.8	Likelihood and consequences of asset failure are predicted	Priority 2	A	1
1.9	Asset management plan is regularly reviewed and updated	Priority 5	A	1

Asset Creation and Acquisition

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
2	**Asset Creation and Acquisition**		**A**	**1**
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	Priority 4	A	1
2.2	Evaluations include all life-cycle costs	Priority 4	A	1
2.3	Projects reflect sound engineering and business decisions	Priority 4	A	1
2.4	Commissioning tests are documented and completed	Priority 4	A	1
2.5	Ongoing legal/environmental/ safety obligations of the asset owner are assigned and understood	Priority 2	A	1

Asset Disposal

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
3	**Asset Disposal**		**A**	**1**
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Priority 5	A	1

3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Priority 5	A	1
3.3	Disposal alternatives are evaluated	Priority 5	A	1
3.4	There is a replacement strategy for assets	Priority 3	A	1

Environmental Analysis

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
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	B	1
4.3	Compliance with statutory and regulatory requirements	Priority 4	A	1
4.4	Service standard (customer service levels etc) are measured and achieved	Priority 4	A	1

Asset operations

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
5	**Asset operations**		**A**	**1**
5.1	Operational policies and procedures are documented and linked to service levels required	Priority 2	A	1
5.2	Risk management is applied to prioritise operations	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 3	B	1
5.4	Accounting data is documented for assets	Priority 3	A	1
5.5	Operational costs are measured and monitored	Priority 4	B	1
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Priority 3	A	1

Asset maintenance

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
6	**Asset maintenance**		**B**	**1**
6.1	Maintenance policies and procedures are documented and linked to service levels required	Priority 2	B	1
6.2	Regular inspections are undertaken of asset performance and condition	Priority 2	A	1

6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Priority 2	B	2
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Priority 2	B	1
6.5	Risk management is applied to prioritise maintenance tasks	Priority 2	A	1
6.6	Maintenance costs are measured and monitored	Priority 4	A	1

Asset Management Information System

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
7	**Asset Management Information System**		**A**	**1**
7.1	Adequate system documentation for users and IT operators	Priority 5	A	1
7.2	Input controls include appropriate verification and validation of data entered into the system	Priority 3	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 3	A	1
7.6	Computations for licensee performance reporting are accurate	Priority 5	A	1
7.7	Management reports appear adequate for the licensee to monitor license obligations	Priority 5	A	1
7.8	Adequate measures to protect asset management data from unauthorized access or theft by persons outside the organisation	Priority 2	A	1

Risk Management

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
8	**Risk Management**		**A**	**1**
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	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

Contingency Planning

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
9	**Contingency Planning**		**B**	**1**
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Priority 2	B	1

Financial Planning

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
10	**Financial Planning**		**A**	**1**
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives	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 indicative predictions beyond this period	Priority 5	A	1
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Priority 4	A	1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Priority 4	A	1

Capital Expenditure Planning

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
11	**Capital Expenditure Planning**		**A**	**1**
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Priority 4	A	1
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Priority 5	A	1
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Priority 4	A	1
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	Priority 5	A	1

Review of AMS

Ref	Asset Management process & effectiveness criteria	Review Priority	Process and policy definition adequacy rating	Performance rating
12	**Review of AMS**		**A**	**1**
12.1	A review process is in place to ensure that the asset management plan and the asset management system described in it remain current	Priority 5	A	1
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Priority 5	A	1

5. Observations - Asset Management Review Details

The observations, recommendations, opportunities for improvement, and overall level of effectiveness in relation to each key process area is provided in Sections 5.1 to 5.12.

5.1 Asset Planning

Key Process:	Asset planning strategies focuses on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).
Outcome:	Asset Planning is integrated into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service optimised.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
1.1	Asset management plan covers the processes in this table	Priority 4	Through enquiries held with the Manager Asset Services and review of the documents capturing the asset management plan (the Asset Management Policy, Asset Management Strategy, the Asset Management Guideline Modulus 1 – 10 and Region specific Opex & Capex budgets and forecasts) we note Horizon Power maintains an adequate line of sight between policy, strategy and tactical down to operation. Together, the suite of documentation provides a comprehensive view of planned investment, supported by risk-based rationale. While some asset class strategies are still in the development stage, these gaps are understood by Horizon Power and a plan is in place to address the gaps. We note the Asset Management Plans (AMPs) are developed annually for each region and supported by tactical plans within the regions. Since the 2017 AMS Review, AMPs are now reviewed on a quarterly basis. This change has allowed the organisation to adapt to changing risk profiles as they are identified.	
			Process and Policy Rating: A	Performance Rating: 1
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	Priority 5	Through enquiries held with the Manager Asset Services, and Regional Asset Managers Karratha & Esperance and review of the asset management planning processes, we note that the AMP process is iterative and involves several stakeholder reviews both internally and externally. The planning process begins with Regional Asset Managers developing and submitting planning forecasts. These are then peer reviewed and challenge sessions are facilitated by the Asset Services Group. Capital expenditure projects, along with scheduled maintenance scopes and frequencies are reviewed and challenged where appropriate. The Department of Treasury is also able to provide feedback during regular meetings with the General Manager. In addition, the Asset Management Strategy addresses stakeholder needs through the seven high level performance drivers: safety, regulatory compliance, capacity, reliability, quality, economics and asset service. At an operational level, planning and scheduling of project and maintenance works also considers the needs of the various local stakeholders. This is exemplified in the Esperance Region, where annual visual inspections are scheduled to be undertaken directly after harvest to avoid clashes with this key activity. Horizon Power also survey residential and business customers on an annual basis to monitor the organisations performance across each region. Low performing results are reviewed, so that poor ratings can be improved upon.	
			Process and Policy Rating: A	Performance Rating: 1
1.3	Service levels are defined in the asset management plan	Priority 5	Through enquiries held with the Manager Asset Services and review of the Asset Management Strategy and Asset Management Reports, we noted a reasonably comprehensive spectrum of key performance indicators (KPIs) that measure assets level of service and required targets as detailed in the Asset Management Strategy. In spite of the existing service level KPIs, it was noted that discrete asset class strategies objectives could be improved, in particular by providing a clearer connection between the service levels required at an asset class level, and how they contribute to the parent level asset-system performance they belong. This will further embed the organisations key performance targets across the asset management system.	

No.	Effectiveness Criteria	Review Priority	Observations	
			Performance against most service levels and key performance metrics are tracked within the monthly Asset Management Reports. The unit cost to supply (cents/kWh) and operating unit costs (cents/kWh) KPIs in particular are reported in the monthly Board Performance Report and the Quarterly Performance Report. Overall Corporate risk rating is reported annually in the Horizon Power Risk Profile: Corporate Strategy Refresh. However, we note Horizon Power only tracks reportable fires, which means that ground fires are not routinely reported. Including ground fires started by grow ins, blow ins and fall ins as a metric tracked in the AMR would allow Horizon power to further demonstrate their commitment to the organisation's safety driver, and allow performance of the vegetation management strategy to be measured. Additional performance metrics are defined by each region for operational activities. Examples of metrics include: o Non-performing feeders o Work orders overdue o Priority work orders	
			Process and Policy Rating: B	Performance Rating: 1
1.4	Non-asset options (e.g. demand management) are considered	Priority 5	Through enquiries held with the Asset Services Delivery Manager, PMO Manager, Future Energy Systems Manager and consideration of Horizon Power's asset management framework, system, policies and processes, we determined that at the planning stage, non-asset solutions are considered. The asset Management Guideline Module 2: Project Evaluation details the requirements of asset creation and acquisition at the options assessment stage. A minimum or two alternative options should be considered (in addition to the 'do nothing' baseline option). In this options evaluation stage, demand side options should be included if they are available. The guidance document provides examples of these demand management solutions that could include (e.g.) establishing a contract with a local company to reduce high load consumption during system' peak demand times in order to keep network capacity within acceptable operating bounds. An example of a non-asset solution considered in Esperance to address a capacity issue was an additional 2MW demand management - though this non-asset option was ultimately determined to be non-feasible. Another non-asset solution that is typically instigated in remote towns is Power Purchase Agreements (PPA). Horizon Power review the economics of extending or renegotiating agreements to ensure value and quality of service for customers is achieved.	
			Process and Policy Rating: A	Performance Rating: 1
1.5	Lifecycle costs of owning and operating assets are assessed	Priority 4	Through enquiries held with the Asset Services Delivery Manager, PMO Manager and consideration of Horizon Power's asset management framework, system, policies and processes, we determined that Horizon Power conducts analyses of lifecycle costs - both in the development of asset class strategies and when evaluating the case for individual investments. The asset class strategies typically address: o Economics of condition assessment o Total replacement cost for the asset class o Assessment of risks and costs savings associated with renewal, upgrade and service extensions. The business case templates require that each proposed project addresses: o Benefits of the Business Case in decreased Capital costs as a result from the delivery of the Business Case Outcomes. o Benefits of the Business Case in decreased Operating costs as a result from the delivery of the Business Case Outcomes o All capital projects are required to be assessed in NPV and Internal Rate of Return (IRR) terms o The business case process includes NPV and IRR calculations for lifecycle costs. We reviewed the business case for the Esperance Single Phase Recloser Upgrade project and noted that life cycle costs inclusive of procurement, installation maintenance and associated savings were assessed.	
			Process and Policy Rating: A	Performance Rating: 1

No.	Effectiveness Criteria	Review Priority	Observations	
1.6	Funding options are evaluated	Priority 5	Through enquiries held with the Manager Asset Service and the Acting Manager Finance, and given Horizon Power's asset planning processes, we determined that Horizon Power considers the following funding options: o Department of Treasury allocations o Customer Funded projects o Other Government programmes (e.g. Royalties for Regions, Covid-19 stimulus). Funding options have been incorporated into the Corporate Budget, Statement of Expectations and Statement of Corporate Intent. Where a significant event such as a cyclone triggers the need for additional unforeseen maintenance and capital costs, a submission will be made to treasury for relief funding.	
			Process and Policy Rating: A	Performance Rating: 1
1.7	Costs are justified and cost drivers identified	Priority 4	Through enquiries held with the Manager Asset Services, the A/Manager Finance and consideration of Horizon Power's asset planning processes, we determined that Horizon Power aligns its internal cost drivers to the Department of Treasury drivers as identified in the Asset Management Strategy. These key drivers are linked to the asset management performance objectives. All Business cases are required to demonstrate their link to the seven key drivers. Capital projects are evaluated using the Risk Value Movement (RVM), a calculation described in the Risk for Asset and Projects Framework that assess the costs associated with moving from the current risk value to the target risk value. The Asset Management Report (AMR) capture details on costs involved in owning and operating the assets, which are discussed and reviewed monthly. Any anomalies identified through this process are investigated.	
			Process and Policy Rating: A	Performance Rating: 1
1.8	Likelihood and consequences of asset failure are predicted	Priority 2	Through enquiries held with the Manager Asset Services, Risk and Audit Manager, Systems Performance Manager; an examination of relevant risk assessment and asset planning documentation, and walkthrough of Horizon Power's processes for predicting the likelihood and consequence of asset failure, we determined that: o Where the exposure relates to safety risks, Horizon Power ensures that exposure is reduced to As Low As Reasonably Practicable (ALARP). Horizon Power accepts a medium residual risk rating for all other identified risks (refer to the Risk Management Framework). o Likelihood and consequences of asset failure are assessed according to the As Low As Reasonably Practicable (ALARP) principle, utilising Horizon Power's Corporate risk tables. A more granular risk matrix table has been developed for the Asset Services group, with input from the Corporate Risks team. o Safety risks relating to asset failure are captured, assessed and managed in Operating Division risk registers o The Asset Class Strategies addresses the overall risks associated with a specific asset class. The asset class strategies will identify key failure modes and their likelihoods, as well as an overall failure rate per annum. The failure modes and rates are based on historical data. The asset class strategies are reviewed every 5 years to incorporate recent trends, although a review may be triggered where (e.g.) a novel systemic asset failure is identified. o Horizon Power are developing an Asset Risk and Criticality (ARC) tool to assist with asset failure predictions. The prototype model is designed to provide insights on poles and conductors. o Horizon Power have also utilised destructive testing to inform asset failure predictions. This was the case in Esperance where destructive pole testing was undertaken to inform a remaining useful life assessment. This analysis was then incorporated into the inspection and replacement program and poles that are predicted to fail prior to the next inspection are replaced. The report titled 'Horizon Power Asset Inspection Report May - June 2019-20' details the improvement to pole performance in the years following the implementation of the program. Unassisted pole failures have fallen below a 1 failure per 10,000 poles per annum based on a three-year rolling average. o Asset performance is tracked on a monthly basis through the Asset Management Reports. Based on a sample of reports reviewed, we note they include the following metrics: • Performance of assets based on predefined variance limits • Performance KPIs for pole failure events (per 10,000 poles)	

No.	Effectiveness Criteria	Review Priority	Observations	
			• Performance against SAIDI and SAIFI Through tracking performance, Horizon Power can verify their asset failure predictions and trigger investigation of anomalies.	
			Process and Policy Rating: A	Performance Rating: 1
1.9	Asset management plan is regularly reviewed and updated	Priority 5	Through enquiries held with the Manager Asset Services, the Regional Asset Managers and a review of Horizon Power's asset management framework, system, policies and processes, we noted that: o Region specific Asset Management Plans (AMP) are reviewed annually, as part of the AMP process and Corporate Budget process o "Challenge sessions" are conducted annually on regional AMP scopes and budgets, where the intent is to rationalise (normalise) expenditure for the year from a business-wide risk exposure perspective. o Each Regional AMP can be reviewed quarterly, allowing the organisation to address changing risk profiles as they are identified. o The Module 1 – Asset Management Planning Guide framework document is reviewed on a 5-yearly basis. o Asset Class Strategies are reviewed on a 5-yearly basis.	
			Process and Policy Rating: A	Performance Rating: 1

5.2 Asset Creation and Acquisition

Key Process:	Asset creation/acquisition is the provision or improvement of assets
Outcome:	The asset acquisition framework is economic, efficient and cost-effective; it reduces demand for new assets, lower service costs and improve service delivery.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	Priority 4	Through discussion with the Manager Asset Services, PMO Manager and consideration of Horizon Power's Project Management (PMM) process, we determined that: o The asset Management Guideline Module 2: Project Evaluation details the requirements of asset creation and acquisition at the options assessment stage. A minimum or two alternative options should be considered (in addition to the 'do nothing' baseline option). In this options evaluation stage, demand side options should be included if they are available. The guidance document provides examples of these demand management solutions that could include (e.g.) establishing a contract with a local company to reduce high load consumption during system' peak demand times in order to keep network capacity within acceptable operating bounds. o A suite of business case templates and guidelines are available to ensure all projects are developed and evaluated consistently. o All potential projects are reviewed utilising the Risk Value Movement assessment. o We reviewed the business case for the Single Phase Recloser Upgrades project currently underway in the Esperance Region, noting that this project utilised the Non-Complex Business Case. A full evaluation of several potential options was undertaken. o We note that a non-asset based demand management solution was considered in Esperance to address a 2MW capacity issue, and on conclusion of the full evaluation of the options (including asset based and non-asset based solution) it was determined that the demand option was non-feasible in this case.	
			Process and Policy Rating: A	Performance Rating: 1
2.2	Evaluations include all life-cycle costs	Priority 4	Through enquiries held with the Manager Asset Services and PMO Manager; consideration of Horizon Power's processes for evaluating project lifecycle costs and examination of Horizon Power's Business Case templates, we determined that Horizon Power has the following processes in place: o The asset management guideline titled Module 2 Project Evaluation provide guidance on the lifecycle costs to be included in the project assessment. o The Asset Class Strategies typically address the whole of life costs for each asset type, including risk-based recommendations for renewals/replacement decisions. o The Business Case templates require consideration of costs of ownership within NPV calculations captured in the Business Case template: Part B, Options Analysis. o The Guideline for Business Case Part B states that "the financial evaluation model must also include consideration for disposal, divestment and/or decommissioning of existing HP Assets" o We reviewed the business case for the Single Phase Recloser Upgrades project currently underway in the Esperance Region and noted that life cycle costs inclusive of procurement, installation maintenance and associated savings were evaluated.	
			Process and Policy Rating: A	Performance Rating: 1
2.3		Priority 4	Through discussion with the Manager Asset Services and consideration of Horizon Power's project management process we noted that: o The project development process is adequately designed to allow for sound engineering judgement and business decisions	

No.	Effectiveness Criteria	Review Priority	Observations
	Projects reflect sound engineering and business decisions		o The suite of business case guidelines and templates address the need to identify and engage relevant stakeholders to be involved during the project evaluation process, and specific contractor competency requirements related to the scope of the works. o A project Steering Committee is established for all complex projects, which incorporates quality assurance and project decision making. We reviewed the business case for the Single Phase Recloser Upgrade Project in Esperance and note that the project description included an assessment of the current risk to the business, allocation of senior engineering resources to undertake a review of designs, and an assessment of whole of life costs. Process and Policy Rating: A | Performance Rating: 1
2.4	Commissioning tests are documented and completed	Priority 4	Through enquiries held with the Manager Asset Services, the Esperance's Regional Asset Manager and examination of relevant documentation, we noted that: o Commissioning activities are documented in punch list format . o Documentation of commissioning activities is maintained in Horizon Power's document management system o Specific assets have specific commissioning activities that are documented. We viewed a distribution commissioning test sheet for the Single Phase Recloser program in Esperance and noted the requirements for asset description data, visual safety checks, insulation resistance and continuity tests, energisation of transformer without load and energisation of transformer with load along with the operational handover sign off. Process and Policy Rating: A | Performance Rating: 1
2.5	Ongoing legal/environmental/ safety obligations of the asset owner are assigned and understood	Priority 2	Through discussion and walkthrough held with the Manager Asset Services, the Risk and Audit Manager and consideration of relevant policies and procedures, we confirmed that Horizon Power conducts the following activities for identifying and managing regulatory obligations relating to its assets: o Horizon Power manages awareness of key legislative obligations imposed on the business and notification of changes to obligations through the Online Compliance Register (OCR). o Regulatory Compliance directions are addressed in accordance with their priority set by the prioritisation process and are recorded and managed in CURA as actions. Incidents are recorded and managed through Cintellate. o Checklists are completed to track environmental and native title approvals o The Skills Matrix details the training requirements for each role within the business, including training for ENSMS Network Notifiable & Reporting Incident. The currency of this training is monitored to ensure personnel remain current with their understanding of legal, environmental and safety obligations. o We reviewed the VETtrak currency for several field staff within the Karratha and Esperance regions and noted the currency of training, particularly with regards to environmental and safety training for field staff, as well as legal training including the scope of regulatory reporting requirements. o Regulatory obligation breaches are identified, escalated and reported through the following mechanisms: • Non-compliance is logged in relevant project issues logs • All non-compliances identified are required to be reported to the project Steering Committee by Project Directors • A summary of non-compliances are reported in Project Status Reports (PSRs) and communicated to GMs o Asset Performance KPIs are reported and tracked in the monthly Asset Management Reports. To address the safety and regulatory drivers, Horizon Power asset managers have the following processes in place as detailed in Safety and Regulatory Planning: • Established CAPEX and OPEX programs to maintain asset performance • Review asset condition and identify programs to manage the safety and performance of the asset group • Review interim instructions and associated directions concerning asset safety and regulatory requirements • Attend to any assigned risk actions (CURA) • Attend to any Incident Actions (Cintellate) • Maintain licence requirements.

No.	Effectiveness Criteria	Review Priority	Observations	
			Process and Policy Rating: A	Performance Rating: 1

5.3 Asset Disposal

Key Process:	Asset disposal is the consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets.
Outcome:	The asset management framework minimizes holdings of surplus and under-performing assets and lowers service costs. The cost-benefits of disposal options are evaluated.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Priority 5	Through enquiries held with the Manager Asset Services and examination of relevant supporting documentation, we determined that Horizon Power has the following processes in place for identifying under-performing assets: o The regions monitor faults in the first instance through the 'Asset interaction sheet' and the defect management processes. Should the region identify a reoccurring / emerging failure pattern, they request assistance from the Bentley Asset Services team to determine if the issue is systemic. o Live network monitoring is conducted via the Horizon Power Control Centre o Asset performance data is collated on a monthly basis and reported in the Asset Management Report (AMR). Through this process, under performing and under-utilised assets can be identified. o The AMRs include SAIDI and SAIFI figures for the month, which are discussed by Regional Managers during monthly team meetings o The Cintellate incident reporting system is used to track any incidents that warrant investigation, such as safety incidents or client outages and as detailed in the extract Cintellate Open Actions 20200903. Horizon Power are developing a "Bad Actor Preliminary Analysis' for Esperance. This is a new initiative that was launched in November 2019 and reviews data using a weighted four yearly average to identify under-performing feeders. The analysis relies predominately on fault data, with a view to expand into maintenance data and condition data in the future, and to then apply the process to other regions. Process and Policy Rating: A | Performance Rating: 1
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Priority 5	Through enquiries held with the Manager Asset Services and examination of relevant supporting documentation, we determined that Horizon Power has the following processes in place for implementing corrective action in relation to asset disposal: o The AMR publishes the critical failure rates. Should these failure rates be higher than expected an investigation will be triggered. Unassisted conductor failures in Carnarvon is an example where this failure data triggered a review and adjustment of maintenance plans. The AMR identified that unassisted conductor failure in Carnarvon was 6 times higher than the organisations target. A review was carried out for all conductors in the area including a detailed inspection. This resulted in identifying the need for a major capital program to replace conductors in Carnarvon. Where significant failures are identified in a region, Horizon Power may also complete ad-hoc studies to determine if the failure is specific to that area or systematic across the business. o In the instance of a disposal, investigations will be performed to determine root cause and whether disposal/replacement action is required o Strategic decisions on large asset replacements are incorporated into capital spending programs (e.g. Pole Replacement Program) Process and Policy Rating: A | Performance Rating: 1
3.3	Disposal alternatives are evaluated	Priority 5	Through enquiries held with the Manager Asset Services, and examination of supporting documentation, we noted the following: o Horizon Power has a "Disposal / Write-off of Assets' policy for processing the disposal and selling of an asset (after the decision has been made to dispose). o The asset Class Strategies address end of life decisions based on age and provides recommended actions based on asset condition. o Safety issues associated with the disposal and transportation of assets are addressed.

No.	Effectiveness Criteria	Review Priority	Observations	
			o Recycling is a considered option. The document title Disposal of Lamps and Fluorescent Tubes (R3.8) notes that all boxed or wrapped globes, bayonets or Edison screw bases should be recycled.	
			Process and Policy Rating: A	Performance Rating: 1
3.4	There is a replacement strategy for assets	Priority 3	Through enquiries held with the Asset Services Delivery Manager and consideration of Horizon Power's replacement strategies for its key assets, we determined that: o Horizon Power have a maturing understanding of the expected service life for each of their asset class types. o Steel and timber poles have robust and developed processes to support condition-based replacement. These processes have ensured that older poles that have reach end of life are identified and replaced, as are younger poles that reach an early end of life due to higher than average degradation rates. Additionally, it allows for older poles to remain in service when they do not fail testing and demonstrate a lower than average degradation rate. This condition-based assessment has reduced unassisted pole failure rates to below 1 failure per 10,000. o Where obsolescence of an asset is identified, a plan will be developed to replace the asset as was the case with the Single Phase Recloser Replacement Project in Esperance. o The Asset Class Strategies address end of life decisions and provides recommended actions based on asset condition and/or age.	
			Process and Policy Rating: A	Performance Rating: 1

5.4 Environmental Analysis

Key Process:	Environmental analysis examines the asset management system environment and assesses all external factors affecting the asset management system.
Outcome:	The asset management system regularly assesses external opportunities and threats and identifies corrective action to maintain performance requirements.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
4.1	Opportunities and threats in the asset management system environment are assessed	Priority 4	Through discussion with the Manager Future Energy Systems, Manager System & Network Planning and Asset Services Manager, and examination of Horizon Power's policies and reporting mechanisms, we note that: o Potential threats and opportunities are considered at the planning stage; current considerations include future cost curves for falling prices in emerging technologies, sensitivity analysis, and energy demand forecasting. Horizon Power have considered the potential impact of electric vehicle uptake and have planned for several potential scenarios in the short to medium term that would require different treatments. This risk-based asset planning approach identifies the threats and opportunities and informs network investment on the areas of investment to mitigate risk and explore opportunities. An example of this analysis is the Positioning Horizon Power's Assets for the Future – AM Transition – Executive Submission. o Regional and project specific risks are assessed and managed through registers o Long term forecasts and annual reviews of the AMS are performed to analyse opportunities and threats in the system environment o Safety and environmental considerations flow through to the AMP (as a driver), which consider the impacts of the changing environment on assets' operation o The Asset Management Plan (AMP) was developed using the Risk Movement and it is reviewed on a quarterly basis, so that any changes to the Regional asset management risk profile can be addressed in an agile manner. o Asset Management Reports (AMRs) are generated monthly to identify shortfalls in performance requirements, and reporting may trigger action plans to address shortfalls o Corporate risks are managed through CURA o Incident reporting is managed through the Cintellate environmental, health and safety reporting system; which is made available to relevant stakeholders.	
			Process and Policy Rating: A	Performance Rating: 1
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Priority 4	Through discussion with the Asset Services Delivery Manager, the Data Management Officer, and examination of Horizon Power's policies and reporting mechanisms, we determined that: o The AMS Strategy and System document details the high-level performance objectives and targets, which are then linked to the organisations' key drivers and strategic priorities. o The majority of these key performance targets are reported monthly through the Asset Management Report (AMR). We note some high-level performance targets could be specifically listed in the relevant asset class strategy document to ensure the key targets and drivers are further embedded into the asset management system. For example, fires are listed as a key performance target linked to the safety driver, however, ground fires are not currently tracked in the AMR, and are not specifically noted as a performance target in the Vegetation Management asset class strategy. o The AMR could be improved with the investigation of possible Work Order and MST KPIs that will provide additional transparency when viewing (for example) the status of planned and performed work, forward/backlogs, etc.	
			Process and Policy Rating: B	Performance Rating: 1

No.	Effectiveness Criteria	Review Priority	Observations	
4.3	Compliance with statutory and regulatory requirements	Priority 4	Through discussion with the Asset Services Delivery Manager and examination of Horizon Power's policies and reporting mechanisms, we determined that: o Field staff receive training to be able to identify reportable faults, and guidance is available through the Fault Categorisation Framework and guidance is provided in the Network Notifiable & Reportable Incidents - Guidance notes. o Faults that may need to be reported to the regulator are internally reviewed and validated o Investigation rigour and depth are modulated by the nature of the incident. For instance, we note a switching incident is an immediate trigger for an investigation and the fault cannot be cleared until the quality assurance activities are completed. o Horizon Power's compliance register consists of drill down capabilities to identify obligations by operating division o Environmental and Heritage requirements are managed through clearance request forms, which are reviewed by the Environment and Land Management Team. Clearance request forms are accessible via Horizon Power's internal intranet o Performance compliance management is monitored through AMRs. Horizon Power performs additional compliance reporting across: • Power quality • Distribution defects • Customer outages • Streetlight customer charter.	
			Process and Policy Rating: A	Performance Rating: 1
4.4	Service standard (customer service levels etc) are measured and achieved	Priority 4	Through discussion with the Asset Services Delivery Manager and the Retail and Community Manager (West Pilbara), and examination of Horizon Power's policies and reporting mechanisms, we determined that: o AMRs include key performance metrics and targets, and are presented at monthly performance meetings o Regulatory performance standards that are tracked include: • SAIDI and SAIFI • Customer outages >12 hours • Outstanding incidents >7 days. o Where service standards are not achieved, the root causes are investigated. o Horizon Power also measures customer satisfaction through annual reporting in the Brand Reputation and Customer Satisfaction Research report.	
			Process and Policy Rating: A	Performance Rating: 1

5.5 Asset Operations

Key Process:	Asset Operations is the day-to-day running of assets (where the asset is used for its intended purpose).
Outcome:	The asset operations plans adequately document the processes and knowledge of staff in the operation of assets so service levels can be consistently achieved.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations
5.1	Operational policies and procedures are documented and linked to service levels required	Priority 2	Through enquiries and walkthroughs held with the Manager Asset Services, Regional Asset Managers of Esperance and Karratha, Regional Works Delivery Managers and Maintenance Planners, and examination of documented policies, procedures and protocols, we observed that Horizon Power has: o A range of operational procedures and guidelines exists as controlled documents to govern the network operations. These include for example standard operating procedures for switching processes, fault management procedures and staff/shift management for the Horizon Power Control Centre (HPCC). Controlled documents are reviewed periodically. o Key Performance Indicators (KPI) measures such as System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) are reported on a monthly basis through the Asset Management Report (AMR) and are available in real time via Qlikview. Based on trends, anomalies are investigated, and mitigation strategies enacted to improve network performance. Due to a lack of local resources, some remote towns will inevitably fall outside the target SAIDI targets. These locations are known, and the residual risk is accepted by the organisation. o Developed operating instructions and control plans for major aspects of the network o Regional operational plans are prepared annually to describe the full scope and strategies required to achieve service and performance levels The Asset Management Strategy and System outlines overall organisation wide objectives (the "what") and are reviewed on a five-yearly basis. Region specific AMPs provide descriptions of relevant operational activities and tasks (the "how") and are updated on an annual basis. Process and Policy Rating: A | Performance Rating: 1
5.2	Risk management is applied to prioritise operations	Priority 4	Through enquiries held with the Manager Asset Services, Regional Asset Managers of Esperance and Karratha, Regional Works Delivery Managers and Maintenance Planners, and examination of documented policies, procedures and protocols, we noted that: o The works delivery manager's role is to coordinate the delivery of work packages. This will mean in the first instance, deciding if the work can be completed internally or if it should be contracted out. The Esperance region will typically be required to deliver 150-180 maintenance works packages a year while also providing ad hoc customer services and faults repair. The priority for addressing these different types of works is usually as follows: 1. Faults 2. Customer services 3. Maintenance works packages o Horizon Power applies a risk-based process to manage its key assets, with higher risk tasks given priority over lower risk tasks. Where defects are identified, the inspector will also provide a severity rating. This is assessed based on the potential impact to customers and risk exposure. o Weekly meetings are held to discuss and prioritise operational and maintenance tasks at each location, and to address any current or potential delays to progressing the works. The review team attends a weekly project review meeting in the Karratha, where the prioritisation of projects is discussed. o Daily pre-start meetings are held to discuss and prioritise work for the day and share any learnings from the previous day's work.

No.	Effectiveness Criteria	Review Priority	Observations
			o Horizon Power has risk registers for key assets on the network. Risk management has been incorporated into operational tasks, through: • Risk identification • Take fives and hazard identification toolbox meetings. The review team observed a pole testing activity and after being briefed on the risks were signed onto the Job Risk Assessment (JRA). Process and Policy Rating: A — Performance Rating: 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 3	Through discussion with the Asset Services Delivery Manager, Regional Asset Managers in Karratha and Esperance, Esperance Crew Leaders and Regional Maintenance planners, and examination of documented policies, procedures and protocols, we observed that: o Ellipse is the primary asset register and is used to record the following: • Equipment type • Equipment ID • Location • Material type • Work orders • Maintenance tasks • Maintenance history including condition assessment and defect history o FieldReach (Ellipse's mobile solution interface) is used by field staff to manage work orders and raise defects. The field staff raise defects on incorrect data within the asset register when anomalies are identified during maintenance and operations activities. o PlanView will be introduced to the organisation in October 2020 and will provide the ability to track project resources and finances. o When maintenance work is completed, a quality assurance process takes place and where necessary, a request is sent to Cyient to provide updates to Electric Office. The Electric Office updates are reviewed by Horizon Power prior to being accepted into the Ellipse asset register. Electric Office and Ellipse are synchronised daily, and anomalies are typically identified during such time. o The quality assurance process contributes to a lag in the system whereby an asset can be installed in the field, but it may take several weeks to be updated on Ellipse and Electric Office. We note that Horizon Power are commencing a trial project to address this gap. The trial involves the planned replacement of 500 luminaires. The replacement assets will be created in Ellipse prior to construction taking place, and field staff will enter the installation date on site through the FieldReach application. This trial will enable the asset to be updated live in Ellipse at the point of installation as it takes place, rather than by batch and several weeks after the quality assurance process has been completed. We note that the described trial may address our concerns regarding the ability to better track projects' completion and to have associated asset register data available in Ellipse in a timely manner. o The FieldReach app accesses the geographical location for each asset. We note that the location data does not currently include information on the asset ownership and associated accountabilities. We viewed several pole testing activities being undertaken in the Esperance region, along with the documentation of these tasks through the FieldReach application. We also viewed the asset register in Ellipse and noted the functionality of the register, including (for example) the ability to view asset register hierarchy (parent / child structure). Process and Policy Rating: B — Performance Rating: 1
5.4	Accounting data is documented for assets	Priority 3	Through discussion with the Manager Asset Services, the A/Manager Finance, and consideration of relevant policies and procedures, we confirmed that Horizon Power has the following processes in place: o The Fixed Asset Policy details the asset categories in the Fixed Asset Register with the objective of ensuring accounting treatment is consistent with the Australian Accounting Standards and Australian Taxation Legislation. o This policy is supported by a number of guidance documents including The Capitalisation of Project Costs (A component of the Fixed Asset Policy), Capitalisation of Costs, the Addition of Individual Assets documents. o Depreciation rates assigned to newly acquired assets are determined by asset type, and in accordance with ATO recommendations. An exception is GIS software, which has been depreciated over a period of 6 years instead of the tax ruling of 5yrs because this is more in line with the economic life of the asset.

No.	Effectiveness Criteria	Review Priority	Observations
			o The review team were provided with an extract of the Fixed Asset Register and the annual Key Controls Questionnaire for the Year Ended 31 March 2020 as is required by the Fixed Asset Cycle. o Along with key asset name plate data, accounting costs are documented for assets in the Fixed Asset Register. o The 2019/20 Interim Audit of the Tangible Fixed Assets Cycle notes that any changes to the accounting data are verified prior to acceptance into the system and authorised staff are required to complete the relevant forms for acquisitions and disposals. The paperwork will be forwarded and reviewed by the Assistant Accountant before processing the transactions on the Fixed Assets Register.
			Process and Policy Rating: A — Performance Rating: 1
5.5	Operational costs are measured and monitored	Priority 4	Through enquiries held with the Asset Services Manager, Regional Asset Managers of Esperance and Karratha, Regional Maintenance Planners and Works Delivery Managers, and examination of documented policies, procedures and protocols, we observed that: o Operational costs are included within the annual OPEX budget during the AMP process o Each operating division submits its OPEX budget, which is challenged by relevant peers o Following the challenge session, OPEX budgets are collated and incorporated within the Corporate Budget, which is submitted to the Department of Treasury for approval o Once approved, the budgets are managed by the relevant regions and monitored accordingly o AMRs include information related to OPEX budgets tracking o Work order costs are regularly measured against standard job costs and large discrepancies are investigated as evidenced in Esperance - Work Order vs. Standard Jobs (Costs Review) and Karratha - Work Order vs. Standard Jobs (Costs Review) o The Regions produce annual Financial Performance Reports We determined that several improvements have occurred during the review period - most notably, the ability to track costs associated with individual faults. Formerly, faults events used to be simply charged to a general "reactive maintenance" cost code. Such practice caused loss of more granular (and desirable) level of detail linking failure types with their costs. Distribution inventory is predominately managed through Ellipse, which allows for transparency of spares available through Ellipse. Transmission inventory, however, is managed through a direct purchase system. While work is being progressed to create a virtual holdings database for available spares, this is a largely manual process. We further note that there have been some cases when assets have been purchased for a project through the direct purchase system, and that project has subsequently been cancelled. With no centralised repository to track these purchased assets, they were known only to the Region they were kept in and remained in a storeroom for a number of years before being identified during an audit. The management of transmission inventory could be improved by controlling most purchases through Ellipse. This will improve Horizon Power's ability to track the costs associated with inventory management.
			Process and Policy Rating: B — Performance Rating: 1
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Priority 3	Through enquiries held with the Manager Asset Services, Regional Asset Managers of Esperance and Karratha, Technical Training Coordinator, and examination of Horizon Power's VETtrak corporate training and skills register, we observed that: o The Skills Matrix details the training requirements for each role within the business. The currency of this training is monitored to ensure personnel remain current with the required training commensurate with their responsibilities. o The VETtrak register is used by managers responsible for ensuring staff have received required training. o We reviewed the VETtrak reports for several field staff within the Karratha and Esperance regions and note that the records contained details of training and certificate inclusive of licence numbers, issue dates and expiry dates. o The Technical Training Coordinator may send out reminders when (for example.) licence renewals are due. We note that this is currently a manual process, but the business will be implementing 'CornerStone' later this year. This system will automatically notify individuals and their line manager of upcoming training requirements and licence/certificate renewals. o Depending on role responsibilities, specific training is required to be renewed on an annual basis. This training can include the electricity supply refresher training, the elevated work platform rescue and live low voltage panel rescue. o Workers will be stood down from specific duties if they do not complete the required annual training within the nominated timeframe. o Staff job descriptions and qualification requirements are documented within the VETtrak register

No.	Effectiveness Criteria	Review Priority	Observations	
			o Should a Region identify a resource gap, a hiring manager will use the role description to identify the minimum requirement for the job advertisement. Should the preferred candidate not hold all required competencies and licences, a training program will be established to upskill the individual. This will be documented and tracked in VETtrak. o Staff resource levels, as documented in VETtrak, are adequate to deliver against operational objectives. We also reviewed the rationale behind the Esperance Re-skilling program. This program was developed by the Esperance region, in consultation with the Horizon Power field practices adviser and technical training coordinator to ensure that the regional operational staff in Esperance are equipped with the required knowledge to adapt to Changes in technology (e.g. Standalone Power Systems (SPS)), as well as digitisation and automation. There are currently five participants from Esperance in this cross trade upskilling pilot program.	
			Process and Policy Rating: A	Performance Rating: 1

5.6 Asset Maintenance

Key Process:	Asset maintenance is the upkeep of assets.
Outcome:	The asset maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.
Process and policy definition rating	B
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
6.1	Maintenance policies and procedures are documented and linked to service levels required	Priority 2	Through enquiries held with the Asset Services Manager, Esperance and Karratha Regional Asset Managers, testing of relevant maintenance arrangements, and examination of documented policies, procedures and protocols, we determined that: o Maintenance policies are defined in the Asset Management Strategy and System document, Asset Management Policy and Asset Management Guideline Modules 1 – 10. o The high-level performance and service targets in the aforementioned documents require further translation into the Asset Class Strategies. The class strategies typically address performance at a local functional requirement level. These local functional requirements could be linked to the strategic priorities and overarching asset management objectives outlined in Asset Management Strategy and System document, and in some cases these local functional requirements could also be directly linked to the high level performance targets also outlined in the Strategy and Systems document. o The MST Frequencies Guidelines details the recommended inspection frequencies for each asset type. Where a region wishes to deviate from these recommendations their reasoning's must be peer reviewed and verified. o During the review period, we noted Horizon Power uses the following maintenance type classifications: • P1 – Planned preventative maintenance • P2 – Planned corrective maintenance • R1 - Reactive maintenance with the primary focus of 'making safe' (emergency work) • R2 – Reactive corrective maintenance and follow up actions required from an R1 incident The above maintenance classifications will have a priority rating attached to them that will indicate how urgently the work needs to be performed. o However, we note that some assets do not yet have asset class strategies. Typically, these consist of low value or low number assets. These gaps are known, and Horizon Power has a strategy in place to address the asset class strategy gaps. o As previously identified in criterion 1.3, we note that the existing asset class strategies could be strengthened through an embedment of the high level performance objectives listed in the Asset Management Strategy document. o Policies, Technical Maintenance Guides (TMG), and Procedures are available via the organisation intranet page. o A sample of TMGs were reviewed and we note that the documents provide task instructions along with allowable testing tolerances. o The review team observed a number of pole testing activities and note that maintenance guidance documents provided sufficient detail for the field staff to undertake the activities.	
			Process and Policy Rating: B	Performance Rating: 1
6.2	Regular inspections are undertaken of asset performance and condition	Priority 2	Through enquiries held with the Manager Asset Services, Esperance and Karratha Regional Asset Managers, Regional Maintenance Planners and Works Delivery Managers, testing of relevant maintenance arrangements, and examination of documented policies, procedures, protocols and reports, we determined that: o Inspection strategies are developed at the asset class level, with recommended frequencies defined in the MST Frequencies Guidelines. Regions may modify the inspection frequencies to suit the conditions of their Region, in agreeance with the Asset Services Manager.	

No.	Effectiveness Criteria	Review Priority	Observations
			o Maintenance Scheduled Tasks (MST) and Standard Jobs are used to define and drive the regular maintenance tasks such as inspections. It is the Regions' responsibility to convert MSTs to work orders and to package and deliver the work. o Maintenance work orders are issued to field staff in FieldReach (a mobility app). When tasks are completed, the field staff provide a task update through FieldReach. This is synchronised with Ellipse and the data is saved against the asset or parent asset. Field staff typically also carry hard copies of maintenance check-sheets as a backup. o The review team viewed the Ellipse records for several assets within the Esperance region to understand what maintenance had occurred and how the maintenance was recorded. It was noted that regular inspections were undertaken, along with a record of the asset performance and condition. o The review team observed pole testing activities and the documentation of these activities via FieldReach. The documentation included condition and performance of the poles based on density testing. o The review team attended a weekly project review meeting in the Karratha Region. Existing maintenance and capital works were reviewed, delays and issues discussed, and mitigation actions raised where necessary. o Defects encountered during regular inspections are entered into Horizon Power's defect management system as applicable. o Network faults are reviewed by regions daily and any required actions are taken in conjunction with HPCC. o Where necessary, a general unusual operating instruction (GUOI) is raised on partially functional (underperforming / defective / others) assets. This is verified and approved by the Horizon Power Control Centre (HPCC).
			Process and Policy Rating: A | Performance Rating: 1
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Priority 2	Through enquiries held with the Asset Services Delivery Manager, Karratha and Esperance Regional Asset Managers, Regional Maintenance Planners and Works Delivery Managers, testing of relevant maintenance arrangements, and examination of documented policies, procedures and protocols, we determined that: o The MSTs Frequency Guideline details the recommended inspection frequencies for each asset type. The regions can elect to modify these frequencies to better suit their unique conditions, and these modifications will be peer reviewed in the annual AMP challenge session. o Maintenance plans are documented within the AMP and Horizon Power's Ellipse maintenance system. o Daily pre-start meetings and weekly planning meetings are held, which are used to discuss and plan upcoming work, and where relevant to discuss outstanding work. We observed pre-start meetings held during our physical visit to Horizon Power's Esperance and Karratha operations. o The Karratha office holds weekly delivery meetings to review progress of all activities including planned, corrective and capital works. We observed this meeting and noted that any delays to scheduled works were discussed, documented and tracked. o Scheduled maintenance work is undertaken by regions, predominantly using designated regional staff and contractors. The regions have a number of measures in place to validate and verify work quality including peer reviews, random sampling, review of submitted reports and review of completion photos. In the Esperance region, contract staff are typically integrated into Horizon Power work crews to ensure work quality remains consistent. o Monthly AMRs and other reports are used to track maintenance progress and asset performance. AMRs highlight the extent of outstanding work from the prior period, including overdue High Priority maintenance work orders. o Maintenance costs are tracked on a regular basis and underspend or overspend of maintenance budgets would trigger discussion and/or investigation. This process acts as a secondary check of maintenance schedules, as variation to budget's expenditure rate over the course of a year could indicate e.g. delays or changes to the originally set maintenance schedules. We note that an improvement to the tracking of overdue workorders has been implemented since the last review, in response to an identified opportunity for improvement. Overdue work orders (30 and 90 days overdue) are now tracked in the monthly AMRs. As noted in criterion 4.2, the ability to track and trend work orders and more specifically MSTs that have not yet been converted to work orders is not a usual practice. We recommend that Horizon Power investigate alternative KPIs to allow additional transparency when viewing any differences between planned and performed work. We further note that Horizon Power has plans to address this in the 2021/22 financial year by converting all MSTs to work orders centrally prior to handing them over to the regions for delivery. This initiative will address a number of our concerns regarding the manipulability of MSTs in the system.

No.	Effectiveness Criteria	Review Priority	Observations	
			The review team sighted evidence of scheduled pole maintenance work orders being performed and documented within the Esperance Region, and commissioning tests being performed and documented in the Karratha Region. As noted in criterion 5.3, the quality assurance process contributes to a lag in the system whereby an asset can be installed in the field, but it may take several weeks to be updated on Ellipse and on other systems. We note that Horizon Power are commencing a trail project to address this gap. The trial involves the planned replacement of 500 luminaires. The replacement assets will be created in Ellipse prior to construction taking place, and field staff will enter the installation date on site through the FieldReach application. This trial will enable demonstrating the benefits of a more timely Ellipse update, as work is completed, rather than by large batches and possible several weeks after the quality assurance process has been completed. We note that the described trial may address our concerns regarding the ability to track work orders and projects to completion and have that data current in the applicable systems.	
			Process and Policy Rating: B	Performance Rating: 2
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Priority 2	Through enquiries and walkthroughs held with the Asset Services Manager, Regional Asset Managers of Karratha and Esperance, Data Management Officers, Senior Performance Manager and examination of documented policies, procedures and protocols, we observed that: o Typically, the Asset Class Strategies contain in-depth analysis of potential failure modes, an assessment of the impact of age and condition on failure, assessment of the existing risks and profile data for that asset class. This is analysis is reviewed every 5 years, to consider recent performance, reliability and failure data. The strategy will be updated to account for failures where necessary. o The regions monitor defects in the first instance through the 'Asset interaction sheet' and the defect management processes. Should the region identify a reoccurring failure pattern, they request assistance from the Bentley Asset Services team to determine if the issue is systemic. Should, for example, ten cable repairs within a 1km stretch occur, the system will not identify or notify users of the pattern; it is dependent on the regional staff to identify and escalate the issue. o The Cintellate incident reporting system is used to track any incidents that warrant investigation, such as safety incidents or client outages and as detailed in the extract Cintellate Open Actions 20200903. o The MST Frequencies Guidelines details the recommended inspections frequencies for each asset class, however a region can modify these frequencies to better suit their conditions. For instance, in Esperance, recloser batteries are inspected every two years and replaced based on condition. In contrast, due to the high heat and humidity in the Kimberley region, historical failure data has shown that battery life is 18 months. The Kimberly region have adjusted their plan to account for this failure data and now replace batteries on a 12-monthly basis. o The AMR publishes the critical failure rates. Unassisted conductor failures in Carnarvon is an example where this failure data triggered a review and adjustment of maintenance plans. The AMR identified that unassisted conductor failure in Carnarvon was 6 times higher than the organisations target. A review was carried out for all conductors in the area including a detailed inspection. This resulted in identifying the need for a major capital program to replace conductors in Carnarvon. Where significant failures are identified in a region, Horizon Power may also complete ad-hoc studies to determine if the failure pattern is specific to that area or systemic across the business. o The Regional Asset Management Plans are developed on an annual basis; however, they can be adjusted on a quarterly basis through a peer review process, in order to adapt to a change in the regions risk profile. Thus, if an asset failure has been identified, the maintenance plan can be modified to address this failure as necessary. As an improvement initiative, Horizon Power has also identified and are developing a "Bad Actor Preliminary Analysis' for Esperance. This is a pilot initiative that was launched in November 2019 and reviews data using a weighted four yearly average to identify non-performing feeders. The analysis relies predominately on fault data, with a view to expand into maintenance data and condition data in the future, and to then apply the process to other regions. The reviewer agrees with this approach, with a view to incorporate systematic findings into the appropriate asset class strategies.	
			Process and Policy Rating: B	Performance Rating: 1

No.	Effectiveness Criteria	Review Priority	Observations	
6.5	Risk management is applied to prioritise maintenance tasks	Priority 2	Through enquiries and walkthroughs held with the Manager Asset Services, Esperance and Karratha Regional Asset Managers, Regional Maintenance Planners and Works Delivery Managers, and examination of documented policies, procedures and protocols, we determined that Horizon Power has: o Developed task frequencies using a risk-based approach and documented the recommended inspection frequencies in the MST Frequency Guideline. o Regional Asset Management Plans (AMPs) are developed using the Risk Value Movement calculation. This risk-based approach assesses the cost to transition to the target risk for each proposed project. o Applied a risk-based process to manage its key assets, with higher failure consequence jobs given priority over lower risk ones. The jobs identified with highest priority (other than safety related) need to be completed within a two-week period o Implemented a weekly meeting to discuss and prioritise maintenance tasks at each location. We witnessed a weekly project review meeting in Karratha and noted the priorities assigned to each maintenance task. o Implemented daily pre-start meetings at each operational location to discuss and prioritise work for the day. We witnessed the pre-start meetings at both the Karratha and Esperance office and note that the work crews were instructed on the priority of the tasks to be completed that day. o Works are scheduled based on risk, for example the organisations' "Summer Ready" program ensures that all bushfire preventative maintenance is undertaken prior to the start of the high-risk fire season. o Developed a detailed risk analysis for each asset class. The asset class strategy then addresses the key risks for each asset class.	
			Process and Policy Rating: A	Performance Rating: 1
6.6	Maintenance costs are measured and monitored	Priority 4	Through enquiries held with the Manager Asset Services, Karratha and Esperance Asset Managers, and a review of current processes and polices we noted that: o Maintenance costs are budgeted in the AMPs and recorded in Ellipse. Data from Ellipse is extracted in spreadsheets to support monthly AMRs o Previously the MSTs were described differently by different regions. Within this review period, work has been done to ensure that standard jobs are used across the regions (with minimal adjustments made for regional context), supporting a more consistent approach across the organisation. o Each standard job will include standard job costs. These standard costs are used to develop costs estimates for the Asset Management Plan. o Upon conclusion of the maintenance works, the actual job costs are validated against the standard job, and anomalies identified. o Maintenance inspections are typically conducted at the feeder level rather than by discrete asset class type. Thus, some maintenance costs cannot be easily attributed to the individual asset class (as described on Effectiveness Criteria 5.5). o Monthly AMRs are supported by other reports, which provide monthly updates of profit and loss and information on activities, trends, and impact of events etc. o The various reports are provided to Divisional management on a monthly basis for cost and forecast monitoring.	
			Process and Policy Rating: A	Performance Rating: 1

5.7 Asset Management Information System

Key Process:	An asset management information system is a combination of processes, data and software that support the asset management functions.
Outcome:	The asset management information system provides authorised, complete and accurate information for the day-to-date 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.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
7.1	Adequate system documentation for users and IT operators	Priority 5	Through enquiries held with the Information Technology Manager and review of the IT policies and guidelines we noted that Horizon Power maintains a number of asset management systems. The supporting documentation in place for users and IT operators is available on the organisations intranet page and includes guidance for both the field based user and the back office operator, as evidenced in the FieldReach - Back Office - User Guide and FieldReach End User - User Guide. The IT team provides both online and in-person training for users to ensure the systems are understood by the operators and end users. In addition to the above detailed guidance documentation, there is documented guidance available on: o The current Information Technology Policy & Guidelines o Technology Group Strategy o the Change Advisory Board process – this is a group of technology managers and technical resources that meet weekly to asses and progress IT change requests. o Access Control Guidelines o Backup Policy and Procedures o Privilege Account Management	
			Process and Policy Rating: A	Performance Rating: 1
7.2	Input controls include appropriate verification and validation of data entered into the system	Priority 3	Through enquiries and walkthroughs held with the Information Technology Manager, Asset Services Manager and review of the Access Control Guidelines, we noted that Horizon Power has the following validation and verification checks in place: o Authorisation – access to the Horizon Power data system is based on role-based authorisation. Certain fields within Ellipse are locked to users based on their access level. This is described further in the Access Control Guidelines. o FieldReach users undertaking maintenance work orders have individual logins, so that maintenance entries can be tracked to the individual user o Vulnerability management – Automatic detection of security issues related to software / firewall currency, collects security logs, and provides the ability to investigate any breaches both during and post incidents. o Data is verified between Ellipse and Electric office daily and discrepancies are identified. o Updates to Electric Office are outsourced to Cyient. All updates provided by Cyient are reviewed by Horizon Power to ensure the update requirements have been met before they are accepted into the system. o Data is further validated on a monthly basis during the compilation of the Asset Management Report (AMR).	
			Process and Policy Rating: A	Performance Rating: 1

No.	Effectiveness Criteria	Review Priority	Observations	
7.3	Security access controls appear adequate, such as passwords	Priority 5	Through discussion with the A/Manager Information Technology, Application Service Delivery Manager and examination of Horizon Power's IT policies and system reporting documentation, we noted that: o Horizon Power's processes and procedures provide for all users to be assigned a unique 'global profile' user account and password that adhere to Horizon Power's IS security standards. Account password requirements provide for a minimum and mixture of characters o Horizon Power's Access Control Guideline and the Privilege Account Management outlines how access is granted, and permissions are managed o Horizon Power provides support and reminders on updating passwords and required password protocols o Horizon Power provides all employees access to cyber security training o Horizon Power conducts monthly vulnerability reporting for all devices, collect security logs and investigates all breaches. All smart phones used for business purposes must be enabled with the following (as detailed in Information Technology Policy and Guidelines o remote administration management controlled by Horizon Power's Technology division; o a PIN when the device is first turned on; o automatic screen lock after a period of 5 minutes; o automatic prompt for pass code upon screen lock. We note that one change introduced during the review period is the introduction of individual FieldReach logins for field staff. Prior to the change, field crews used a crew login. This has change increased the traceability of maintenance work and increased the security access controls in operation.	
			Process and Policy Rating: A	Performance Rating: 1
7.4	Physical security access controls appear adequate	Priority 5	Through discussion with the Manager Information Technology, the Information Security team and examination of Horizon Power's IT policies and system reporting documentation, we noted that Horizon Power has the following physical security controls in place: o All buildings have security card access o CCTV in some locations at Head Office o Air key security gates at the Esperance and Karratha Depots o Specific Access Listing for the HPCC (segregated within its own room, with appropriate climate controls in place in both Bentley and the Karratha Depot) o A back up HPCC located at the Karratha depot which was activated in response to the Covid-19 pandemic. Data storage physical controls include o Card swipe access to server room o Temperature monitoring reporting for server room and air conditioning system set up o Annual Disaster Recovery (DR) exercise, which includes testing the performance of the uninterruptible power supply (UPS) o Fire extinguishers o Access to server room controlled by the Property Management team via request. Only persons who have roles requiring them to be able to access the server room (i.e. support staff, fire wardens and first aid officers) are permitted access.	
			Process and Policy Rating: A	Performance Rating: 1
7.5	Data backup procedures appear adequate and backups are tested	Priority 3	Through enquiries and walkthrough held with the Information Technology Manager and review of the Backup Policy and The As-Built Horizon Power Commvault Implementation 2020 v1.0 we noted that: o The IT Back Up Policy outlines the requirement to perform back up testing as part of daily operations and is to be referred together with the As-Build Horizon Power Commvalut Implementation document. The Backup policy document could be improved by including the document revision history including most recent review completed, next planned review, along with the document owner details. The backup function is maintained by Empired under a Master Services contract (MSC). It is delivered and managed as part of that contract. A review of the data backup procedures will occur as part of the review of the MSC.	

No.	Effectiveness Criteria	Review Priority	Observations	
			o The As Built Horizon Power Commvault Implementation 2020 v1.0 details the storage policies and disaster recover configuration, along with security and alert practices. o The Commvault program generates daily summary report emails o Data backup provides site to site replications with a tolerance data loss of 24 hours. o We reviewed the outcome of the last IT DR test which includes full replication of services to Horizon Power's DR site from backups.	
			Process and Policy Rating: A	Performance Rating: 1
7.6	Computations for licensee performance reporting are accurate	Priority 5	Through enquiries held with the Asset Systems Manager, Asset Services Manager and review of the policies, practices and reports we noted that o Horizon Power produces monthly asset performance reporting in the form of the Asset Management Report (AMR) that addresses reliability and power quality. It includes results across each region for SAIDI (System Average Interruption Duration Index) and SAIFI (System Average Interruption Frequency Index). o The FieldReach App is a new system introduced during the review period. It integrates back into Ellipse live (the previous tool was batch processed) and enables recording Work Orders and assets' condition data. Another App, Power On, tracks system faults, time arrived at site and time work was completed. Users require authorisation to be able to input data into FieldReach. Any data entries that will require a modification to be made to Ellipse or Electric Office will be verified through a quality assurance processes before they are accepted onto the system. o Improvements to the traceability of reactive maintenance has improved during the Review period. Previously only a limited number of general fault work orders existed. Horizon Power has made a change to individual work orders for each fault, which has enabled the ability to review the scope, time and total expenditure for each individual fault. The automated reporting controls, combined with the training staff receive on regulatory requirements appear adequate and can be expected to result in accurate compliance reporting.	
			Process and Policy Rating: A	Performance Rating: 1
7.7	Management reports appear adequate for the licensee to monitor license obligations	Priority 5	Through enquiries held with the Asset Services Manager, Data Systems Manager and review of the monthly reports, we noted that Horizon Power produces a monthly asset performance reports called the Asset Management Report (AMR). This report includes reporting regulatory requirement such as on availability of service, capacity, power quality, continuity, costs, emergency response events, etc. In addition to the AMR, a variety of scheduled reports are capable of being generated from Ellipse and Qlikview, and monthly reporting to the board on safety issues and health of the assets is undertaken.	
			Process and Policy Rating: A	Performance Rating: 1
7.8	Adequate measures to protect asset management data from unauthorized access or theft by persons outside the organisation	Priority 2	Through enquiries and walkthrough held with the Cyber and Information Security Officer and review of the IT strategies and guideline documents we noted that Horizon Power have the following measures in place to safeguard their data from unauthorised access and/or theft: o Screen Locks (password protected screen saver) are automatically activated after no more than 10 minutes of inactivity. These screen locks shall require the user to be re-authenticated to use the device (refer to the Access Control Guidelines for further details) o Horizon Power's Access Control Guideline and the Privilege Account Management outlines how access is granted, and permissions are managed. Authorisation is role based and is subject to a demonstrated business need. The Information Technology Policy & Guideline states that information, systems and infrastructure must be protected against unauthorised access. This is achieved through a number of processes including: o Essential external access being limited to secure access only to that information required by the external party; o Access not being granted generically to external organisations but to named individuals; and o Non-Horizon Power PCs and other devices must not be connected to the network without prior approval from Horizon Power Cyber Security Team.	

No.	Effectiveness Criteria	Review Priority	Observations	
			Horizon Power's Cyber Security Team monitor security mailing lists, review vendor notifications and Websites, and research specific public Websites for the release of new patches. Potential patches are then risk assessed, tested, with notifications and patches deployed based on the organisations' need. We reviewed the crisis exercise undertaken in 2018. This crisis scenario testing explored a cyber security breach. The tools and templates available were adequate to address the breach and staff were familiar with the crisis management handbook and process.	
			Process and Policy Rating: A	Performance Rating: 1

5.8 Risk Management

Key Process:	Risk management involves the identification of risks and their management within an acceptable level of risk.
Outcome:	The risk management framework effectively manages the risk that the licensee does not maintain effective service standards.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	Priority 2	Through discussions and walkthroughs held with the Risk & Audit Specialist and the Manager Asset Services, an examination of relevant documentation, and walkthrough of Horizon Power's risk management process we note that risk based management of the Horizon Power network is central to Horizon Powers asset management approach and is reflected across the suite of asset management documents, including the Asset Management Plan, Contingencies Plans and Asset Class Plans. The Risk Management Policy is aligned to ISO30000 and at the time of the Review, the policy was awaiting endorsement of the three-yearly review. We noted that Horizon Power has the following mechanisms in place for identifying and assessing the consequence and likelihood of risks related to the asset management system: o The document 'Corporate Risk Assessment Process' details how and why Horizon Power manages corporate risks. o The AMP process includes consideration of asset failure, which is reflected in the CAPEX and OPEX plans developed annually and reviewed quarterly. o Horizon Power's risk matrix includes consequence categories that would be affected by asset failure (e.g. safety & health, service interruption and legal) o Risk assessments are performed by site-based staff to identify and assess asset failure risks as they arise. Risks identified and assessed above prescribed thresholds are escalated to Asset Managers, then to regional GMs and captured in Operating Division risk registers and/or in regional contingency plans o A sample of risk assessments from both the Esperance and Karratha region were reviewed and we can confirm that the risk assessments align with the risk management policies and procedures. o Both external and internal risks are recorded in the corporate and operational risk registers. o Risks treatment plans are assigned to a responsible party and are reviewed to ensure treatments and undertaken and have been effective. Process and Policy Rating: A | Performance Rating: 1
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Priority 4	Through enquiries held with the Risk and Audit Manager, the Senior Asset Framework Engineer and review of the Risk Registers and Treatment Plans, we determined that risk management is addressed at the operational level and the corporate level. At the operational level we note the following: o Operating Division GMs are responsible for developing risk registers and accountable for management of risks. We sighted copy of risk registers for Operations and Technology & Digital Transformation and noted that they include a risk assessment, action task, status tracking and target residual risk. o Capital and major maintenance projects are risk assessed by the Regional Asset Managers using the Risk Value Matrix (RVM) and the corporate risk assessment matrix. o This RVM assessment is then verified by the Senior Asset Framework Engineer to ensure it is applied consistently across the organisation. o Projects are funded using this risk-based approach and accepted risks are documented for all projects that are unable to be funded. Where an identified risk may impact the organisation, these risks are managed through the corporate risk division and documented in CURA: o Risk registers are updated quarterly to reflect changes to the risk profile, controls and ownership

No.	Effectiveness Criteria	Review Priority	Observations	
			o In addition to the quarterly update, a formal annual risk assessment is performed, whereby all risks identified as high and severe are assigned with risk treatment plans to manage them within Horizon Power's risk tolerance (medium) o Risk treatment plans are developed within the CURA system and assigned ownership and due dates for completion o Monitoring of completion of treatment plans is performed primarily by action owners within Qlikview, which reports and notifies actions upcoming, due and overdue. The Corporate Risk Team provides an additional layer of oversight/escalation on action completion and follow ups.	
			Process and Policy Rating: A	Performance Rating: 1
8.3	Probability and consequences of asset failure are regularly assessed	Priority 2	Through enquiries and walkthroughs held with the Risk & Audit Manager, Asset Services Manager and Regional Managers, and review of the relevant documents we noted that: o Horizon Power's Risk Management Framework and Risk Management Policy were last formally reviewed in 2017 and at the time of the AMSR these documents had undergone their three-yearly review and were awaiting corporate endorsement. o Horizon Power's risk appetite has been set at "medium", as per its Corporate risk matrix, where all risks rated higher than medium are considered outside of Horizon Power risk tolerance and require action to reduce exposure o Risk management activities are driven by the regions and summarised by the Corporate Risk team to present to the Audit and Risk Management Committee (ARMC) and Board the ARMC has accountability for ensuring risk management practices are established and are fit for purpose. The Operating Division GMs have overarching responsibility for ensuring that the risk management process has been embedded throughout the organisation. Roles have been formally captured within the Risk Management Framework document o Asset performance is reported on a monthly basis through the Asset Management Report. Identified trends in this data may trigger a review of the failure & consequence of asset failure. o A detailed review of the performance of each asset class occurs during the five-yearly reviews of the Asset Class Strategy documents. The risk management process includes the following key elements: o A risk register, which is required to be developed for each Operating Division o Local regions' assets risks are discussed annually and challenged by other regional peers, from a whole-of-business risk perspective. o Following the annual assessment, risk registers are consolidated, reviewed and approved by General Managers o For all high and severe risks, treatment plans are required to be developed and tracked to completion. We reviewed a sample of proposed maintenance programs and noted that the Regional Asset Managers develop proposed maintenance programs, where individual projects are risk assessed using the Risk Value Movement (RVM), and the corporate risk assessment matrix. This RVM assessment is then verified by the Senior Asset Framework Engineer to ensure it is applied consistently across the organisation. Projects are funded using this risk-based approach and accepted risks are documented for all projects – including the ones unable to be funded. The Regional Asset Managers review their risk profile regularly and on a quarterly basis are able to request changes to their funded program in order to address a change to their risk profile.	
			Process and Policy Rating: A	Performance Rating: 1

5.9 Contingency Planning

Key Process:	Contingency plans document the steps to deal with the unexpected failure of an asset.
Outcome:	Contingency plans have been developed and tested to minimise any major disruptions to service standards.
Process and policy definition rating	B
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Priority 2	Through enquiries and walkthroughs held with the Manager Asset Services, the Regional Asset Managers (Pilbara and Esperance Region) and Manager of Information Technology along with a review of the suite of contingencies planning documents, we note Horizon Power's Business Continuity Management (BCM) Framework is comprised of three phases, being; (1) Prevent & Preparation, (2) Response, and (3) Recovery. Several initiatives make up the first phase and include the 'Cyclone Accumulative Damage' funding that is used for preventative works to sustain the Pilbara Region network health and the organisation wide 'summer ready' actions ensure that the network is prepared for the bushfire season. A crisis exercise is run once every two years to test the contingency plans. The most recent exercise covered a cyber-attack and the learnings are documented in the 'Risk Management Support - Crisis Exercising' document. The Crisis & Emergency Management Handbook 2019 addresses the response and recover phase of this framework and includes the following: o Identification and initial assessment of incidents o Immediate post-incident actions o Roles and responsibilities o Severity Assessment Matrix (Emergency, Crisis or Worsening Situation) o Communication protocols o Team structures and key contacts o Key response and recovery plans o Incident close-out and review On examination of the region-specific contingency management plans it is demonstrated that these plans are documented, and through examination of the minutes from the Regional emergency management committee, we note it is clear the documented plans are understood. Horizon Power provided evidence of a number of cases where the contingency plans have been tested, including an Emergency report and attendance sign on and the Risk Management Support – Crisis Exercising Report which was focused on testing the response to a cyber security incident. As an example, we noted that the Pilbara Network Contingency Plan did not specifically address any contingencies associated with the microgrids in Onslow and Nullagine. We recommend a review of this plan to ensure microgrid contingency planning is addressed. In February 2020, Horizon Power activated its Crisis Emergency Management Plan (CEMP) to respond to Cyclone Damien, an event affecting its Port Hedland operations. Based on examination of supporting documentation, we determined that Horizon Power: o Provided notification to staff on the emergency and the actions required; o Conducted regular Emergency Management Team (EMT) meetings to discuss the progression of the cyclone, with appropriate evidence maintained on file; o Undertook a review to discuss actions taken, risks and future actions required; o Reported of damages attributable to Cyclone Damien; and o Scheduled corrective maintenance for damages attributed to Cyclone Damien. Additionally, Horizon Power's response to the Covid-19 demonstrates a good example of their ability to implement contingency planning. In March 2020, Horizon Power activated the existing contingency plan for the Horizon Power Control Centre. This control centre located in the Bentley office had a contingency to be operated from the Karratha office and this was activated due to the Covid-19 threat. The control centre operations are business critical and the contingency planning allowed for critical staff to be separated across two locations (Karratha and Bentley), thus reducing the risk of all control centre staff being affected by Covid-19 at the same time.

No.	Effectiveness Criteria	Review Priority	Observations	
			For strategic spares: o Registers are maintained for each region (reflected within contingency plans). These registers detail the minimum number of strategic spares to be held in the Region. o Agreements with other regions within Horizon Power, and other external utility organisations are in place to provide certain spares that are not stocked within the region. Several contingencies are inherent in the asset system design, examples in the Region-specific contingency plans include: o In the case of a major failure of transformer there is redundancy built into the design. While it would not be optimal running, it would suffice until (e.g.) a spare transformer could be sourced from an alternative utility organisation. Most asset systems have a N-1 level of redundancy built in, so at least one independent "hot standby" backup provision is available. o The 33kV Roebourne Overhead Feeder is noted as an asset that does not have built in redundancy, and any failure will result in the loss of power in the Town of Roebourne. The contingency discusses the long-term preferred option to underground the feeder (thus providing protection from tropical weather events) and the short term contingency (key list of strategic spares to ensure any repairs can be undertaken immediately).	
			Process and Policy Rating: B	Performance Rating: 1

5.10 Financial Planning

Key Process:	Financial planning brings together the financial elements of the service delivery to ensure its financial viability over the long term.
Outcome:	The financial plan is reliable and provides for the long-term financial viability of the services.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives	Priority 4	Through enquiries held with the A/Manager Finance and examination of Horizon Power's financial planning and reporting documentation, we determined that: o Financial objectives are captured in section 3.2 of the Statement of Corporate Intent (SCI). The strategies to achieve the objectives are outlined in section 3.3 and include a set of strategic projects and key performance indicators. Section 6 details the approved asset investment programs and include the Asset Management Plan along with other key strategic major projects. The SCI is prepared on an annual basis and submitted to the Minister for Energy. o In addition, Horizon Power have a five-year strategic development plan titled the Statement of Expectations. o The Corporate Budget is the key financial plan developed annually, and it is built both bottom-up (in relation to Operating Division budgets) and top-down (in relation to overall financial allocation, by Operating Division, of the Department of Treasury's funding). o A full financial budget and plan is submitted yearly by each Operating Division, detailing projections for OPEX and CAPEX spends	
			Process and Policy Rating: A	Performance Rating: 1
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Priority 5	Through discussion with the A/Manager Finance and examination of Horizon Power's financial planning and reporting documentation, we noted that Horizon Power has identified the following sources of funding for capital and recurrent costs: o Department of Treasury allocations o Customer Funded projects o Other Government programmes and agreements (e.g. Royalties for Regions and the State Government - Chevron State Development Agreement which contributed to funding the hybrid power station in Onslow). Funding options have been incorporated into the Corporate Budget, Statement of Expectations and Statement of Corporate Intent.	
			Process and Policy Rating: A	Performance Rating: 1
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Priority 5	Through enquiries held with the A/Manager Finance and examination of Horizon Power's financial planning and reporting documentation, we determined that the Statement of Expectations 2020/21 – 2023/24 contains the following: o Projections of Profit and Loss for FY21, FY22, FY23 & FY24 (Appendix D) o Balance sheet for FY21, FY22, FY23 & FY24 (Appendix E) o The Statement of Expectations document also includes cashflow statements and operating subsidy projections. o The Financial Report contains reporting on the actual financial position for the financial year.	
			Process and Policy Rating: A	Performance Rating: 1
10.4	The financial plan provides firm predictions on income for the next five years and reasonable indicative	Priority 5	Through enquiries held with the A/Manager Finance and examination of Horizon Power's financial planning and reporting documentation, we determined that: o The Statement of Expectations provides projections for the next five years in the form of a profit and loss statement and cash flow statement.	

No.	Effectiveness Criteria	Review Priority	Observations	
	predictions beyond this period		o The Corporate Budget includes projections out to 10 years. o The Corporate Budget includes relevant detail on OPEX and CAPEX costs, revenue and other additional costs of ownership.	
			Process and Policy Rating: A	Performance Rating: 1
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Priority 4	Through enquiries held with the A/Manager Finance and Manager Asset Services, and examination of Horizon Power's financial planning and reporting documentation, we noted: o The Statement of Expectations provides expenditure projections for operations, maintenance, major projects and administration (inclusive of regulatory compliance, knowledge and technology, mobile plant and operational fleet and property management) forecast over a five-year period. o The annual corporate budget provides further detail. Some examples of the items costed in the budget include labour, materials and plant, services (consultants, training, recruitment), travel and overheads, as well as costs attributable to each of the four key maintenance types (P1 – Planned preventative maintenance, P2 – Planned corrective maintenance, R1 – Reactive maintenance breakdowns / faults & R2 – Reactive corrective maintenance).	
			Process and Policy Rating: A	Performance Rating: 1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Priority 4	Through discussions with the Manager Asset Services, the A/Manager Finance and an examination of relevant budget analysis information, we determined that: o Monthly variance reporting is prepared by Finance (on a whole-of-organisation level) and Operating Divisions (on a regional level) o The monthly reports track maintenance costs attributed to the maintenance categories (P1, P2, R1 & R2) as well as non-maintenance costs (inclusive of materials, consultants, felt, travel and property expenses and overheads). The budgeted and actual costs are compared, and notable variances identified. Where variances are identified, the project/maintenance manager is required to justify the variance and/or take corrective actions. o The review team notes that in the Esperance Financial Report for June FY20, justification is provided for the additional costs allocated to R2 unplanned corrective maintenance due to underground cable repairs in Norseman. o All major projects (>$500k) will develop PSRs, which track project performance against budget.	
			Process and Policy Rating: A	Performance Rating: 1

5.11 Capital Expenditure Planning

Key Process:	The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates.
Outcome:	The capital expenditure plan provides reliable forward estimates of capital expenditure and asset disposal income. Reasons for the decisions and for the evaluation of alternatives and options are documented.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Priority 4	Through enquiries held with the A/Manager Finance, the Manager Asset Services and consideration of Horizon Power's CAPEX processes, we determined that: o A CAPEX plan is established annually, based on consolidated figures by each Operating Division o The Capital Asset Management Plan for the East Pilbara Region and the Goldfields Esperance Region detail the approved CAPEX projects for the current year and include specifics for each approved project including key driver, scope, % local expenditure, the Risk Value Movement calculation, and total expenditure for the current and future years. o The planning process for CAPEX is performed as part of the annual AMP process, whereby CAPEX and OPEX budgets are developed, challenged and approved. o A new process introduced within the Review period now allows for the annual CAPEX program to be modified through a quarterly challenge session. The program can be modified when a region identifies a change to their risk profile that requires immediate action. o All CAPEX projects are developed using business case templates and will include details of the scope, required actions, planned dates for the actions and responsible project manager.	
			Process and Policy Rating: A	Performance Rating: 1
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	Priority 5	Through enquiries held with the A/Manager Finance, the Manager Asset Services and consideration of Horizon Power's CAPEX processes, we determined that: o The Region specific 2021/30 Capital Asset Management Plans contain high level justification for projects and include information on each project's key driver, Risk Value Movement (RVM) and cost. Specific reasons to support the current year transmission and distribution projects are provided and can include safety issues, obsolesces of equipment and regulatory requirements. o Project scope, timing and justifications are challenged by peers prior to the project being approved for inclusion in the Regions' AMP.	
			Process and Policy Rating: A	Performance Rating: 1
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Priority 4	Through enquiries held with the A/Manager Finance, the Manager Asset Services and consideration of Horizon Power's CAPEX processes, we noted that: o Asset Class Strategies provide detailed guidance on end of life decisions for each asset type. The strategies will typically include a risk-based approach to asset renewal and replacement options. This analysis will then inform the scope of CAPEX projects. o The Asset Management Reports may trigger the development of a CAPEX investment decision, based on the performance trends identified for a specific asset and/or region. o Risk registers – risk treatment plans may require CAPEX projects to be conducted to manage identified risks. The identified risks will be informed by asset condition and age.	

No.	Effectiveness Criteria	Review Priority	Observations	
			o All proposed CAPEX project inclusions in the Asset Management Plan are subject to an assessment using the Risk Value Movement (RVM) and are peer reviewed in an annual challenge session to ensure the proposed scope best addresses the risk posed to the organisation.	
			Process and Policy Rating: A	Performance Rating: 1
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	Priority 5	Through enquiries held with the A/Manager Finance, the Manager Asset Services and examination of Horizon Power's CAPEX plans, we determined that: o The CAPEX budget is reviewed annually as part of the Asset Management Plan (AMP) process. All CAPEX projects are assessed using the Risk Value Movement (RVM) calculation. Once the AMP is approved, there is the opportunity for Regional Asset Managers to make adjustments (peer reviewed) on a quarterly basis in order to address a newly identified change to their Region's risk profile. o Project Status Reports (PSRs) are developed for all CAPEX projects and are used to track project milestones and scope changes. PSRs are provided on a monthly basis and any proposed changes (scope, timing, expenditure, risk profile) are reviewed. Where projects are delayed, the budget is typically carried over to the next financial year.	
			Process and Policy Rating: A	Performance Rating: 1

5.12 Review of AMS

Key Process:	The asset management system is regularly reviewed and updated.
Outcome:	The asset management system is regularly reviewed and updated.
Process and policy definition rating	A
Performance rating	1

No.	Effectiveness Criteria	Review Priority	Observations	
12.1	A review process is in place to ensure that the asset management plan and the asset management system described in it remain current	Priority 5	Through enquiries held with the Risk and Audit Manager, Manager Asset Services and review of the ENSMS Audit and Compliance Guide (R12.6) we noted that Horizon Power has review processes in place to ensure that the asset management plan and system remain current. These processes include: o The AMP Guidelines are reviewed on an annual basis o Asset Class Strategies are reviewed on a five-yearly basis with all documents noting the last review undertaken and when the next review is due. We viewed a number of class strategies to confirm the review schedules. o Any potential systematic failure will trigger a review of the asset class strategy outside of the set review period, as will a directive from the ERA. We viewed the HP Pole Maintenance Review Final which was a review triggered by ERA's request. o Internal and independent external reviews conducted on various elements of the AMS since last 2017's Review period. o Review actions from prior AMS reviews are entered CURA and tracked to completion. We viewed the CURA system and noted the completion of the AMSR action items that were identified in the 2017 Review.	
			Process and Policy Rating: A	Performance Rating: 1
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	Priority 5	Through enquiries held with the Risk and Audit Manager, Manager Asset Services and review of the Energy Network Safety Management System Audit and Compliance Guide (R12.6) we noted that Horizon Power has three tiers of assurance: o First tier of assurance: formed by staff and managers who are responsible for identifying and managing risk as a part of their line accountability o Second tier of assurance: Self assessments undertaken by the Asset Services Delivery. These internal assessments focus on ongoing monitoring to judge how effectively the ENSMS risk and compliance is being applied across the business o Third tier of assurance: Provided by the Internal Audit team who periodically undertake formal audits across the business. The Asset Services team has one dedicated resource who undertakes internal self-assessments. He looks at the key elements of the ENSMS, which can include aspects such as how work is packaged, how safety risk is assessed in the field, along with competency and design elements. The asset services team undertake two self-assessment audits each year.	
			Process and Policy Rating: A	Performance Rating: 1

Appendix 1

Licensee's representatives who participated in the review

The table below outlines key personnel who were involved in discussions and contributed to the findings detailed in this Review Report.

Name	Role
Layton Baker	Manager Operations Goldfields Esperance
Cate Bertram	PMO Manager
Marc Beckx	Manager Engineering & Project Services
Bill Bignell	Senior Asset Frameworks Engineer
Jeff Campbell	Cyber and Information Security Officer
Gerard Chow	Data Management Officer
Neil Clarkson	Supply Chain Manager
Brian Connolly	Manager Commercial Operations
Laurie Curro	Head of Power Systems
Patrice Domingue	A/Manager Finance
Justine Franklin	Network customer relations officer
Vi Garrood	Manager Future Energy Systems
Prachi Goel	Risk and Audit Specialist
Darren Hassell	Team Leader (Esperance)
Mark Herbert	Manager Asset Services
Neetha Lakshman	System Performance Manager
Craig Lenkys	Maintenance Planner
Andy Neeman	Asset Systems Manager
Sandeep Magan	Engineering and Project Services
Glenn Mitton	Information Security Analyst
Noel Moyo	A/Manager Pilbara Network A/Asset Manager (Karratha)
Shayne O'Byrne	Technical Training Coordinator
Peter Oldfield	Asset Manager (Esperance)
Mark Roberts	Infrastructure Services Delivery Manager
Tiri Sanderson	GM Operations
Michelle South	Retail and community manager (West Pilbara Region)
David Stephens	Manager System and Network Planning
Gavin Strack	OT Asset & Architecture Manager
Liang Tay	Risk and Audit Manager
Brett Taylor	A/Manager Information Technology

Frank Van Der Kooy	General Counsel
Mick Veverka	A/Manager HP System Operations
Phil Western	Manager Operational Technology
Grace Yan	Reporting Analyst
Chris Yuen	Program Manager OT

The systems referred to during this review include those indicated in the table below.

System	Description
Cintellate	Incident and hazard reporting and management system
DM	Document Management system
Ellipse	ERP system FieldReach – captures inspection and defects
ElectricOffice	Spatial data model system
NDS	Normalised Data Store which functions as a data warehouse
PowerOn	Mobility - is used on a phone/tablet to track maintenance / incident response Advantage - will create an incident based on telemetry or calls from the public
ProjectWise	Drawing Management System
Qlikview	Dashboard to show safety, reliability, quality, costs, regulatory, asset services
SCADA	Control system (supervisory control and data acquisition)
Structural Lines Application	Computes pole inspection testing data and provides estimate of density.
VETtrak	System to track individuals training requirements, licences and certificates

Table 10: Horizon Power systems

Appendix 2

Key Documentation and information sources

The table below outlines all documents used in this Review Report. These were provided to KPMG by Horizon Power.

#	Document Title
1.	**Asset Planning**
	Horizon_Power_Asset_Management_Strategy_and_System.docx.pdf
	Horizon_Power_Asset_Management_Policy.docx
	Module 1 - Asset Management Planning Guide - 24-06-2020 - Signed MH 010720.pdf
	Module 1 Attachment - AMP Examples of Risk Based Justification
	Module 1 Attachment - QuickBase - Case for Change Guide (HP_3657375
	Module 1 Attachment - Risk for Assets and Projects Framework
	Module 1 - Asset Management Planning
	Module 1 Attachment - Unserved Energy Calculator - Capacity Based.xlsx
	Module 1 Attachment - Unserved Energy Calculator - Reliability Based.xlsx
	Module 2 - Project Evaluation 25-06-2020 - Signed MH 010720.pdf
	Module 3 - Safety and Regulatory Planning 25-06-2020 - Signed MH 010720.pdf
	Module 4 -Capacity Planning-24-06-2020- Signed MH 010720.pdf
	Module 5 - Reliability and Quality.pdf
	Module 6 - Asset Services - 24-06-2020 - Signed MH010720.pdf
	Module 7 - Maintenance Tactics.pdf
	Module 8 - Contingency_Planning_Guideline.pdf
	Module 9 - Work Planning 24-06-2020 - Signed MH010720.pdf
	Module 10 - LEADERSHIP, PEOPLE & ORGANISATION FRAMEWORK
	OPEX - Final_Position.pptx
	OPEX - Final Approval OPEX P1 Budget Load for 2021.msg
	CAPEX - SIGNED - EAST PILBARA 2021-30 CAPITAL ASSET MANAGEMENT PLAN.pdf
	CAPEX - SIGNED - GOLDFIELDS ESPERANCE 2021-30 CAPITAL ASSET MANAGEMENT PLAN.pdf
	OPEX - Maintenance Budget - Esperance.xlsx
	OPEX - Maintenance Budget - West Pilbara.xlsx
	QNSPR April-June 2020.pdf
	Quarterly Performance Report - October-December 2019.pdf
	Technical Bulletin 17-05 - July 2017 Standards, stock changes.pdf
	Horizon Power AMS ERA: Technical Bulletin 17-07 - 13 Oct 2017 Street Lights Reinforcement, Commissioning.pdf
	Horizon Power AMS ERA: Technical Bulletin 17-06 Stock changes.pdf
	Horizon Power AMS ERA: Technical Bulletin 18-01 - 14 Mar 2018 EDO issues-Line clashing.pdf
	Horizon Power AMS ERA: Technical Bulletin 17-08 - 3 Nov 2017 Various topics.pdf
	Horizon Power AMS ERA: Technical Bulletin 18-02 - 17 May 2018 Earth Ring_Pole Rig_Rail Brackets.pdf
	Horizon Power AMS ERA: Technical Bulletin 18-04 SL_s - Terminations.pdf
	Technical Bulletin 18-03 SA_s - PTS - EDO - SL issues.pdf
	Technical Bulletin 19-01 Tx Refurb PTS .docx.pdf
	Technical Bulletin 19-01 Tx Refurb PTS .docx2.pdf
	Technical Bulletin 19-02A.pdf
	Technical Bulletin 19-02.pdf
	HPC-2NK-17-0007-2014 - Gdl - Steel Pole Assessment.pdf

Horizon Powers Conductor Visual Assessment Guide.docx.pdf
HPC-2NK-17-0018-2014 - Gdl - Wood Pole Assessment.pdf
Condition Assessment guide Draft V 8.pdf
Interim Instruction LowGas RMUs.pdf
HP Technical Rules.pdf
Interim Instruction AMS 2018-002 Single Phase Protection Devices.docx.pdf
2020 CAPEX Kick Off Meeting Presentation.pptx
2019 OPEX reforecast Kick_Off_Meeting.pptx
Network Planning Guidelines - HPC-2HH-07-0001-2019.pdf

2. Asset creation and acquisition

Authorities and Delegations Policy.pdf
[HP Original Document] Authorities and Delegations Manual (Board Approved Version 7 as at 20 February 2019).pdf
PMM BC - GUIDELINES - Business Cases - Non-Complex - Part C - MBR - Program.docx
PMM BC - GUIDELINES - Business Cases - Change Requests - AMP Minor Works.docx
PMM BC - GUIDELINES - Business Cases - Part A.docx
PMM BC - GUIDELINES - Business Cases - Part B.docx
PMM BC - GUIDELINES - Change Requests.docx
PMM BC - GUIDELINES - Financial Evaluation Model.docx
PMM BC - GUIDELINES - Why write a Business Case_.doc
PMM BC - TEMPLATE - Business Cases - Part A.docx
PMM BC - TEMPLATE - Business Cases - Financial Evaluation Model.xlsm
PMM BC - TEMPLATE - Change Request - AMP Minor Works.docx
PMM BC - TEMPLATE - Business Cases - Part B.docx
PMM BC - TEMPLATE - Business Cases - Non-Complex - Part C - MWks - Program.docx
PMM BC - TEMPLATE - Change Request - Long Form.docx
PMM BC - TEMPLATE - Change Request - Shortform.docx
PMM BC - TEMPLATE - Eligibility Statement Multiple Change Requests (Carry-overs).docx
PMM BC - TEMPLATE - Eligibility Statement.docx
PMM BC - TEMPLATE - Outline Business Case.docx
PMM BC - TEMPLATE - Generic Impact Statement.docx
PMM BC - TEMPLATE - Program Business Cases - Project Brief.docx
PMM PRJ - Project Classification and Impact Statement Tool.xlsx
CWM_-_AP15_-_Cheat_Sheet_-_Esperance.pdf
CWM_-_AP15_-_Cheat_Sheet_-_Gascoyne_Mid_West.pdf
Ellipse StdJob & StdEstm for CWM processes.xlsx
0. Horizon Power Asset Management Processes.pdf
CSR_AM_Revised_CWM_Ellipse_Process_reference_guide_V4.pdf
Capital Works Management.pdf
Customer Funded Complex.pdf
Customer Funded Simple Job.pdf
Internally Funded.pdf
Renewable Energy Connection process.pdf
Subdivision.pdf
HPC-2NJ-01-0001-2015 - Gdl - Operations Requirements to add Assets.pdf
Stock Replacement Process.pdf

3. Asset disposal

Disposal_of_Assets_Policy_CS10_ID_1840487.doc
THE ASSET DISPOSAL_WRITE-OFF FORM (HP_3170687).xls
Data Sheet Templates - Full Final Version (Excel Forms).xlsx
Operations_Performance_Report_July 2020 FINAL.pdf
2019-07_July_Square_Table_Report (replaced by Ops Perf Report).pdf
FI_8.07_-_Transformer_-_Return_and_Refurbishment.docx.pdf

FI_9.03_-_Treated_Poles.docx.pdf
FI_9.05_-_Disposal_of_Lamps_and_Fluorescent_Tubes.docx.pdf
Transformer_Refurbishment_Process_Flowchart_-_190201.pdf (1).pptx
PROCESS - Operations Equipment Disposal in Data Systems.docx

4. Environmental analysis (all external factors that affect the system)

Positioning_Horizon_Power's_Assets_for_the_Future__-_AM_Transition_-_EXECUTIVE_SUBMISSION.doc
Fault Categorisation Framework.pdf
Fault Management Process (Extract from Works Management Process.pptx.pdf
TCS Fault Report Cheat Sheet - Field Crew.docx.pdf
TCS Fault Report Cheat Sheet - PSO.docx.pdf
TCS Reliability Reporting Process (using NDS).pdf
environmental-policy-june-2019-final.pdf
Fault Management Process (Extract from Works Management Process.pptx.pdf
FI_2.22_-_Notifiable_Incident_—_Evidence_and_Evidence_Collection.docx.pdf
OSH-4.2-1-02 Incident Investigation Procedure.pdf
OSH-4.2-1-01 Incident Management Procedure.pdf
Environment and Heritage Management Plan_(HP_3216344).docx
Cintellate Incident summary extract - 1 Jul 2017 to 30 Jun 2020.xlsx
INC-0005388.pdf
INC-0005345.pdf
INC-0005368.pdf
INC-0005393.pdf
INC-0005413.pdf
Jan 20 dashboard HP view.pdf
Jan 20 dashboard lighthouse1a _ (002).pdf
Jan 20 dashboard regions.pdf
Notifiable incident summary report - CLB 603.0 VT Catastrophic Failure - final v3.pdf
QNSPR April-June 2020.pdf
Notifiable incident summary report INC-0005053 - Esperance - pole M225 grass fire - aust bustard - final ES v2.pdf
Safety Bulletin - 03-20-21 INC-0005243 - Excavator Incident at Roebourne Substation - Investigation.pdf
Safety Alert - 03-A20-21 Incident-0005415 - Failure of _Stand-Off Bracket_ in Pole Top Rescue Kit.pdf
Brand, Reputation and Satisfaction 2019 Report Final.pdf
Brand, Reputation and Satisfaction 2020 Report Final .pdf
HP Performance Report (Aug-2020) (XCo Submission).pdf

5. Asset Operations

HPC-5NN-21-0003-2020 - PowerOn Mobile Training Manual
Network Permit to Work Training Manual
Cintellate Open Actions 20200903
CURA Open tasks - Ops and TDT
Fault Management Process (Extract from Works Management Process.pptx
2019 Load & Circuits NWIS Summary (1)
2019 Load & Circuits Summary (1)
2019 Load and Circuits PILBARA GRID Region (1)
2019 Load and Circuits SOUTH Region
Checklist - SCADA Design Safety
Checklist - SCADA Detailed Design
Checklist - SCADA Solution Design
Design Safety Checklist
HPC-16NF-21-0007-2020 - OT Checklist - FIM Systems 85 percent Design Review
DRAFT Leonora Long Term Planning Study 2020
DRAFT NWIS East Pilbara Distribution Planning Report 2016-2022
Esperance Long Term Planning Study 2018-19

Laverton Integrated Resource Plan 2019
DRAFT NWIS Long Term Planning Study 2019
NWIS Transmission Planning Report 2015
TCS All Faults
HP - SCADA Works Management Process and Change Management Overview
Major Projects ENSMS Compliance Register
Standard Work Packaging
WORK PACKAGE COLLATION - FILING STRUCTURE.docx
Work Package Tacking Sheet - blank (Esperance only)
Switching_Operators_Manual_-_Distribution
Switching_Operators_Manual_-_Transmission
Switching_Process_and_Rules.doc
HPC-5NN-21-0001-2020 - PowerOn Advantage Training Manual
NIA CAS Combined Checklists
Distribution J20-561-I
Transmission J20-5945-F
POWER_ON_ADVANTAGE_NETWORK_MANAGEMENT_PROCEDURE.docx
Asset Systems Integration v0.2.pdf
TCS All Faults - Esperance - 1 Jul 2017 to 30 Jun 2020.xlsx
TCS All Faults - West Pilbara - 1 Jul 2017 to 30 Jun 2020.xlsx
Network Incident Notification and Reporting Awareness Presentation
Network Notifiable & Reportable Incidents - Action Plan.pdf
Network Notifiable & Reportable Incidents - Guidance notes.pdf
HP Switchgear Instruction Manual V30.pdf
FI_8.06_-_Switching_Authorisation.docx.pdf
FI_8.22_-_Switching_Activities_.docx.pdf
1.0 Karratha VETtrak Reports.pdf
1.1 BISHOP, Barry - Report.pdf
1.2 COOPER, Aaron - Report.pdf
1.4 GOSS, Jack - Report.pdf
1.3 GILPIN, Craig - Report.pdf
1.5 LEKNYS, Craig - Report.pdf
1.6 MAREE, Danie - Report.pdf
1.7 NARDINI, Chris - Report.pdf
2.0 Esperance VETtrak Reports.pdf
1.8 NESBITT, Donald - Report.pdf
2.1 BELL, Stephen - Report.pdf
2.3 BHAVE, Pratik - Reprot.pdf
2.4 OLDFIELD, Peter - Report.pdf
2.2 BENNIER, Corey - Report.pdf
2.5 OLIVER, Terry - Report.pdf
3.2 Expiring Licence FEBRUARY 2020.xlsx
2.7 WARE, Camis - Report.pdf
3.0 Expiring licences report.pdf
2.6 PELLY, Shane - Report.pdf
3.1 OSH-1-1-16 Safety Non-Negotiables.pdf
86.2 QUESTIONNAIRE_FIXED_ASSETS (HP_3514438).docx
86.1 FIXED_ASSETS_CYCLE.docx
CAPITALISATION OF PROJECT COSTS GUIDELINE (HP_3170520)_.doc
2.FAR Aug 2020.xlsx
HPC-9CA-01-0002-2012_-_Std - Numbering and Titling Specification.pdf
HPC-9CA-01-0001-2012 – Std – Engineering Drawings.pdf
Ellipse Naming Conventions - Capex Std Jobs & Work Orders.pdf
Accountability & Responsibility Framework - Esperance.pptx
Accountability & Responsibility Framework - Pilbara (Karratha).pptx

6. Asset Maintenance

0. Document Structure
Asset Class - Circuit Breakers
Asset Class - Instrument Transformers Signed
Asset Class - Cable Enclosures
Asset Class - Cross Arms
Asset Class - Distribution Transformers
Asset Class - Earthing Signed
Asset Class - Insulator
Asset Class - Operational Technology
Asset Class - Overhead Conductors, Joints and Ties
Asset Class - Overhead High Voltage Fuses
Asset Class - Pole Top Switches
Asset Class - Poles.docx
Asset Class - Poles.docx
Asset Class - Recloser
Asset Class - Ring Main Unit
Asset Class - Stays.docx
Asset Class - Underground Cables
Asset Class - Vegetation Management
Bushfire_Risk_Management_Plan_2020 MH
Industry Practice - RMU
Industry Practice - Service Line
MST Frequencies Guidelines
SJ - Firebreak clearing around Generation Power stations
SJ - Firebreak clearing around Substations
SJ - Pole base clearing follow up site visit
SJ - Pole base clearing
SJ - Vegetation Control Distribution Ground mounted Assets
SJ - Vegetation Control Generation Power Stations
SJ - Vegetation Control Substations
SJ - Vegetation Corridor Slashing Overhead Lines
SJ - Vegetation Cut Overhead Lines
SJ - Vegetation Inspection Overhead Lines
TMG - Asset Patrols Rev3
TMG - Concrete Poles
TMG - Instrument Transformers Rev0
TMG - Insulator Silicone Application
TMG - Line Insulator Washing
TMG - Maintenance Equipment Earthing
TMG - Maintenance for Distribution Substations
TMG - Maintenance for PTS and Disconnector Maintenance
TMG - Maintenance for Substation Battery Systems Rev0
TMG - Maintenance for Thermographic Surveys RevA
TMG - Maintenance Metal Clad Switchgear
TMG - Network Visual Inspections (Minor)
TMG - Overhead Conductor and Accessories
TMG - Power Transformers Guide Rev0
TMG - Reactors Rev 3
TMG - Reclosers, LBS and Sectionaliser Rev0
TMG - Steel Pole Assessment
TMG - TX Capacitor & Reactor Rev0.docx
TMG - TX Circuit Breaker Rev0.docx
TMG - TX Instrument Trfr Rev0.docx
TMG - TX Isolator & Earth Switch Rev0.docx

TMG - TX Power Trfr & TC Rev0.docx
TMG - TX Substation AC & DC Board.docx
TMG - TX Substation Earthing Rev0.docx
TMG - TX Substation General.docx
TMG - TX Substation Insulator Washing Rev0.docx
TMG - TX Substation Protection Rev0.docx
TMG - TX Substation Thermal Survey Rev0.docx
TMG - TX Surge Arresters Rev0.docx
TMG - Vegetation Control
TMG - Wood Pole Assessment
TMG - Wood Pole Treatments
DCT - CT Metered LV Customer Connections.pdf
DCT - Earth Testing of Altered Systems.pdf
DCT - Distribution Substation (Non-Fire Rated).
DCT - Earth Testing Distribution Substations.pdf
DCT - Distribution Substation (Fire Rated).pdf
DCT - Earth Testing of Dist Poles.pdf
DCT - HV Cables Repair Faults.pdf
DCT - HV Customer Connections or Reconnection.pdf
DCT - HV Mixed Cables.pdf
DCT - HV Overhead Lines.pdf
DCT - HV PILC Belted Cables WITHDRAWN.pdf
DCT - HV PILC Screened Cables WITHDRAWN (1).pdf
DCT - HV PILC Screened Cables WITHDRAWN.
DCT - HV RMU Switchgear.pdf
DCT - HV SPURS Fuse Switch WITHDRAWN.pdf
DCT - HV XLPE Cables.pdf
DCT - Load Break Switch.pdf
DCT - LV Aerial Bundled Conductor.pdf
DCT - LV Cables Repair Faults WITHDRAWN.pdf
DCT - LV Cables Repair Faults w-out disconnect.pdf
DCT - LV Kiosk.pdf
DCT - LV Cables with-without Pillars.pdf
DCT - LV Overhead Lines.pdf
DCT - LV XLPE Cables WITHDRAWN.pdf
DCT - MPS Dist Trfr.pdf
DCT - Network Access Points (AP_s) & Relays.pdf
DCT - Non MPS Dist Trfr.pdf
DCT - Nulec Pole Mounted Recloser.pdf
DCT - Overhead Fault Indicator WITHDRAWN.pdf
DCT - Pole Mounted Cap Bank WITHDRAWN.pdf
DCT - Pole Top Switch.pdf
DCT - Private Parallel Generators.pdf
DCT - S-light component replacement.pdf
DCT - Poles and Line Hardware.pdf
DCT - Steel Standard Streetlights.pdf
DCT - Single Ph Pad-Pole Mounted Trfr.pdf
DCT - Three Ph Pole Mounted Trfr.pdf
DCT - Voltage Regulator (Closed Delta).pdf
DCT - Voltage Regulator (Star) WITHDRAWN.pdf
TCT - Sec sys IR.pdf
TCT - CB checklist.pdf
TCT - CB mech. tests QVS.pdf
TCT - CB equip checklist.pdf
TCT - SubS Earthing pre-comm QVS.pdf
TCT - CB pre-comm. QVS.pdf

TCT - CB QVS.pdf
TCT - Primary Plant Checklist.pdf
TCT - CT pre-comm QVS.pdf
TCT - Power Trfr pre-comm QVS.pdf
TCT - Sec sys dc trip.pdf
TCT - Sec Sys commissioning manual DRAFT.docx
TCT - VT pre-comm QVS.pdf
TCT - Trans CB commissioning manual.pdf
Bad Actor Updated Definition.pptx
Bad Actor Prelim Analysis.pptx
Impact of pole testing.pdf
Horizon Power Asset Inspection Report May - June 2019-20.pdf

7. Asset management information system

Ellipse_Equipment_Productive_Unit_Hierarchy_Structure_and_Guidelines
PU_Hierarchy_Diagram_-_Distribution
Access_Control_Guidelines
CAB Overview, Guidelines and Policies
Information_Technology_Policy_and_Guidelines
Technology Group Strategy 2019- 2021
Fine Grain Password Policy
As_Built_-_Horizon_Power-_Commvault_Implementation_2020_v1.0
Backup_Policy
04 WI - Account Management - Privilege Account Management
IT DR Test Plan
IT_Disaster_Declaration_and_Execution_Plan
Fieldreach - Back Office - User Guide.pdf
Fieldreach Inspections and Defects Back Office.pdf
Fieldreach Inspections and Defects End User.pdf
Fieldreach End User - User Guide.pdf
Fieldreach Process on a Page Final.png
List of Systems supported by Asset Systems Team.pdf
Protection Settings Management Process.pdf
Protection_Settings_Management_Framework.docx.pdf
Protection Settings CS16 Database Users Manual.docx.pdf
Copy of Master Log Sheet 2018
2018 DR Exercise FAILOVER Master Run Sheet
2018 DR Exercise fAILBACK Master Run Sheet

8. Risk Management

0. Risk_Management_Framework.docx
1.0 Introduction_to_Risk_Management_-_April_2018.pptx
1.1 Risk_Assessment_Guideline.pptx
1.2 Risk_Register_Template.xls
1.3 Bow_Tie_Tool_Template.xlsx
2.0 Corporate_Risk_Assessment_Process_Guideline.pptx
2.1 Treatment_Plan_Register Template.xlsx PM.
RAV_Model_Explanatory_Paper.xlsx
Risk_Management_Policy.doc
Risk_Assessment_Matrices.ppt
Cintellate Incident summary extract - 1 Jul 2017 to 30 Jun 2020.xlsx
Cintellate Report summary of incidents.pdf
Risk Register - Operations division.pdf
Risk Register - Technology and DT division.pdf

E30 - HP Risk Profile Aug 19 - FINAL ARMC.pdf
Risk on a Page report - T&DT risks.pdf
Risk on a Page report - Operations risks.pdf

9. Contingency planning

Horizon_Power_-_Crisis_&_Emergency_Management_Handbook_2019
ESPERANCE_-_ESPERANCE_DISTRICT_CONTINGENCY_PLAN_2603476 - Signed
Network Contingency Plan Template
Pilbara Network_CONTINGENCY_PLAN V3_ notes
CMT Meeting Log Template (general)
EMT Meeting Log Template (cyclones)
EMT Meeting Log Template (general)
EMT_AGENDA__-_TROPICAL_CYCLONE_DAMIEN
EMT_Meeting_Log_-_Tropical_Cyclone_Damien
ESPERANCE LOCAL EMERGENCY MANAGEMENT COMMITTEE Agenda - 12thAugust 2020
ESPERANCE OASG Meeting Agenda - 01.09.2020
Goldfields Esperance Staff & Contractor Contact List
Horizon_Power_-_Crisis_&_Emergency_Contacts - Oct 2019
Karratha Staff Contact list FEB 2020
EMP_04_002_-_EMERGENCY_CYCLONE_SEVERE_STORM_AND_FLOOD_PROCEDURE_Oct 2019
KARRATHA_EMERGENCY_RESPONSE
2020-06-23 Fire Drill - Esperance
Karratha Emergency Drill June 2020
Esperance_Contingency_Plan_Desktop_Test
Pilbara Network Contingency Desktop Test
CT_Damien_Feb_2020_-_Situation_Board (1)
Forecast Track Map Meeting 1
Forecast Track Map Meeting 3
Forecast Track Map Meeting 5
ISG Meeting 1
LRT Checklist - KTA - 01 Alert Phase
LRT Checklist - KTA - 02 Blue Alert
LRT Checklist - KTA - 03 Yellow Alert
LRT Checklist - KTA - 04 Red Alert
LRT Checklist - MAR - 01 Alert Phase
LRT Checklist - NUL - 05 After Cyclone Before All Clear
LRT Checklist - PHE - 01 Alert Phase
LRT Checklist - PHE - 03 Yellow Alert
LRT Checklist - PHE - 05 After Cyclone Before All Clear
TC Damien - LRT Agenda Log 01
TC Damien - LRT Agenda Log 02
TC Damien - LRT Agenda Log 03
Key Disruptive Risk Checklist - Berserk Employee
Key Disruptive Risk Checklist - Environmental Damage or Pollution
Key Disruptive Risk Checklist - Fraud_corruption
Key Disruptive Risk Checklist - Industrial Dispute
Key Disruptive Risk Checklist - Loss of Contractor or Independent Power Producer
Key Disruptive Risk Checklist - Loss of Senior Management
Key Disruptive Risk Checklist - Major Asset_property damage
Key Disruptive Risk Checklist - Major Fire_explosion
Key Disruptive Risk Checklist - Scandal_issue
Key Disruptive Risk Checklist -Terrorism_bomb threat
Key Disruptive Risk Response Checklists (FULL)
Risk Management Support - Crisis Exercising
13-A19-20 Novel Coronavirus (2019-nCoV).pdf

17-A19-20_COVID-19_(Novel_Coronavirus) - 3.pdf
18-A19-20 COVID-19 (Novel Coronavirus) - 4.pdf
16-A19-20 COVID-19 (Novel Coronavirus)-2.pdf
Drive By IT Support Procedure during COVID-19 Draft.docx
OSH-2.1-5-03 Managing Unwell Workers Checklist - COVID-19.docx
OSH-2.1-5-02 Personal Protective Equipment for COVID-19.pdf
OSH-2.1-1-03 Pandemic Response Plan.pdf
EPCM_DMS COVID-19 Plan.pptx
System_Risk_Assessment_Min Loads_COVID19_Mar2020_v0.xlsx
Properties and Fleet - Functional Pandemic Response Plan.docx
System Operations Functional Pandemic Response Plan R7 31032020.pdf

10. Financial planning

Budgeting_Policy
20191217 - CEO SIGNED - HP-4466 - BN - SOE SAP SCI
HP-4317 71-10661 Statement of Corporate Intent (SCI) 2019-2020 - RE-SIGNED 020719
2017_18-financial-report_final
2018-2019-financial-report
Esperance - Work Order vs. Standard Jobs (Costs Review)
Esperance Financial Performance Report FY20 12 Jun 2020 YTD JT Comments
Karratha - Work Order vs. Standard Jobs (Costs Review)
Pilbara Financial Performance Report FY20 12 Jun 2020 YTD sent - Edit v3
Operations_Performance_Report_July 2020 FINAL
Quarterly review FY20 Q3 Esperance 200505 8 May 2020 FINAL
Quarterly review FY20 Q3 Pilbara 200505 - Final
AGENDA - OPERATIONS PERFORMANCE REVIEW QUARTERLY CAPEX REVIEW - MAY 202...
FY21 Budget Operations 2000907
HP_Capital_Reporting FY21 02 Aug 200907
HP RAR Esperance up to WE 2020-08-07
PILBARA RAR 07-08
Slide2 – Example Dashboard Display
Slide5 – Example Dashboard Display

11. Capital expenditure planning

CAPEX 20-21 from Quickbase_Projects 20200429 AMP Meeting 28-05-2020

12. Review of AMS

2019 Asset Management Internal Audit Final report KPMG
2019 ENSMS Audit FINAL
Bushfire review - CMPJ0287 - Horizon Power - Bushfire Practices review (v5.0)
Bushfire review - OPERATIONS DIVISION - BUSHFIRE RESPONSE ACTION PLAN AND UPDATE - ARMC - JUNE 2020
Bushfire_Risk_Management_Plan_2020 MH
ENSMS Audit and Compliance Guide
ENSMS Compliance Assessment Schedule and Outcomes
HP Pole Maintenance Review_Final
2019-06 AM Forum Notes & Parking Lot
AM Forum - Terms of Reference v.3 (1)
Asset Management Forum Agenda - June 2019
Drumbeat Hub pivot changes
System Performance team quarterly plan FY21-sprint planning
Task report - Asset Management Plan IA
Task report - ERA Asset Management System Audit 2017

13. General

Application for Horizon Power Authorisation
Operational Technical Training Audit 2018-2019
Operational Technical Training Audits 2019-2020
AMR_-_Asset_Management_Report_(Qlikview)_Apr19
AMR_-_Asset_Management_Report_(Qlikview)_Aug19
AMR_-_Asset_Management_Report_(Qlikview)_Dec19
AMR_-_Asset_Management_Report_(Qlikview)_Feb19
AMR_-_Asset_Management_Report_(Qlikview)_Jan19
AMR_-_Asset_Management_Report_(Qlikview)_July19
AMR_-_Asset_Management_Report_(Qlikview)_Jun19
AMR_-_Asset_Management_Report_(Qlikview)_Mar19
AMR_-_Asset_Management_Report_(Qlikview)_May19
AMR_-_Asset_Management_Report_(Qlikview)_Nov19
AMR_-_Asset_Management_Report_(Qlikview)_Oct19
AMR_-_Asset_Management_Report_(Qlikview)_Sept19
AMR_-_Asset_Management_Report_(Qlikview)_Apr20
AMR_-_Asset_Management_Report_(Qlikview)_Feb20
AMR_-_Asset_Management_Report_(Qlikview)_Jan20
AMR_-_Asset_Management_Report_(Qlikview)_July20
AMR_-_Asset_Management_Report_(Qlikview)_Jun20
AMR_-_Asset_Management_Report_(Qlikview)_Mar20
AMR_-_Asset_Management_Report_(Qlikview)_May20
Module 1 - Asset Management Planning Guide - 24-06-2020 - Signed MH 010720
Organisation Chart
2021.01 - Horizon Power Project Performance Report - July 2020
Skills Matrix
COVID-19 Alternative Technical Training Plan - HP Annual Mandatory Refresher Training
Horizon Power Authorisation Summary
Switching Process and Rules.doc
ENSMS Competency Guide
HR Process Mapping_Technical Training
HR Systems_Business Processes_Technical Training
Wages Competency Standards Framework Manual - formerly HP_3567395
HP Strategy - Leaders handbook.pdf
Strategy launch - Master Deck.pptx

14. Esperance Documents

Esperance CAPEX variance FY-20.xlsx
2019_AMP_Esperance.pdf
SIGNED - GOLDFIELDS ESPERANCE 2021-30 CAPITAL ASSET MANAGEMENT PLAN.pdf
Single Phase Recloser Program
Goldfields Esperance - ESR0157 - Single Phase Recloser Upgrades - Non Complex Business Case.pdf
Eligibility_Statement_Esperance_Single_Phase_Recloser_Upgrades___Non_Complex_Business_Case._July_2017.pdf
ESR0157 - outcome from XCo planning.pdf
ESR0157 - Single Phase reclosers - Eligibility statement.pdf
ESR0157B Part A WPTSht complete.pdf
ESR0157 - Commissioning Sheets completed - 2017_18 Replacements.pdf
0. Karratha - ERA AMSR 2020 Documentation.xlsx
ESR0157B Part B WPTSht complete.pdf
Reskilling Program
Esperance reskilling program.pdf

Cert III Electrical Fitter Training - Esperance (SPS).pdf

Asset Disposals

XT0141 Disposal - September 2019.pdf

Disposal XT0143.pdf

15. Karratha Documents

OpEx

CLB X04 CB SoW.doc
CLB X04 fault finding Review by HP -Ktha.msg
CLB X04 fault maintenance cost estimate request.msg
CLB X04 GHD Variation (SoW).msg
CLB X04 Defect Report.pdf
CLB X04 Ellipse Inspections Defect Report (P1 Work).pdf
CLB X04 HP Preliminary findings.msg
CLB X04 Job Card.pdf
CLB X04 Old CB image.jpg
CLB X04 Outage planning discussion between AM & HPCC & GHD.msg
CLB X04 Project agreement Form (PAF) SoW.docx
CLB X04 JRA for Maintenance works.pdf
CLB X04 PAF PO for Fault findings.pdf
CLB X04 Resource Planning (Crane Hire).pdf
CLB X04 Risk Assessement involving Asset Management and HPCC.msg
CLB X04 Spare part request.msg
CLB X04 Switching Program for Maintenance works.pdf

CapEx

CLB X04 Circuit Breaker Upgrade - Project Documentation.docx
CLB X04 Circuit Breaker Upgrade - Business Case approval.docx
CLB X04 Circuit Breaker Review and Evaluation Report (Project Close out Report).pdf
CLB X04 Circuit Breaker Upgrade QB #3779.pdf.
CLB X04 Circuit Breaker Upgrade Asset Handover Report and Certificates.pdf
Cape Lambert Circuit Breaker - Disposal of the reclaimed SF6 gas - To environmental.msg
Cleanaway - PO P60987 - Disposal of SF6 for Cape Lambert project - 18.11.2019.pdf
Cleanaway - PO P60987 - Invoice 18879021 - Disposal of SF6 for Cape Lambert project - 18.11.2019.pdf
Cleanaway Quote Removing and disposing of SF6 gas Cylinder bottles..msg
Contingency Plan.docx

Safety

Covid-19 Response Plan (Operations Pandemic Response Plan).docx
TC Damien - TCS Outages .xlsx
EMP_04_002_-_EMERGENCY_CYCLONE_SEVERE_STORM_AND_FLOOD_PROCEDURE_Oct 2019 (1).docx
HorizonPower-Crisis&Emergency Contacts - Oct 2019.pptx
West Pilbara Emergency Response Plan.doc
TC Damien - LRT Agenda Log 02.pdf
TC Damien - LRT Agenda Log 01.pdf
TC Damien - LRT Agenda Log 03.pdf
LRT Checklist - KTA - 01 Alert Phase.pdf
LRT Checklist - KTA - 02 Blue Alert.pdf
LRT Checklist - KTA - 03 Yellow Alert.pdf
LRT Checklist - KTA - 04 Red Alert.pdf
LRT Checklist - MAR - 01 Alert Phase.pdf
LRT Checklist - PHE - 01 Alert Phase.pdf
LRT Checklist - PHE - 02 Blue Alert.pdf
LRT Checklist - PHE - 03 Yellow Alert.pdf
Karratha Emergency Drill June 2020.pdf w
Hedland Emergency Drill June 2020.pdf
Nullagine Emergency Drill May 2020.pdf
Marble Bar Emergency Drill May 2020.pdf
Onslow Power Station - NG017032 Emergency Evac 25-05-20.pdf
Blue RTL.pdf
HPCC Veronica All Clear - Hedland.pdf
HPCC Veronica All Clear - Karratha.pdf
HPCC Veronica Blue Alert - Pilbara.pdf
HPCC Veronica Red Alert - Pilbara.pdf
HPCC Veronica Yellow Alert - Pilbara.pdf
HPCC Veronica Warning - Pilbara.pdf
EP Feeder Restoration Priority.pdf
KTH Feeder Restoration Priority.pdf
LRT_Meeting_Log_Template_(general).doc
Prep phase WDM.pdf
Red alert RC.pdf

Watch check list.pdf
TC VERONICA - EMT - MEETING LOG - MARCH 2019.doc
Western Power Substation and Transmission Line Resources.msg
Yellow alert RC.pdf
1_West Pilbara Town Outage Notification.msg
Yellow Alert regional commander.pdf
Yellow RTL.pdf
East Pilbara Feeder Outage Notification.msg
Choppers Sorted .msg
FW BOM Storm Tide Advice (WA) (30).msg
FW BOM Storm Tide Advice (WA) (31).msg
FW BOM Storm Tide Advice (WA).msg
FW HPCC CYCLONE UPDATE (19).msg
FW HPCC CYCLONE UPDATE .msg
FW HPCC CYCLONE UPDATE.msg
Horizon Power Outage Advice - 04 (11).msg
Horizon Power Outage Advice - 03.msg
Horizon Power Outage Advice - 01.msg
Horizon Power Outage Advice - 05.msg
Horizon Power Outage Advice - 04.msg
Horizon Power Outage Advice - 06.msg
Horizon Power Outage Advice - 07.msg
Horizon Power Outage Advice - 09.msg
Horizon Power Outage Advice -02.msg
HPCC CYCLONE UPDATE (1).msg
HPCC CYCLONE UPDATE (10).msg
HPCC CYCLONE UPDATE (13).msg
HPCC CYCLONE UPDATE (22).msg
HPCC CYCLONE UPDATE (2).msg
HPCC CYCLONE UPDATE (23).msg
HPCC CYCLONE UPDATE (25).msg
HPCC CYCLONE UPDATE (27).msg
HPCC CYCLONE UPDATE (29).msg
HPCC CYCLONE UPDATE (5).msg
HPCC CYCLONE UPDATE (3).msg
HPCC CYCLONE UPDATE (4).msg
HPCC CYCLONE UPDATE - ALL CLEAR.msg
HPCC CYCLONE UPDATE - NO CHANGE.msg
HPCC CYCLONE UPDATE - UPDATE NUMBERS.msg
HPCC CYCLONE UPDATE .msg
HPCC CYCLONE UPDATE.msg
Media statement for approval .msg
RE Ops RE Ops Aircraft availability.msg
RE Choppers Sorted (15).msg
RE Choppers Sorted (17).msg
RE Choppers Sorted (14).msg
RE Choppers Sorted .msg
Re Exmouth Fuel Levels (6).msg
Re Exmouth Fuel Levels (8).msg
RE Exmouth Fuel Levels (7).msg
RE Exmouth Fuel Levels (9).msg
RE Exmouth Fuel Levels.msg
RE TC Veronica - EMT - Meeting Log _3.msg
RE Media statement for approval .msg
RE TC veronica - EMT - Meeting Log _6.msg
Re NO CHANGE HPCC CYCLONE UPDATE.msg
Re TC Veronica - EMT - Meeting _4 (32).msg wHorizon Power AMS ERA: RE TC Veronica - EMT Meeting Log - _7.msg
RE TC Veronica internal comms update.msg
RE TC Veronica - EMT - Meeting _4.msg Horizon Power AMS ERA: Re Updated Powerlink article.msg
System Disturbance Advice (12).msg
SAT PHONES CONTACTS.msg
System Disturbance Advice (26).msg
System Disturbance Advice (28).msg
System Disturbance Advice.msg
TC Veronica internal comms update.msg
Using SAT PHONES - Dialing other numbers.msg
Tropical Cyclone Veronica update .msg
Updated Powerlink article.msg
West Kimberley Feeder Outage Notification.msg
CT_Damien_Feb_2020_-_Situation_Board (1).xlsx
desktop.ini
Staff Contact list FEB 2020.xlsx
TC Damien - Life support, Criticl load, VIP.xlsx

TCS Outages .xlsx
IMG_5467.jpg
IMG_5468.jpg
Forecast Track Map Meeting 1.pdf
ISG Meeting 1.pdf
Forecast Track Map Meeting 3.pdf
Forecast Track Map Meeting 5.pdf
Doc1.docx AM.
IMG_0222.jpg
IMG_0236.jpg
IMG_0240.jpg
IMG_0216.jpg
IMG_0247.jpg
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TC Damien - LRT Agenda Log 02.pdf
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TC Damien - LRT Agenda Log 01.pdf
TC Damien - LRT Agenda Log 03.pdf
LRT Checklist - KTA - 01 Alert Phase.pdf
LRT Checklist - KTA - 02 Blue Alert.pdf
LRT Checklist - KTA - 03 Yellow Alert.pdf
LRT Checklist - KTA - 04 Red Alert.pdf
LRT Checklist - KTA - 05 After Cyclone Before All Clear.pdf
LRT Checklist - MAR - 01 Alert Phase.pdf
LRT Checklist - PHE - 01 Alert Phase.pdf
LRT Checklist - MAR - 05 After Cyclone Before All Clear.pdf
LRT Checklist - NUL - 05 After Cyclone Before All Clear.pdf
LRT Checklist - PHE - 02 Blue Alert.pdf
LRT Checklist - PHE - 03 Yellow Alert.pdf
LRT Checklist - PHE - 05 After Cyclone Before All Clear.pdf
TC Damien - LRT Agenda Log 01.pdf
TC Damien - LRT Agenda Log 02.pdf
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Contractor Management

SCHEDULE_1.1_-_SCOPE_OF_WORKS_(SoW) TEMPLATE.DOCX
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CONTRACTORS_RATES_-_SCHEDULE_OF_RATES.xlsx
HPContr. Summary Report.xlsm
HP01678_Part_B_-_SCHEDULE_1.3_-_UNDERGROUND_NETWORK_ASSETS_MAINTENANCE_AND_INSTALLATION_TECHNICAL_REQUIREMENTS.pdf
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HP01678_Part_B_-_SCHEDULE_1.2_-_TRANSMISSION_NETWORK_ASSETS_MAINTENANCE_AND_TECHNICAL_REQUIREMENTS.pdf
HP01678_Part_B_-_SCHEDULE_1.4_-_STREETLIGHT_MAINTENANCE_AND_INSTALLATION_TECHNICAL_REQUIREMENTS.pdf
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2013 leaks.JPG
Inspection_Instr_Type_M_&_MS.pdf
WP014491 - Scope of Work.docx
CLB T2 NAMEPLATE 1 .jpg
IMAG4121.jpg
20150116_094550.jpg
IMAG4123.jpg
IMAG4122.jpg
IMAG4124.jpg
HPC-2NK-25-0003-2018_-_Gdl_-_TX_Power_Trfr_&_TC_Rev0.docx.pdf
Tap Chager NP.jpg
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ACF_WPP0395.pdf
ASSET REMOVAL TELSTRA EXCHANGE.pdf
Commissioning sheet 2.pdf
DATA.pdf
EAP.pdf
DNAR.pdf
GPS ABANDONED CABLE 1.jpg
GPS ABANDONED CABLE 2.jpg
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WPP0395 - Application - Karratha TE - Power Logging September 2017.pdf
WPP0395 - Application - Karratha TE-Site Plan.pdf
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WPP0395 - Application - Letter of authorisation for Western Power from Telstra .pdf
WPP0395 - Application - LOAD BREAKDOWN DETAILS.pdf
WPP0395 - Asset Interaction Sheet interactive.pdf
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WPP0395 - Site Photo 1.JPG
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Asset Planning

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QuickBase Extracts - List of projects supporting AMP Process.xlsx
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Asset Operations

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KARRATHA FEEDER RESTORATION PRIORITY V2.docx
Contingency Plan
Technical Training Matrix.xlsx

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CLB T2 - 2M Substation Inspection - Aug 2020.zip
CLB T2 - 5Y Tap Changer Maintenance - FY1920.zip
CLB T2 - 1Y Oil Sample Testing - FY1920.zip
CLB T2 - 5Y Transformer HV Testing - 2017.zip

Appendix 3

Risk Assessment supporting tables

The consequences of the risk occurring was assessed using the 3-point rating scale described in the table below. The more significant the consequences, the higher the rating value allocated.

Table 11: Consequences

Rating		Non-compliance		
		Supply quality and reliability	**Consumer protection**	**Breaches of legislation or other licence conditions**
1	Minor	Breaches of supply quality or reliability standards – affecting small number of customers. Delays in providing a small proportion of new connections.	Customer complaints procedures not followed in a few instances. Small percentage of disconnections or reconnections not completed on time. Small percentage of bills not issued on time.	Legislative obligations or licence conditions not fully complied with, minor impact on customers or third parties Compliance framework generally fit for purpose and operating effectively.
2	Moderate	Supply quality breach events that significantly impact customers; large number of customers affected and/or extended duration and/or damage to customer equipment. Supply interruptions affecting significant proportion of customers on the network for up to one day. Significant number of customers experiencing excessive number of interruptions per annum. Significant percentage of new connections not provided on time/ some customers experiencing extended delays.	Significant percentage of complaints not being correctly handled. Customers not receiving correct advice regarding financial hardship. Significant percentage of bills not issued on time. Ongoing instances of disconnections and reconnections not completed on time, remedial actions not being taken or proving ineffective. Instances of wrongful disconnection.	More widespread breaches of legislative obligations or licence conditions over time. Compliance framework requires improvement to meet minimum standards.
3	Major	Supply interruptions affecting significant proportion of customers on the network for more than one day. Majority of new connections not completed on time/ large number of customers experiencing extended delays.	Significant failure of one or more customer protection processes leading to ongoing breaches of standards. Ongoing instances of wrongful disconnection.	Wilful breach of legislative obligation or licence condition. Widespread and/or ongoing breaches of legislative obligations or licence conditions. Compliance framework not fit for purpose, requires significant improvement.

The likelihood was assessed using the 3-point rating scale described in the table below:

Table 12: Likelihood

	Level	Criteria
A	Likely	Non-compliance is expected to occur at least once or twice a year

B	Probable	Non-compliance is expected to occur once every three years
C	Unlikely	Non-compliance is expected to occur once every 10 years or longer

The inherent risk was arrived through the combination of the consequence rating and the likelihood rating. The inherent risk rating that was used is depicted in the table below:

Table 13: Inherent risk rating

Likelihood	Consequence		
	1. Minor	2. Moderate	3. Major
A. Likely	Medium	High	High
B. Probable	Low	Medium	High
C. Unlikely	Low	Medium	High

Described below are the inherent risk ratings:

Level	Description
High	Likely to cause major damage, disruption or breach of licence obligations
Medium	Unlikely to cause major damage but may threaten the efficiency and effectiveness of service
Low	Unlikely to occur and consequences are relatively minor

Once the inherent risks were identified and classified, KPMG undertook a high level assessment of the internal controls that are in place to mitigate each inherent risk.

The table below describes the preliminary adequacy rating for existing controls:

Table 14: Adequacy of existing controls

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

The next stage in the planning process was to determine review priorities for each of the licence conditions based on the combined rating for inherent risk and control adequacy. The prescribed 5 - level audit priority scale was used:

Table 15: Priority Rating

		Preliminary Adequacy of Existing Controls		
		Weak	Moderate	Strong
Inherent Risk	High	Review priority 1	Review priority 2	
	Medium	Review priority 3	Review priority 4	
	Low	Review priority 5		

Appendix 4

Priority ratings

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

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
1.1	Asset management plan covers the processes in this table	Moderate	Probable	Medium	Moderate	Priority 4
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	Minor	Probable	Low	Weak	Priority 5
1.3	Service levels are defined in the asset management plan	Minor	Unlikely	Low	Moderate	Priority 5
1.4	Non-asset options (e.g. demand management) are considered	Minor	Probable	Low	Moderate	Priority 5
1.5	Lifecycle costs of owning and operating assets are assessed	Moderate	Probable	Medium	Moderate	Priority 4
1.6	Funding options are evaluated	Minor	Probable	Low	Moderate	Priority 5
1.7	Costs are justified and cost drivers identified	Moderate	Probable	Medium	Moderate	Priority 4
1.8	Likelihood and consequences of asset failure are predicted	Major	Probable	High	Moderate	Priority 2
1.9	Asset management plan is regularly reviewed and updated	Minor	Unlikely	Low	Moderate	Priority 5

2		Asset Creation and Acquisition
Key Process:		Asset creation/acquisition is the provision or improvement of assets
Outcome:		The asset acquisition framework is economic, efficient and cost-effective; it reduces demand for new assets, lower service costs and improve service delivery.

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	Moderate	Unlikely	Medium	Moderate	Priority 4
2.2	Evaluations include all life-cycle costs	Moderate	Unlikely	Medium	Moderate	Priority 4
2.3	Projects reflect sound engineering and business decisions	Moderate	Unlikely	Medium	Moderate	Priority 4
2.4	Commissioning tests are documented and completed	Moderate	Unlikely	Medium	Moderate	Priority 4
2.5	Ongoing legal/environmental/ safety obligations of the asset owner are assigned and understood	Major	Unlikely	High	Moderate	Priority 2

3		Asset Disposal
Key Process:		Asset disposal is the consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets.
Outcome:		The asset management framework minimizes holdings of surplus and under-performing assets and lowers service costs. The cost-benefits of disposal options are evaluated.

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Minor	Probable	Low	Moderate	Priority 5
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Minor	Probable	Low	Moderate	Priority 5
3.3	Disposal alternatives are evaluated	Minor	Probable	Low	Moderate	Priority 5
3.4	There is a replacement strategy for assets	Moderate	Probable	Medium	Weak	Priority 3

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

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

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

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
5.1	Operational policies and procedures are documented and linked to service levels required	Moderate	Likely	High	Moderate	Priority 2
5.2	Risk management is applied to prioritise operations	Moderate	Probable	Medium	Moderate	Priority 4
5.3	Assets are documented in an asset register including asset type, location, material, plans of components, and an assessment of assets' physical/structural condition	Moderate	Probable	Medium	Weak	Priority 3
5.4	Accounting data is documented for assets	Moderate	Probable	Medium	Weak	Priority 3
5.5	Operational costs are measured and monitored	Moderate	Probable	Medium	Moderate	Priority 4
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Moderate	Probable	Medium	Weak	Priority 3

6		Asset maintenance
Key Process:		Asset maintenance is the upkeep of assets.
Outcome:		The asset maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
6.1	Maintenance policies and procedures are documented and linked to service levels required	Major	Unlikely	High	Moderate	Priority 2
6.2	Regular inspections are undertaken of asset performance and condition	Major	Unlikely	High	Moderate	Priority 2
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Major	Probable	High	Moderate	Priority 2
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Major	Probable	High	Moderate	Priority 2
6.5	Risk management is applied to prioritise maintenance tasks	Major	Probable	High	Moderate	Priority 2
6.6	Maintenance costs are measured and monitored	Moderate	Probable	Medium	Moderate	Priority 4

7		Asset Management Information System
Key Process:		An asset management information system is a combination of processes, data and software that support the asset management functions.
Outcome:		The asset management information system provides authorised, complete and accurate information for the day-to-date running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards.

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
7.1	Adequate system documentation for users and IT operators	Minor	Probable	Low	Moderate	Priority 5
7.2	Input controls include appropriate verification and validation of data entered into the system	Moderate	Probable	Medium	Weak	Priority 3
7.3	Security access controls appear adequate, such as passwords	Minor	Probable	Low	Moderate	Priority 5
7.4	Physical security access controls appear adequate	Minor	Probable	Low	Moderate	Priority 5
7.5	Data backup procedures appear adequate and backups are tested	Moderate	Probable	Medium	Weak	Priority 3
7.6	Computations for licensee performance reporting are accurate	Minor	Probable	Low	Weak	Priority 5
7.7	Management reports appear adequate for the licensee to monitor license obligations	Minor	Probable	Low	Moderate	Priority 5
7.8	Adequate measures to protect asset management data from unauthorized access or theft by persons outside the organisation	Major	Probable	High	Moderate	Priority 2

8		Risk Management
Key Process:		Risk management involves the identification of risks and their management within an acceptable level of risk.
Outcome:		The risk management framework effectively manages the risk that the licensee does not maintain effective service standards

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	Major	Probable	High	Moderate	Priority 2
8.2	Risks are documented in a risk register and treatment plans are implemented and monitored	Moderate	Probable	Medium	Moderate	Priority 4
8.3	Probability and consequences of asset failure are regularly assessed	Major	Probable	High	Moderate	Priority 2

9		Contingency Planning
Key Process:		Contingency plans document the steps to deal with the unexpected failure of an asset.
Outcome:		Contingency plans have been developed and tested to minimise any major disruptions to service standards.

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Major	Probable	High	Moderate	Priority 2

10		Financial Planning
Key Process:		Financial planning brings together the financial elements of the service delivery to ensure its financial viability over the long term.
Outcome:		The financial plan is reliable and provides for the long-term financial viability of the services.

Ref	Effectiveness criteria	Consequence	Likelihood	Inherent Risk Rating	Controls Assessment	Review Priority
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives	Moderate	Probable	Medium	Moderate	Priority 4
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Minor	Probable	Low	Moderate	Priority 5
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Minor	Probable	Low	Moderate	Priority 5
10.4	The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period	Minor	Probable	Low	Moderate	Priority 5
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Moderate	Probable	Medium	Moderate	Priority 4
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Moderate	Probable	Medium	Moderate	Priority 4

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

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

12		Review of AMS
Key Process:		The asset management system is regularly reviewed and updated.
Outcome:		The asset management system is regularly reviewed and updated

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

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