

EDL NGD (WA) Pty Ltd

2019 Electricity Integrated Regional Licence (EIRL1) Asset Management System Review

Report

1 August 2014 to 31 July 2019



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13 November 2019

Dear Neil

EDL NGD (WA) Pty Ltd: 2019 EIRL1 Asset Management System Review

We have completed the limited assurance engagement on the Electricity Integrated Regional Licence (EIRL) 1 Asset Management System review for EDL NGD (WA) Pty Ltd for the period 1 August 2014 to 31 July 2019 and are pleased to submit our report to you.

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

If you have any questions or wish to discuss anything raised in the report, please contact me on 0456 585 247.

Yours sincerely

Vincent Snijders
Partner
Chartered Accountant
Deloitte Touche Tohmatsu

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1 Independent assurance practitioner's report

Qualified Conclusion

We have undertaken a limited assurance engagement on the compliance of EDL NGD (WA) Pty Ltd's (**EDL**) Asset Management System (**AMS**) effectiveness and performance, in all material respects, as evaluated against the effectiveness criteria in the Electricity Integrated Retail Licence (**EIRL1**) (the **Licence**) and applicable obligations from the *Audit and Review Guidelines: Electricity and Gas Licences* issued by the ERA (the **Guidelines**) released in March 2019, for the period 1 August 2014 to 31 July 2019, for the purpose of assisting EDL comply with its reporting obligations to the Economic Regulation Authority (the **ERA**).

Based on the procedures we have performed and the evidence we have obtained, except for the effects of the matters described in the 'Basis for qualified conclusion' below, nothing has come to our attention that causes us to believe that EDL has not established and maintained, in all material respects, an effective AMS for assets subject to the Licence, as measured by the effectiveness criteria in the March 2019 issue of the Guidelines issued by the ERA and that the systems have not operated effectively for the review period.

Basis for qualified conclusion

During the period from 1 August 2014 to 31 July 2019, EDL did not comply with the effectiveness criteria in the following instances:

AMS key process and effectiveness criteria	Issue
<p><i>Asset planning</i></p> <p>1.1 Asset Management Plan covers key requirements</p>	<p>While information is contained elsewhere within EDL's systems, the Asset Management Plan (AMP) itself does not provide commentary on the following elements of an AMP tailored to EDL's purposes:</p> <ul style="list-style-type: none"> • Historical and forecasted performance of assets over the lifecycle of the AMP • The regular reviews of the AMP that occur • Lifecycle performance, including performance charts, historical performance, forecast performance, forecast cost, major changes to cost forecast and health and safety • Reference to contingency plans.
<p><i>Asset planning</i></p> <p>1.9 Plans are regularly reviewed and updated</p>	<p>The most recent documented review of the AMP was June 2018. The review prior to that was performed in October 2012. As such the plan has not been regularly reviewed, with no evidence of review within the document.</p>
<p><i>Asset Operations</i></p> <p>5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition</p>	<p>EDL has not documented its assets physical/structural conditions within the Asset Register as required by the effectiveness requirement, with monitoring of physical/structural conditions performed outside of the register.</p>

We conducted our engagement in accordance with Standard on Assurance Engagements ASAE 3500 *Performance Engagements* issued by the Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our qualified conclusion.

EDL's responsibility for the AMS

EDL is responsible for ensuring that it has:

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

Assurance practitioner's independence and quality control

We have complied with the independence and other relevant ethical requirements relating to assurance engagements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Auditing Standard ASQC 1 *Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, and Other Assurance Engagements*, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Assurance practitioner's responsibilities

Our responsibility is to express a limited assurance conclusion on EDL's AMS for assets subject to its Licence, based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with Australian Standard on Assurance Engagements ASAE 3500 *Performance Engagements*, issued by the Australian Auditing and Assurance Standards Board, in order to express a conclusion whether, based on the procedures performed and the evidence obtained, anything has come to our attention that causes us to believe that EDL's AMS for assets subject to its Licence, have not been established and maintained, in all material respects, in accordance with the Licence as measured by the effectiveness criteria in the Guidelines. That standard requires that we plan and perform this engagement to obtain limited assurance about whether the AMS for assets subject to the Licence is materially ineffective.

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

Procedures performed

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

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

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

Inherent Limitations

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

A limited assurance engagement relating to the period from 1 August 2014 to 31 July 2019 does not provide assurance on whether the effectiveness of EDL's AMS for assets subject to the Licence will continue in the future.

Restricted use

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

DELOITTE TOUCHE TOHMATSU

Vincent Snijders

Partner

Chartered Accountant

13 November 2019

2 Executive summary

2.1 Introduction and background

The ERA has, under the provisions of the Electricity Industry Act 2004 (the **Act**), issued to EDL NGD (WA) Pty Ltd (**EDL**) the Electricity Integrated Retail Licence (**EIRL1**) (the **Licence**).

The Licence relates to EDL's operation of its Broome Power Station (natural gas engines, supplemented with diesel engines). Note that the Licence was amended in on 12 November 2012 to remove the other power stations within the West Kimberley Power Project (**WKPP**) as they were deemed immaterial to the licence. Also, as a result of the exemption amendment order published by the Office of Energy on 9 October 2009, the Licence only relates to EDL's generation works.

Section 14 of the Act requires EDL to provide to the ERA an Asset Management System (**AMS**) review (the **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 ERA set the period to be covered by the review as 1 August 2014 to 31 July 2019 (**review period**).

At the request of EDL, Deloitte Touche Tohmatsu (**Deloitte**) has undertaken a limited assurance review of EDL's AMS.

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

2.2 Findings

In considering EDL's internal control procedures, structure and environment, its compliance arrangements and its information systems specifically relevant to those effectiveness criteria subject to review with a focus on its electricity generation, we observed EDL:

- Applies a continuous improvement approach to its asset management practices, with a number of incremental improvements introduced throughout the review period
- Otherwise maintained a stable AMS and applied consistent asset management practices throughout the review period
- Actioned both of the recommendations made by the 2014 AMS Review
- Can build out its AMP to incorporate references to historical performance, material risks, and contingency plans
- Can make improvements to its asset database by including the condition of assets
- Has a total of three opportunities where further action is recommended to improve elements of its asset management practices.

The following tables summarise the assessments made during the review of EDL's compliance and the adequacy of controls in place for EDL to manage its compliance with the conditions of its Licence.

Table 1 sets out the rating scale defined by the ERA in the Guidelines for the assessment of the level of compliance with the conditions of its Licence. For the highest possible compliance rating to be achieved, EDL was required to demonstrate it has maintained mature processes and controls, which enable compliance with relevant obligations.

Table 1: Control adequacy and compliance rating scale

Adequacy of Controls Rating		Compliance Rating	
Rating	Description	Rating	Description
A	Adequate controls – no improvement needed	1	Compliant
B	Generally adequate controls – improvement needed	2	Non-compliant – minor impact on customers or third parties
C	Inadequate controls – significant improvement required	3	Non-compliant – moderate impact on customers or third parties
D	No controls evident	4	Non-compliant – major impact on customers or third parties
N/P	Not performed – A controls rating was not required	N/R	Not rated – No activity took place during the audit period

Table 4 at section 3 of this report provides further detail on the control adequacy and compliance rating scales. The above rating scale is defined by the Guidelines.

Table 2: Summary of findings by review priority and control adequacy

Audit Priority	Control adequacy rating				NP ¹	Total
	A	B	C	D		
Priority 1	-	-	-	-	-	-
Priority 2	3	-	-	-	-	3
Priority 3	1	-	-	-	-	1
Priority 4	32	1	-	-	1	34
Priority 5	18	2	-	-	-	20
Total:	54	3	-	-	1	58

Table 3: Summary of findings by review priority and compliance rating

Audit Priority	Compliance rating				NR	Total
	1	2	3	4		
Priority 1	-	-	-	-	-	-
Priority 2	3	-	-	-	-	3
Priority 3	1	-	-	-	-	1
Priority 4	27	1	-	-	6	34
Priority 5	16	2	-	-	2	20
Total:	47	3	-	-	8	58

Note that, in accordance with the Guidelines:

- Obligations assessed as being “not applicable” to EDL’s operations have not been included within this report
- A control rating is only provided for those obligations with a Priority 1, 2, or 3 rating, where an obligation is assessed as non-compliant, or where a control improvement opportunity is identified.

¹ Refers to the obligations for which a control assessment was not required to be performed (obligations with an audit priority of 4 and a compliance rating of 1, or which were not rateable).

Specific assessments for each criterion are summarised at **Table 6** in section 3 “Summary of ratings” of this report. Detailed findings, including relevant observations, recommendations and action plans are located in section 4 “Detailed findings, recommendations and action plans” of this report.

2.3 EDL’s response to previous review recommendations

This review considered EDL’s progress in completing the action plans detailed in the 2014 AMS report.

Based on our examination of relevant documents, discussion with staff, and consideration of the results of this review’s testing against the criteria, we determined that both action plans were completed during this review period.

Refer to section 5 of this report for further detail.

2.4 Recommendations and action plans

AMS Key Process and Effectiveness Criteria	Adequacy rating	Issue 1/2019
Asset operations 1.1 Asset Management Plan covers key requirements	Requires some improvement (B)	While information is contained elsewhere within EDL’s systems, the Asset Management Plan (AMP) itself does not provide commentary on the following elements of an AMP tailored to EDL’s purposes: <ul style="list-style-type: none"> • Historical and forecasted performance of assets over the lifecycle of the AMP • The Regular reviews of the AMP that occur • Lifecycle performance, including performance charts, historical performance, forecast performance, forecast cost, major changes to cost forecast, and health and safety • Reference to contingency plans.
	Performance rating	
	Opportunity for improvement (2)	
Recommendation 1/2019 EDL should update the AMP to incorporate the 12 key asset management effectiveness criteria processes either explicitly or by reference to: <ul style="list-style-type: none"> • Arrangements for review and updates (section 1) • Historical and forecasted performance (section 10) • Contingency arrangements in place (section 9) • An outline of site specific material risks (section 8). 	Action Plan 1/2019 EDL will update the AMP to reflect the 12 key asset management effectiveness criteria processes either explicitly or by referencing: <ul style="list-style-type: none"> • Arrangements for review and updates (section 1) • Historical and forecasted performance (section 10) • References to the contingency arrangement in place (section 9) • An outline of site specific material risks (section 8). Responsible Person: Commercial Analyst Target Date: 31 March 2020	

AMS Key Process and Effectiveness Criteria	Adequacy rating	Issue 2/2019
Asset operations <i>1.9 Plans are regularly reviewed and updated</i>	Requires some improvement (B)	The most recent documented review of the AMP was June 2018. The review prior to that was performed in October 2012. As such the plan has not been regularly reviewed, with no evidence of review within the document.
	Performance rating	
	Opportunity for improvement (2)	
Recommendation 2/2019 To evidence the review of the AMP that is performed on a regular basis, EDL should document the review performed within the AMP.		Action Plan 2/2019 To evidence the review of the AMP that is performed on a regular basis, EDL will document the review performed within the AMP. Responsible Person: Operations Manager WKPP Target Date: 31 March 2020

AMS Key Process and Effectiveness Criteria	Adequacy rating	Issue 3/2019
Asset operations <i>5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition</i>	Requires some improvement (B)	EDL has not documented its assets physical/structural conditions within the Asset Register as required by the effectiveness requirement, with monitoring of physical/structural conditions performed outside of the register.
	Performance rating	
	Opportunity for improvement (2)	
Recommendation 3/2019 To meet the effectiveness criteria requirement that an assessment of assets physical/structural conditions is documented within the Asset Register, EDL should update the register to include asset physical/structural condition information.		Action Plan 3/2019 To meet the effectiveness criteria requirement that an assessment of assets physical/structural conditions is documented within the Asset Register, EDL will update the register to include asset physical/structural condition information. Responsible Person: Global Asset Manager Target Date: 31 March 2020

2.5 Scope and objectives

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

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

Table 1 – AMS key processes and effectiveness criteria

#	Key processes	Effectiveness criteria
1	Asset planning	<ol style="list-style-type: none"> 1. Asset management plan covers the processes in this table 2. Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning 3. Service levels are defined in the asset management plan 4. Non-asset options (e.g. demand management) are considered 5. Lifecycle costs of owning and operating assets are assessed 6. Funding options are evaluated 7. Costs are justified and cost drivers identified 8. Likelihood and consequences of asset failure are predicted 9. Plans are regularly reviewed and updated.
2	Asset creation and acquisition	<ol style="list-style-type: none"> 1. Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options 2. Evaluations include all life-cycle costs 3. Projects reflect sound engineering and business decisions 4. Commissioning tests are documented and completed 5. Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.
3	Asset disposal	<ol style="list-style-type: none"> 1. Under-utilised and under-performing assets are identified as part of a regular systematic review process 2. The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken 3. Disposal alternatives are evaluated 4. There is a replacement strategy for assets.
4	Environmental analysis (all external factors that affect the system)	<ol style="list-style-type: none"> 1. Opportunities and threats in the asset management system environment are assessed 2. Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved 3. Compliance with statutory and regulatory requirements 4. Service standards (customer service levels etc) are measured and achieved.
5	Asset operations	<ol style="list-style-type: none"> 1. Operational policies and procedures are documented and linked to service levels required 2. Risk management is applied to prioritise operations tasks 3. Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition 4. Accounting data is documented for assets 5. Operational costs are measured and monitored 6. Staff resources are adequate and staff receive training commensurate with their responsibilities.

#	Key processes	Effectiveness criteria
6	Asset maintenance	<ol style="list-style-type: none"> 1. Maintenance policies and procedures are documented and linked to service levels required 2. Regular inspections are undertaken of asset performance and condition 3. Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule 4. Failures are analysed and operational/maintenance plans adjusted where necessary 5. Risk management is applied to prioritise maintenance tasks 6. Maintenance costs are measured and monitored.
7	Asset management information system	<ol style="list-style-type: none"> 1. Adequate system documentation exists for users and IT operators 2. Input controls include appropriate verification and validation of data entered into the system 3. Security access controls appear adequate, such as passwords 4. Physical security access controls appear adequate 5. Data backup procedures appear adequate and backups are tested 6. Computations for licensee performance reporting are accurate 7. Management reports appear adequate for the licensee to monitor licence obligations 8. Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation.
8	Risk management	<ol style="list-style-type: none"> 1. Risk management policies and procedures exist and are being applied to minimise internal and external risks 2. Risks are documented in a risk register and treatment plans are actioned and monitored 3. The probability and consequences of asset failure are regularly assessed.
9	Contingency planning	<ol style="list-style-type: none"> 1. Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.
10	Financial planning	<ol style="list-style-type: none"> 1. The financial plan states the financial objectives and identifies strategies and actions to achieve the objectives 2. The financial plan identifies the source of funds for capital expenditure and recurrent costs 3. The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets) 4. The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period 5. The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services 6. Large variances in actual/budget income and expenses are identified and corrective action taken where necessary.
11	Capital expenditure planning	<ol style="list-style-type: none"> 1. There is a capital expenditure plan covering work to be undertaken, actions proposed, responsibilities and dates 2. The plan provides reasons for capital expenditure and timing of expenditure 3. The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan 4. There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented.

#	Key processes	Effectiveness criteria
12	Review of AMS	<ol style="list-style-type: none"> 1. A review process is in place to ensure that the asset management plan and the AMS described therein are kept current 2. Independent reviews (e.g. internal audit) are performed of the AMS.

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

2.6 Approach

Our approach for this review involved the following activities, which were undertaken during August to October 2019:

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

3 Summary of ratings

In accordance with the Guidelines, the assessment of both the process and policy definition adequacy rating (refer to **Table 4**) and the performance rating (refer to **Table 5**) for each of the key AMS processes is performed using the below ratings.

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

Table 4: Asset management process and policy definition adequacy ratings

Rating	Description	Criteria
A	Adequately defined	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Process and policy documentation is incomplete or requires significant improvement Processes and policies do not document the required performance of the assets Processes and policies are significantly out of date The asset management information system(s) require significant improvements (taking into consideration the assets that are being managed).
D	Inadequate	<ul style="list-style-type: none"> 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 5: Asset management performance ratings

Rating	Description	Criteria
1	Performing effectively	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Process is not performed, or the performance is so poor that the process is considered to be ineffective.

This report provides:

- A breakdown of each function of the AMS into sub-components as described in the Guidelines. This approach is taken to enable a more thorough review of key processes where individual components within a larger process can be of greater risk to the business therefore requiring different review treatment
- A summary of the ratings applied by the review (**Table 6**) for each of:
 - Asset management process and policy definition adequacy (**definition adequacy rating**)
 - Asset management performance (**performance rating**).
- Detailed findings, including relevant observations, recommendations and action plans (**Section 4**). Descriptions of the effectiveness criteria can be found in section 4 and the Review Plan at Appendix A.

Table 6: AMS effectiveness summary

Ref	Effectiveness criteria	Review Priority	Ratings	
			Definition Adequacy	Performance
1. Asset planning			B	2
1.1	Asset management plan covers the processes in this table	Priority 4	B	2
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	Priority 4	A	1
1.3	Service levels are defined in the asset management plan	Priority 4	A	1
1.4	Non-asset 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 4	A	1
1.9	Plans are regularly reviewed and updated	Priority 5	B	2
2. Asset creation and acquisition			A	1
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	Priority 4	A	NR
2.2	Evaluations include all life-cycle costs	Priority 4	A	NR
2.3	Projects reflect sound engineering and business decisions	Priority 4	A	NR
2.4	Commissioning tests are documented and completed	Priority 4	A	NR
2.5	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	Priority 2	A	1
3. Asset disposal			A	1
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	Priority 4	A	1
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	Priority 5	A	NR
3.3	Disposal alternatives are evaluated	Priority 5	A	NR
3.4	There is a replacement strategy for assets	Priority 4	A	NR
4. Environmental analysis			A	1
4.1	Opportunities and threats in the asset management system environment are assessed	Priority 4	A	1

Ref	Effectiveness criteria	Review Priority	Ratings	
			Definition Adequacy	Performance
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Priority 4	A	1
4.3	Compliance with statutory and regulatory requirements	Priority 4	A	1
4.4	Service standards (customer service levels etc) are measured and achieved	Priority 4	A	1
5. Asset operations			B	2
5.1	Operational policies and procedures are documented and linked to service levels required	Priority 4	A	1
5.2	Risk management is applied to prioritise operations tasks	Priority 4	A	1
5.3	Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition	Priority 5	B	2
5.4	Accounting data is documented for assets	Priority 4	A	1
5.5	Operational costs are measured and monitored	Priority 4	A	1
5.6	Staff resources are adequate and staff receive training commensurate with their responsibilities	Priority 4	A	1
6. Asset maintenance			A	1
6.1	Maintenance policies and procedures are documented and linked to service levels required	Priority 4	A	1
6.2	Regular inspections are undertaken of asset performance and condition	Priority 4	A	1
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Priority 4	A	1
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	Priority 4	A	1
6.5	Risk management is applied to prioritise maintenance tasks	Priority 4	A	1
6.6	Maintenance costs are measured and monitored	Priority 5	A	1
7. Asset management information system			A	1
7.1	Adequate system documentation exists 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 4	A	1
7.3	Security access controls appear adequate, such as passwords	Priority 5	A	1
7.4	Physical security access controls appear adequate	Priority 5	A	1
7.5	Data backup procedures appear adequate and backups are tested	Priority 4	A	1
7.6	Computations for licensee performance reporting are materially accurate	Priority 4	NP	NR
7.7	Management reports appear adequate for the licensee to monitor licence obligations	Priority 5	A	1
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	Priority 4	A	1
8. Risk management			A	1
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks	Priority 2	A	1
8.2	Risks are documented in a risk register and treatment plans are actioned and monitored	Priority 4	A	1
8.3	The probability and consequences of asset failure are regularly assessed	Priority 4	A	1

Ref	Effectiveness criteria	Review Priority	Ratings	
			Definition Adequacy	Performance
9. Contingency planning			A	1
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	Priority 2	A	1
10. Financial planning			A	1
10.1	The financial plan states the financial objectives and identifies strategies and actions to achieve the objectives	Priority 5	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 provide 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 5	A	1
10.6	Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	Priority 5	A	1
11. Capital expenditure planning			A	1
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	Priority 4	A	1
11.2	The plan provides reasons for capital expenditure and timing of expenditure	Priority 5	A	1
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Priority 5	A	1
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented	Priority 5	A	1
12. Review of AMS			A	1
12.1	A review process is in place to ensure that the asset management plan and the AMS described therein are kept current	Priority 3	A	1
12.2	Independent reviews (e.g. internal audit) are performed of the AMS	Priority 4	A	1

4 Detailed findings, recommendations and action plans

The following tables contain:

- *Findings*: the reviewer's understanding of the process and any issues that have been identified during the review
- *Recommendations (where applicable)*: recommendations for improvement or enhancement of the process or control
- *Action plans (where applicable)*: EDL's formal response to review recommendations, providing details of action to be implemented to address the specific issue raised by the review.

4.1 Asset Planning

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

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

Overall Adequacy/Performance rating: Requires some improvement (B) / Opportunity for improvement (2)

Effectiveness Criteria	Findings	
1.1 Asset Management Plan covers the processes in this table	<p>Through discussion with the Operations Manager WKPP and Commercial Analyst, and inspection of EDL's WKPP AMP, we determined the AMP:</p> <ul style="list-style-type: none"> • Identifies the plant maintenance requirements and methods for the West Kimberley Power Stations. The AMP sets out the procedures and work methods relating to scheduled maintenance, condition monitoring, inspection and testing, and quality and characteristics of supply. The AMP specifically includes the following elements: <ul style="list-style-type: none"> ○ Asset overview, including a description of operations and assets ○ Current business objectives ○ Asset performance, including cost performance indicators and operational risk summary ○ Statutory and regulatory requirements ○ Servicing requirements of all major components of the plant ○ Asset performance, including cost performance indicators. • Contains maintenance requirements for its larger assets, and has a brief overview on the business drivers and service level KPI's • Does not detail the following elements of an AMP tailored to EDL's purposes: <ul style="list-style-type: none"> ○ Historical and forecasted performance of assets over the lifecycle of the asset ○ The annual reviews of the AMP. The last documented revision to the AMP was June 2018, with the revision prior to that October 2012 ○ How the asset performance is managed over the lifecycle. Including performance charts, historical performance, forecast performance, forecast cost, major changes to cost forecast, and health and safety ○ Reference to contingency plans ○ Outline the material risks to operations and staff. 	
	Adequacy Rating: Requires some improvement (B)	Performance Rating: Opportunity for improvement (2)
	<p>Recommendation 1/2019</p> <p>EDL should update the AMP to incorporate the 12 key asset management effectiveness criteria processes either explicitly or by reference to:</p> <ul style="list-style-type: none"> • Arrangements for review and updates (section 1) • Historical and forecasted performance (section 10) 	<p>Action 1/2019</p> <p>EDL will update the AMP to reflect the 12 key processes in the asset management effectiveness criteria by referencing:</p> <ul style="list-style-type: none"> • Arrangements for review and updates (section 1) • Historical and forecasted performance (section 10)

Effectiveness Criteria	Findings	
	<ul style="list-style-type: none"> Contingency arrangements in place (section 9) An outline of site specific material risks (section 8). 	<ul style="list-style-type: none"> References to the contingency arrangement in place (section 9) An outline of site specific material risks (section 8). <p>Responsible Person: Commercial Analyst</p> <p>Target Date: 31 March 2020</p>
1.2 Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	<p>Through discussion with the Operations Manager WKPP, Commercial Analyst and inspection of EDL's AMP, business planning records and Power Purchase Agreement (PPA) with Horizon Power, we determined that EDL has maintained an annual business planning process where EDL provides:</p> <ul style="list-style-type: none"> Commercial objectives (revenue, expenditure and profitability) of its asset operations and how they are analysed Assurance that the assets are being managed in accordance with Horizon Power's reliability and quality of supply obligations to its customer base. 	
1.3 Service levels are defined	<p>Through discussion with the Commercial Analyst and inspection of EDL's AMP and PPA, we determined:</p> <ul style="list-style-type: none"> The PPA outlines the service levels required and the KPI's of the Broome Power Station, including: <ul style="list-style-type: none"> System Average Interruption Duration Index (SAIDI) System Average Interruption Frequency Index (SAIFI) Out of Limit Voltage and Frequency Events. All service level requirements have been captured in individual KPIs for operations and maintenance staff, where applicable. 	
1.4 Non-asset options (e.g. demand management) are considered	<p>As the Broome Power Station assets have a 20 year contract life to 2027, asset planning has focussed on maintaining operations in accordance with the PPA. The Commercial Analyst advised:</p> <ul style="list-style-type: none"> Considerations of efficiency of expansions and the full utilisation of existing assets are taken into consideration in asset planning and procurement processes Demand management is provided per the PPA with Horizon Power, based on engine utilisation analyses and factors in forecasted run time figures. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness Criteria	Findings	
1.5 Lifecycle costs of owning and operating assets are assessed	<p>Through discussions with the Management Accountant – Remote Energy and examination of the AMP, Global Asset Management Strategy and the medium term plan, we determined EDL has:</p> <ul style="list-style-type: none"> • Forecasted and assessed the lifecycle cost of owning and operating the power plant for the life of the assets • Established a delegation of authority process, which clearly outlines the spending approval limits of employees by position • Segregated duties in its procure to pay processes. A purchase order or requisition must be created and approved by separate individuals, and the approval must be from someone with the required authority level • Maintained a five year rolling budget, which incorporates operating costs. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.6 Funding options are evaluated	<p>Through discussions with the Commercial Analyst and examination of relevant documentation, we determined EDL budgets annual expenditure for each site based on expected maintenance and capital expenditure and tracks it through the weekly maintenance tracker.</p>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.7 Costs are justified and cost drivers identified	<p>Through discussions with the Operations Manager WKPP and the Commercial Analyst, and examination of relevant documentation, we determined:</p> <ul style="list-style-type: none"> • Forecasted Operations and Maintenance (O&M) costs are summarised and budgeted over a rolling five year period • The required maintenance activities required to be performed on each asset are included in the AMP • Cost drivers relate to the operation and running of the plant, including the fuel used to generate electricity. Drivers for fuel costs are based on demand predictions provided by Horizon Power every year, which are quantified and included in rolling five year budgets. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
1.8 Likelihood and consequences of asset failure are predicted	<p>Through examination of EDL’s risk management practices applied to the Broome Power Station and discussions with the Operations Manager WKPP, we observed EDL has applied the following mechanisms for identifying the consequences and likelihood of asset failure:</p> <ul style="list-style-type: none"> • EDL’s categorises risks to operations based on guidelines provided in ISO 31000:2009 by considering the consequences and likelihood of failure in a matrix, which allocates values to each risk: <ul style="list-style-type: none"> ○ The consequences of failure are assessed by considering the following aspects: (a) injury to people (b) impact on assets (c) impact on the environment (d) (generation) financial impact (e) legal (f) effect on company image (g) effect on project schedule after contingencies have been absorbed ○ The likelihood of failure is categorised in the following range: (a) practically impossible (b) not likely to occur (c) could occur (d) known to occur (has happened), (e) common or occurs frequently. • EDL utilises a proactive approach to maintenance via routine condition monitoring aimed at preventing asset failure, this includes oil analysis, vibration analysis, and radiography and thermography to identify surface or internal defects. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness Criteria	Findings	
<p>1.9 Plans are regularly reviewed and updated</p>	<p>Through discussions with the Global Asset Manager, we determined EDL undertakes the following plan review processes:</p> <ul style="list-style-type: none"> • The Global Asset Management Strategy (GAMS) is updated every three years, with out-of-cycle revisions occurring if there is significant change • The performance of EDL’s assets are reviewed and reported as part of scheduled maintenance, so that any reduced performance can be addressed • The AMP will be updated to accommodate impacts of current performance on the plan. Specifically: <ul style="list-style-type: none"> ○ It is the responsibility of the Asset Management division to arrange for the update and timely review of the AMP each year ○ The AMP is updated to accommodate any changes to the asset management system identified from the annual performance reviews ○ The last documented revision to the AMP was June 2018, with the revision prior to that October 2012 • EDL reviews forecast demand for electricity (provided each year) against requested generation consumption in consultation with Horizon Power. 	
	<p>Adequacy Rating: Requires some improvement (B) Performance Rating: Opportunity for improvement (2)</p>	
	<p>Recommendation 2/2019 To evidence the review of the AMP that is performed on a regular basis, EDL should document the review performed within the AMP.</p>	<p>Recommendation 2/2019 To evidence the review of the AMP that is performed on a regular basis, EDL will document the review performed within the AMP. Responsible Person: Operations Manager WKPP Target Date: 31 March 2020</p>

4.2 Asset Creation and acquisition

Key process: Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay

Expected outcome: A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.

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

Effectiveness Criteria	Findings	
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	<p>Through discussions with the Commercial Analyst and examination of the Procure to Pay standard and other relevant documentation, we determined EDL applies the following processes for evaluating project options:</p> <ul style="list-style-type: none"> • A carrying value analysis through modelling by the corporate finance division on new assets that aren't 'like-for-like' replacements • A detailed project evaluation is conducted, including financial analysis conducted on whole-of-life costs, asset/non-asset alternatives, and financial and capital requirements • Financial and technical approval of assessing the capital costs and costing analysis. Independent engineers and industry experts may be contracted to assist in assessing capital costs and costing analyses • A written quote is required for expenditure over \$10,000 and the Procurement Team will issue requests for tender to potential contractors for the completion of the asset upgrades if the expenditure is greater than \$100,000. <p>We obtained and examined an approved business case for replacing an 11kV Switchboard, which took place during the period subject to review. It was a 'like-for-like' replacement and did not require a carrying value analysis. The business case included an invitation for tender, tenderer list, scope of work, and engineering and financial assessments.</p>	
2.2 Evaluations include all life-cycle costs	<p>Through discussion with the Commercial Analyst, we determined that in accordance with the project evaluation process as described above (s2.1) , EDL's processes provide for the following examples of life-cycle costs to be considered in evaluations:</p> <ul style="list-style-type: none"> • Overhaul requirements (as specified by the manufacturer) of engines and other assets • Depreciation of the asset • Fuel costs used for the life of the asset, including any potential increase in costs of fuel • Personnel costs, including routine maintenance of the assets according the EDL's maintenance philosophy. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not Rated

Effectiveness Criteria	Findings
2.3 Projects reflect sound engineering and business decisions	<p>Through discussions with the Commercial Analyst, we determined that for new projects:</p> <ul style="list-style-type: none"> • EDL’s Commercial Team will provide input on the potential projects to be conducted • Engineering assessments and studies will be conducted on the proposed asset • Detailed forecasts will be provided by the Commercial Team, which will be entered in an input sheet that feeds into the project business case • Project decisions are evaluated on the basis of advice from consultants, Net Present Value (NPV), Internal Rate of Return (IRR), and certain value hurdles set by the board. <p>We obtained and examined an approved business case for replacing an 11kV Switchboard, which took place during the period subject to review, which has supporting documentation that includes engineering and financial clearance.</p> <p>Adequacy Rating: Adequately defined (A) Performance Rating: Not Rated</p>
2.4 Commissioning tests are documented and completed	<p>Through discussions with the Operations Manager WKPP and the Commercial Analyst, we determined:</p> <ul style="list-style-type: none"> • Where EDL engages external contractors to install assets, they perform testing of the asset to ensure they are installed and operating at full efficiency, before they accept handover from the contractors • During the review period, the assets installed on the Broome Power Station were implemented and tested by external contractors • All work orders are stored in Pronto, the Computerised Maintenance Management System (CMMS). <p>Adequacy Rating: Adequately defined (A) Performance Rating: Not Rated</p>
2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	<p>Through discussion with the Commercial Analyst and examination of relevant supporting documentation, for the purpose of its ongoing asset management obligations, we determined EDL has:</p> <ul style="list-style-type: none"> • Identified legal, environmental, and safety obligations relating to its power station assets and assigned roles to identify new or changing obligations • Applied the EDL (group-wide) Health, Safety, and Environmental (HSE) Management System Overview to its WKPP operations • Developed a WKPP Environmental Management Plan (EMP) that references the environmental responsibilities for the organisation, as well as training and monitoring requirements. <p>Through discussion with the Environmental Manager, we found EDL ensures ongoing environmental obligations are assigned and understood in the following way:</p> <ul style="list-style-type: none"> • EDL manages a compliance task register that contains reminders of recurrent tasks or deliverables as well as task owners and due dates. This register contains the related obligations to the Broome Power Station licence, which includes water and air emissions monitoring and annual environmental report submission to the Department of Water and Environmental Regulation (DWER) and Horizon Power • All site personnel are required to complete an environmental training section on the online training portal, which provides environmental awareness on environmental obligations • EDL undertakes periodic environmental site visits, which also contributes to bring environmental awareness to environmental obligations and to contribute in the continuous improvement process

Effectiveness Criteria	Findings	
	<ul style="list-style-type: none"> • An internal desktop audit on environmental licence conditions compliance is completed prior the submission of the annual environmental report to DWER. This process assists site personnel to understand their obligations. <p>Through examination of the Occupational Health and Safety Manual outlining how EDL manages it’s legal requirements, we determined EDL has processes to:</p> <ul style="list-style-type: none"> • Identify and monitor relevant regulatory requirements • Explain communication protocols within the organisation • Analyse the impact of changes in regulation to EDL’s operations • Consider the requirement of technology to assist in regulatory compliance • Perform tasks to verify that systems, processes or procedures implemented comply with regulations. 	
	<p>Adequacy Rating: Adequately defined (A)</p>	<p>Performance Rating: Performing effectively (1)</p>

4.3 Asset disposal

Key process: Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms.

Expected outcome: Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.

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

Effectiveness Criteria	Findings
<p>3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process</p>	<p>Through discussions with the Commercial Analyst and examination of the decommissioning plan and AMP, we determined EDL has:</p> <ul style="list-style-type: none"> • A requirement as part of its PPA to provide a maintenance plan/schedule for the power facilities until the termination of the agreement, establishing a systematic review for the power facilities • Procedures and work methods for condition monitoring, inspection, and testing of Broome Power Station assets • Plant maintenance strategies for individual assets, including information on frequency of tests, compliance with Australian Standards and statutory requirements and details of tests and monitoring to be conducted. <p>EDL conducts routine condition monitoring on its assets to identify signs of asset under-performance or under-utilisation. If any instances are identified, maintenance plans are implemented to improve asset performance.</p> <p>Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)</p>
<p>3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken</p>	<p>The Broome Power Station was commissioned in 2007 and no generational assets were disposed of in the review period. The Commercial Analyst advised the PPA has not been changed during the audit period.</p> <p>The PPA outlines EDL's obligations regarding the under-utilisation of its assets. Specifically, in accordance with clause 17 of the PPA, EDL is required, upon the occurrence of any Supply Interruption or Out of Limit Event, to provide Horizon Power with a Rectification Plan, which must be consistent with Good Industry Practice and:</p> <ul style="list-style-type: none"> • Identify the cause • Specify the steps to address the cause • Identify the timing and duration of the steps • Describe any changes to operating procedures, policies, or practices necessary to address the cause of the Supply Interruption or Out of Limit Event or minimise the risk of such a cause resulting in a similar Supply Interruption or Out of Limit Event. <p>The WKPP Decommissioning Plan outlines the requirements for decommissioning WKPP assets in accordance with the following strategies and practices:</p> <ul style="list-style-type: none"> • Having regard to all relevant local and national regulations • Minimising disruption and impact to new operations • Minimising disruption and impact to public infrastructure • Maximising obtainable salvage value realised for equipment. <p>Adequacy Rating: Adequately defined (A) Performance Rating: Not rated</p>

Effectiveness Criteria	Findings	
3.3 Disposal alternatives are evaluated	<p>Through discussions with the Asset Analytics Manager and the Commercial Analyst, we determined that no generational assets had been disposed during the review period. Due to the age of the asset (commissioned in 2007) and the long term nature of EDL's PPA with Horizon Power, EDL has not had a need to evaluate any disposal alternatives.</p> <p>We sighted an example of an Asset Disposal Transaction Approval document, which gave an overview of the disposal of a non-generational asset, and details:</p> <ul style="list-style-type: none"> • The asset being disposed • The reason for disposal • Evidence that alternatives were evaluated • Financial impact of disposal • Replacement strategy 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated
3.4 There is a replacement strategy for assets	<p>The Broome Power Station assets were commissioned in 2007 with an expected life of 20 years. The Commercial Analyst advised that when EDL's assets are within five years of their expected lives, EDL will develop a formal replacement strategy, which will assess two main options:</p> <ul style="list-style-type: none"> • Extending the current PPA with Horizon Power • Disposing of the assets in line with the Decommissioning Plan (including the creation of a disposal plan). <p>Further, EDL conducts routine condition monitoring of its assets to prevent early degradation and to extend the life of the assets.</p> <p>In an example we reviewed, there was a replacement strategy in place for an asset that was disposed of during the review period.</p>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Not rated

4.4 Environmental analysis

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

Expected outcome: The AMS regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements.

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

Effectiveness Criteria	Findings	
<p>4.1 Opportunities and threats in the asset management system environment are assessed</p>	<p>Through discussion with the Commercial Analyst and the Asset Analytics Manager, consideration of the WKPP EMP and the AMP, we determined EDL identifies and assesses opportunities and threats within its AMS through records of:</p> <ul style="list-style-type: none"> • Applicable legal and regulatory obligations are documented in the AMP under the Statutory and Regulatory Requirements for West Kimberley Power Facilities section • Environmental risks applicable to Broome are listed in the EMP • The EMP is in line with service requirements outlined in the PPA, and is subject to approval by Horizon Power • EDL's Environment Policy, applicable to its Australian operations, can be accessed by all staff and is reviewed every two years • Annual refresher training on environmental compliance requirements are to be completed by operators using the new online training system, with one course to be completed at least once a year • All site risks and exposures are also detailed in Safe Work Instruction (SWI) / Job Safety Analysis (JSA) when performing and planning on-site tasks • New updates to legislation are captured via regular emails from Environment Essentials. Specifically: <ul style="list-style-type: none"> ○ New legislation will be captured by the Environment and Compliance Advisor in relevant systems ○ Changes will then be made to relevant plans, procedures and documents where necessary. • Scheduled audits are conducted every year on Broome Power Station's pipeline licence and EDL's compliance with its EMP. 	
	<p>Adequacy Rating: Adequately defined (A)</p>	<p>Performance Rating: Performing effectively (1)</p>
<p>4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved</p>	<p>Examination of the WKPP EMP and relevant performance reports and discussions with the Environment and Compliance Advisor, confirmed:</p> <ul style="list-style-type: none"> • Objectives have been established for the WKPP's environmental outcomes. Targets have been set to minimise (and where possible prevent) environmental nuisance and harm from the operation of the project • The WKPP's performance standards, such as availability of service, capacity, continuity and emergency response, are measured • Monthly checklists are prepared by the Station Manager for each site, which includes statements for key compliance requirements • EDL has emergency response processes in place in case of an environmental incident • Environmental monitoring is performed and monthly emission monitoring for each of the WKPP power station units is identified in Pronto Asset Management System. 	
	<p>Adequacy Rating: Adequately defined (A)</p>	<p>Performance Rating: Performing effectively (1)</p>

Effectiveness Criteria	Findings	
4.3 Compliance with statutory and regulatory requirements	<p>Through discussions with the Environmental Manager, Commercial Analyst and consideration of relevant supporting documentation, we determined:</p> <ul style="list-style-type: none"> • EDL manages a compliance task register that contains reminders of recurrent tasks or deliverables as well as task owners and due dates. This register contains the related obligations to the Broome Power Station licence, which includes water and air emissions monitoring and annual environmental report submission to the DWER and Horizon Power • An internal desktop audit on environmental licence conditions compliance is completed prior to the submission of the annual environmental report to DWER. This process contributes in making sure site personnel understand their obligations • No significant environmental issues have been identified during the review period. However, should a significant event be identified, EDL has processes in place for reporting of incidents to the Environment and Compliance Advisor, who will notify the regulator (in the absence of the Senior Environment and Compliance Advisor) • Annual emissions testing reports are prepared for the Broome Power Station, which test: <ul style="list-style-type: none"> ○ Nitrogen oxides (NOx) ○ Carbon monoxide (CO) ○ Sulphur dioxides (SO₂). • Monthly inspections are conducted on site to ensure that the Broome operations are compliant with environmental standards • EDL receives frequent updates on new legislation through subscription to Environmental Essentials HSE bulletin and general awareness of staff interacting with relevant regulators • The Environment and Compliance Advisor maintains a log of compliance issues identified throughout the year, including remedial action, planned and taken. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
4.4 Service standards (customer service levels etc) are measured and achieved	<p>Through examination of the WKPP PPA, we determined it outlines EDL's obligations for achieving a range of service levels as a supplier to Horizon Power. Horizon Power and EDL have established processes for monitoring EDL's compliance with the requirements of the PPA, which are:</p> <ul style="list-style-type: none"> • Electronic data relating to Supply Interruption and Out of Limit Events is recorded • This data is dispatched at the start of the following day to Horizon Power • The data is safely archived for future reference by either party. <p>The Commercial Analyst confirmed that no significant changes have been made to its PPA with Horizon Power that would have an effect on its service levels it is required to meet.</p>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.5 Asset operations

Key process: Operational functions relate to the day-to-day running of assets and directly affect service levels and costs.

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

Overall Adequacy/Performance rating: Requires some improvement (B) / Opportunity for improvement (2)

Effectiveness Criteria	Findings	
5.1 Operational policies and procedures are documented and linked to service levels required	<p>Through discussion with the Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and a site visit, we determined:</p> <ul style="list-style-type: none"> • The operational policies and procedures are documented in the AMP and the PPA with Horizon Power • The service levels requirements are either defined explicitly or derived from the above documents. This includes the reliability requirements: <ul style="list-style-type: none"> ○ SAIDI ○ SAIFI • Operational procedures are documented as Safe Work Instructions, and are kept on the shared drive. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
5.2 Risk management is applied to prioritise operations tasks	<p>Through discussion with the Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and a site visit, we determined EDL has:</p> <ul style="list-style-type: none"> • An established risk management framework and procedures, which requires: <ul style="list-style-type: none"> ○ Medium to high risks are reviewed every time on a regular basis ○ All jobs are associated with a risk score ○ All jobs are treated as new jobs ○ Jobs are prioritised in weekly meetings based on the risk assessment. • The ability to select one or more LNG generators for offline maintenance work, when demand is low, provides a good base for risk mitigation and a contingency for service delivery • A number of diesel generators work on standby to mitigate the LNG assets, providing a redundancy • Additional temporary diesel generators are in place for further risk mitigation for service disruptions. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

Effectiveness Criteria	Findings	
<p>5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition</p>	<p>Through discussion with Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and site visit, we determined that EDL has demonstrated:</p> <ul style="list-style-type: none"> • Assets are registered in Pronto regarding their type, location, material and drawings • The asset register is updated continuously to reflect changes • It maintains a daily end of shift report produced from the global control room that is circulated to operational staff, providing high level commentary on asset condition. <p>Through examination of the asset register, we determined EDL has not documented assets physical/structural condition within the register as required by the effectiveness requirement. Monitoring of conditions is performed outside of the register through:</p> <ul style="list-style-type: none"> • WKPP/ARC Sites Availability Summary dashboard, which provides comment on the condition of assets at Broome • Associated work orders, where the conditions are mostly oil analysis at run hours testing. 	
	<p>Adequacy Rating: Requires some improvement (B)</p>	<p>Performance Rating: Opportunity for improvement (2)</p>
	<p>Recommendation 3/2019</p> <p>To meet the effectiveness criteria requirement that an assessment of assets physical/structural conditions is documented within the Asset Register, EDL should update the register to include asset physical/structural condition information.</p>	<p>Action Plan 3/2019</p> <p>To meet the effectiveness criteria requirement that an assessment of assets physical/structural conditions is documented within the Asset Register, EDL will update the register to include asset physical/structural condition information.</p> <p>Responsible Person: Global Asset Manager</p> <p>Target Date: 31 March 2020</p>
<p>5.4 Accounting data is documented for assets</p>	<p>Through discussion with the Commercial Analyst and examination of the Broome Fixed Asset Register (FAR), we determined that EDL has maintained an asset database that includes:</p> <ul style="list-style-type: none"> • Asset name, ID and description • Acquisition date • Asset value • Residual value • Improvements and revaluations • Total cost • Depreciation, adjusted depreciation and accumulated depreciation • Total written down value 	
	<p>Adequacy Rating: Adequately defined (A)</p>	<p>Performance Rating: Performing effectively (1)</p>

Effectiveness Criteria	Findings	
5.5 Operational costs are measured and monitored	<p>Through discussion with Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and site visit, we determined that EDL has demonstrated:</p> <ul style="list-style-type: none"> • The operational spending records are updated continuously in Pronto • The cost is accrued at station level but can be broken down to assets • For major services, a 12 month budget/forecast is performed and reviewed for approval within 3-4 months • A dedicated team in Perth monitors operational costs. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
5.6 Staff resources are adequate and staff receive training commensurate with their responsibilities	<p>Through discussion with Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and site visit, we determined that EDL has demonstrated:</p> <ul style="list-style-type: none"> • EDL have moved on from the SAFER training system and implemented an online portal that holds all the training requirements and a training matrix that monitors who requires specific training • Staff have detailed job descriptions with responsibilities, which are reviewed constantly • Staff are provided adequate resources to understand and implement the responsibilities required in undertaking their specific roles • Staff's training is registered on the online portal • Contractors competence is managed using the same portal as regular staff • Administration plans and runs the training locally or with global team for trade or HSEQ • There is a competency framework developed and implemented. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.6 Asset maintenance

Key process: Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.

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

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

Effectiveness Criteria	Findings	
6.1 Maintenance policies and procedures are documented and linked to service levels required	<p>Through discussion with the Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and site visit, we determined that:</p> <ul style="list-style-type: none"> • The maintenance policies and procedures are documented in the asset management policy, WKPP AMP/schedule and ultimately in Pronto • The service levels requirements are either defined explicitly or derived from the PPA and the AMP. This includes the reliability requirements: <ul style="list-style-type: none"> ○ SAIDI ○ SAIFI • The service levels, hence the maintenance needed, are dictated by the local demand vs the power station configuration (LNG, diesel and temporary diesel) 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.2 Regular inspections are undertaken of asset performance and condition	<p>Through discussion with the Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and site visit, we determined that:</p> <ul style="list-style-type: none"> • Regular inspections are carried out at the plant in forms of daily, 250hrs, 500hrs, 1,500hrs, 3,000hrs, 6 months and 9,000hrs interval • The inspections are scheduled in Pronto and Share Point • Inspections are updated as required on changed asset conditions. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	<p>Through discussion with the Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and site visit, we determined that:</p> <ul style="list-style-type: none"> • Maintenance Plans for preventive tasks (PM) are well documented in the maintenance schedules and in Pronto • Reactive maintenance (RM) work is created on inspection • Compliance for jobs done is reported monthly • Maintenance backlog is low and supervision on delays is stringent • Maintenance plans are continuously reviewed as required • The completion of work is recorded and summarised in Pronto • OEM recommendations and learning from past experience are combined • All work orders are registered in the Pronto. 	

Effectiveness Criteria	Findings	
	<p>In response to Recommendation 1/2014, definite progress has been made in both reporting and clearance of overdue maintenance tasks. A monthly management report has been created that addresses overdue tasks, and employee KPI's are tied to it.</p>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary	<p>Through discussions with the Global Asset Manager, Commercial Analyst, Senior Commercial Advisor and Operations Manager WKPP, examination of the documents received and a site visit, we determined:</p> <ul style="list-style-type: none"> • Failures are captured in Pronto and lessons learnt from previous asset failures are applied across EDL's global business group • The Global Operations Performance Group is the decision maker on changes to operations and maintenance plans, and uses lessons learnt from EDL's fleet of assets. • EDL has demonstrated how results of failure analysis have been used to initiate changes on operation and maintenance, as well as engineering/asset renewal • Trends in failures across EDL's fleet of assets are analysed and operational/maintenance plans are adjust accordingly. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.5 Risk management is applied to prioritise maintenance tasks	<p>Through discussions with the Global Asset Manager and Operations Manager WKPP, examination of the documents received and a site visit, we determined that:</p> <ul style="list-style-type: none"> • All jobs defined in Pronto have associated risk scores, which are tied to a matrix that identifies the likelihood and consequence. Work orders with a higher risk rating are prioritised • Risks for safety, statutory compliance, and work management are considered • Any change to maintenance plans are made by the Global operations performance group based on risks assessed and plant conditions information • Prioritisations is made in the power station work scheduling following a predefined ranking: <ol style="list-style-type: none"> 1. LNG generators 2. Standby diesel generators 3. Temporary diesel generators. • Contracts to alternative LNG suppliers have been arranged to reduce LNG supply risk • Spare generational capacity is available for all sites to mitigate downtime risk. <p>Through testing a sample of ten work orders, we determined each of the work orders had been completed within the recommended timeframe as defined in the maintenance work management procedure.</p> <p>In response to recommendation 2/2014, all work orders are given a risk rating when they are entered into the system, and exception reporting has been incorporated into operational maintenance procedures.</p>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
6.6 Maintenance costs are measured and monitored	<p>Through discussion with the Global Asset Manager and Operations Manager WKPP, examination of relevant documentation and a site visit, we determined EDL has demonstrated:</p> <ul style="list-style-type: none"> • Maintenance costs are recorded in Pronto as they occur 	

Effectiveness Criteria	Findings	
	<ul style="list-style-type: none"> Maintenance costs are accrued at the power station level but breakdown to lower level is possible Dedicated resource in Perth Finance Team monitors the maintenance costs. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

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.

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

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

Effectiveness Criteria	Findings
7.1 Adequate system documentation for users and IT operators	<p>Through discussions with the Business Solutions Architect and consideration of EDL's Pronto support arrangement with Pronto Hosted Services Pty Ltd (PHS), we determined EDL:</p> <ul style="list-style-type: none"> • Uses the Pronto maintenance management system • Maintains a suite of business IT and access policy covering enterprise wide IT requirements • Has access to Pronto-Xi Asset Facility Maintenance Management overview documentation, which covers the maintenance management module and associated equipment register, and is maintained and updated in-house by the Engineering Department • Has maintained its service level agreement with PHS to cover services provided • Has an internal IS support team to support pronto users. <p>Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)</p>
7.2 Input controls include appropriate verification and validation of data entered into the system	<p>Through discussions with the Business Solutions Architect and consideration of EDL's Cyber Security Policy and Acceptable Use Policy, we determined:</p> <ul style="list-style-type: none"> • EDL has assigned user access based on permissions • Documentation and data entered into the EDL network (including Broome Power Station asset operations and maintenance records) contains document number and version control information, with provision for appropriate sign-offs and approvals. <p>Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)</p>
7.3 Security access controls appears adequate, such as passwords	<p>Through discussions with the Business Solutions Architect and consideration of EDL's Cyber Security Policy and Acceptable Use Policy, we determined:</p> <ul style="list-style-type: none"> • Access to EDL's network or systems is restricted to authorised personnel only, with sharing of authentication credentials strictly forbidden • Access requests must be approved by the employee's direct manager and the relevant system owner • Each authorised user is assigned a unique individual user ID and password • Users are responsible for ensuring all passwords used to access business services are secured • Password policy is enforced on Pronto and various other systems, including: <ul style="list-style-type: none"> ○ Passwords must be at least eight characters long and have two or more of the following characteristics: <ul style="list-style-type: none"> ▪ Contain lower case alpha characters ▪ Contain upper case alpha characters ▪ Contain numeric character(s)

Effectiveness Criteria	Findings	
	<ul style="list-style-type: none"> ▪ Contain special characters (e.g. !, @, #, \$, %). ○ Passwords must be changed every 90 days. • User accounts will be locked out after five failed attempts. Accounts can only be unlocked once you contact the IT Help Desk • Password history is reset every 720 days (every 2 years). 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.4 Physical security access controls appear adequate	<p>Through discussions with the Business Solutions Architect and consideration of EDL's Cyber Security Policy and Acceptable Use Policy, we determined:</p> <ul style="list-style-type: none"> • All servers related to the EDL Pronto application are now hosted by PHS • Services for EDL are to be provided by Pronto for no less than 99.99% of the calendar year without financial penalty (e.g. loss of connectivity for a period greater than 1 hour in a calendar month with result in compensation of 100% monthly cost of service) • Physical security of Pronto services is restricted to PHS employees and contractors. EDL and its employees have not been granted access to the servers held by PHS • If someone leaves Pronto open within 5 minutes it closes, PHS restricts physical access to their servers via swipe cards and logging of access. Access is restricted to the building and to the location of the servers. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.5 Data backup procedures appear adequate and backups are tested	<p>Through discussions with the Business Solutions Architect and consideration of EDL's backup and recovery procedures, we determined that:</p> <ul style="list-style-type: none"> • All server data, which includes Pronto, is backed up on a daily basis. Pronto data is backed up by PHS while the rest of EDL information is performed in house • The backup schedules for EDL servers are: <ul style="list-style-type: none"> ○ Daily incremental back-ups performed every Monday to Thursday ○ Weekly full back-ups occur every Friday ○ Monthly full back-ups occur on the first Friday of every month. • Back-ups are written to tapes and the tapes are taken for off-site storage by an external contractor • End of month backups are kept for one year and the six monthly tapes are kept permanently. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.6 Computations for licensee performance reporting are materially accurate	EDL's asset management information system does not directly provide data used in any computation related to EDL's licence performance reporting.	
	Adequacy Rating: Not performed	Performance Rating: Not rated

Effectiveness Criteria	Findings	
7.7 Management reports appear adequate for the licensee to monitor licence obligations	<p>We observed that monthly operational performance reports are produced for each facility to assess performance against target Key Performance Indicators. Monthly reports are prepared by the Site Operators and approved by the Operations Manager WKPP.</p> <p>The monthly operational performance reports detail the key performance criteria of out of limit summaries, electrical performance, engine performance, key maintenance activities, inventory usage and levels, safety and environmental issues as required in the WKPP PPA.</p>	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation.	<p>Through discussions with the Business Solutions Architect and consideration of the Information Handling Policy and Cyber Security Controls Framework, we determined that:</p> <ul style="list-style-type: none"> • All employees, contractors and third parties with a requirement to access EDL technology needs to be assigned a user account with which to access information and technology assets. To further protect EDL's information, information transfer activities must also follow the accepted standard for information transfer outlined in the Information Handling Policy • Pronto holds an annual event – Penetration testing is performed for hosting sites. <p>EDL's Acceptable Use Policy also provides the following as measures to protect asset management data:</p> <ul style="list-style-type: none"> • Restrictions on installing software • Return of assets upon termination or change in responsibilities • Maintaining the physical security of the asset • Restrictions on storage data on mobile devices • Use of application management system to manage the remote disabling and erasure of lost or stolen devices • Reporting of loss of computing devices or media • Immediate suspension of account or asset network access. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.8 Risk management

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

Expected outcome: An effective risk management framework is applied to manage risks related to the maintenance of service standards.

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

Effectiveness Criteria	Findings
<p>8.1 Risk management policies and procedures exist and are being applied to minimise internal and external risks</p> <p>8.2 Risks are documented in a risk register and treatment plans are actioned and monitored</p>	<p><i>Criteria 8.1 and 8.2</i></p> <p>Through discussion with the Operations Manager WKPP and consideration of relevant supporting documentation we determined EDL's risk management approach consists of the following systems, policies, and procedures:</p> <ul style="list-style-type: none"> • Risk Management Standard providing high level commentary on: <ul style="list-style-type: none"> ○ Four step risk management performance requirement to: <ul style="list-style-type: none"> ▪ Identify hazards ▪ Assess risk ▪ Control risk ▪ Review control measures ○ Layered risk management approach: <ul style="list-style-type: none"> ▪ Formal – Structured Risk Assessment ▪ Team – Job Safety Environmental Analysis ▪ Individual – Take 5 ▪ The detailed approach to completing the above steps is contained in EDL's Risk Management Tools Procedures ○ Risk levels, criteria, required action and delegated EDL officers dependant on risk levels <ul style="list-style-type: none"> ▪ EDL maintains a risk matrix which contains consequences and likelihood of different risk categories • Health Safety and Environmental (HSE) Management System, aligned to ISO31000:2009 <i>Risk Management – principles and guidelines</i>, providing coverage on HSE risk management processes. Through examination of the HSE Management Overview document we saw reference to EDL's risk management practices outlining its processes to mitigate operational risk across <p>EDL has applied the above risk management approach to its operations through:</p> <ul style="list-style-type: none"> • Maintaining its Broome risk register containing site risks with commentary on the assigned risk rating and identified control measures • Scheduling monitoring and review of risks based on the assigned risk level. <p>Through testing a sample of seven risk treatments, we determined that EDL has applied processes to action and monitor risk treatment plans.</p> <p style="text-align: center;"> Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1) </p>
<p>8.3 The probability and consequences of asset failure are regularly assessed</p>	<p>Through discussion with the Operations Manager WKPP and consideration of EDL's risk management practices as applied to its assets and discussions, we observed that EDL has applied the following mechanisms for identifying the consequence and likelihood of asset failure:</p>

Effectiveness Criteria	Findings	
	<ul style="list-style-type: none"> • EDL’s risk management process, which is based on guidelines provided in ISO31000:2009, categorises risk by considering the consequence and likelihood of failure in a matrix, which allocates values to each risk: <ul style="list-style-type: none"> ○ The consequences of failure consider the following aspects: (a) injury to people (b) impact on assets (c) impact on the environment (d) effect on company image (e) (generation) financial impact ○ The likelihood of failure is categorised in the following range: (a) practically impossible (b) not likely to occur (c) could occur (d) known to occur (has happened) (e) common or occurs frequently. • The Risk Management Standard defines the risk value into four risk levels, and provides a schedule on how often the risk is reviewed: <ul style="list-style-type: none"> ○ Very high – Every six months ○ High - Annually ○ Medium – Every three years ○ Low – Every five years • Condition monitoring techniques are employed on a frequent basis to identify defects, including: <ul style="list-style-type: none"> ○ Oil analysis ○ Vibration analysis ○ Radiography and thermography to identify any surface or internal defects • A risk based approach to maintenance scheduling is used by EDL in order to prioritise its critical maintenance tasks. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.9 Contingency planning

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

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

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

Effectiveness Criteria	Findings	
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	<p>Through discussion with the Operations Manager WKPP and consideration of relevant documentation, we determined:</p> <ul style="list-style-type: none"> • EDL has maintained its WKPP LNG Supply Interruption Contingency Plan (revised annually, last in June 2018): <ul style="list-style-type: none"> ○ Outlining how EDL will operate during an LNG supply interruption, which has the capacity to threaten ability to provide sufficient power to meet customer demands ○ The plan covers different events that have the possibility to impact on the supply of LNG (e.g. severe weather or corrosion of pipeline) ○ EDL maintains the LINGSICP Genset capacity report that summarises access to temporary generation in the event of an emergency. ○ EDL performs summer readiness testing of the Genset on an annual basis ○ WKPP group internal audit function performs an annual internal audit of the contingency plan to assess the readiness of the WKPP project in response to the summer season, looking at the adequacy of contingency processes and controls. • EDL has created Broome Power Station Emergency Response Procedures, last updated in 2019. Through discussions with the Commercial Analyst we determined that: <ul style="list-style-type: none"> ○ Emergency response testing is done every year, with site staff members required to be involved. ○ Road transport exercises are conducted to scenario test the WKPP LNG Supply Emergency Response Plan. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.10 Financial planning

Key process: The financial planning component of the AMP brings together the financial elements of the service delivery to ensure its financial viability over the long term.

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

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

Effectiveness Criteria	Findings
<p>10.1 The financial plan states the financial objectives and identifies strategies and actions to achieve the objectives</p>	<p>Through discussions with the Management Accountant – Remote Energy and consideration of EDL’s financial planning mechanisms as applied to its operations, we observed that:</p> <ul style="list-style-type: none"> • EDL’s financial plan is represented through the annual budget and forecast, prepared on a five year basis which provide a clear link to the strategies and objectives of generational activities • The budget is set annually and the forecast is reviewed and updated every quarter • A review of the financial plan can also be triggered at the request of senior management or should any significant changes to forecasted figures arise. <p>Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)</p>
<p>10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs</p>	<p>Through discussions with the Management Accountant – Remote Energy and consideration of EDL’s financial planning mechanisms, we understand that:</p> <ul style="list-style-type: none"> • The source of funds for capital investment is considered by EDL’s Corporate Finance division once approval for expenditure is obtained • Recurrent costs are identified through the annual budget process. <p>Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)</p>
<p>10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)</p>	<p>Through discussions with the Management Accountant – Remote Energy and consideration of EDL’s financial planning mechanisms, we observed:</p> <ul style="list-style-type: none"> • A forecast of demand and generation requirements and financial budget for the WKPP (which includes the Broome Power Station) is developed on an annual basis and reviewed and updated every quarter • Horizon Power provides one year forecasts of monthly demand in June/July each year • Financial projections relevant to the WKPP consider the project’s long-term financial viability • Remote Energy 2019 P&L Forecast providing WKPP EBITDA Forecast for the full year. <p>Adequacy Rating: Adequately defined (A) Performance Rating: Performing effectively (1)</p>
<p>10.4 The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period</p>	<p>Through discussions with the Management Accountant – Remote Energy and consideration of EDL’s financial planning mechanisms, we determined that those mechanisms provide five year rolling forecasts of demand and generation requirements. Predictions and projections of demand are provided by Horizon Power every year and are incorporated into EDL’s budget. Demand projections are used by EDL to calculate indicative predictions of income and expenditure, based on planned run hours and associated maintenance costs. Accordingly, EDL will reassess the Maximum Contract Demand on an annual basis, per Section 12.1 and Schedule 13 of the PPA. As sighted from the Medium Term Plan – Summary, it provides predictions on revenue and expenses for the next 5 years (2018-2023).</p>

Effectiveness Criteria	Findings	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	<p>Through discussions with the Management Accountant – Remote Energy and consideration of the WKPP’s financial planning and monitoring mechanisms, we observed that the mechanisms applied accommodate the following annual costs:</p> <ul style="list-style-type: none"> • Workforce costs • Maintenance costs • Operational expenditure (OPEX) • Capital expenditure (CAPEX) • Corporate overhead costs (via a standard service charge). 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
10.6 Large variances in actual/budget income and expenses are identified and corrective action taken where necessary	<p>Through discussions with the Management Accountant – Remote Energy, consideration of EDL’s financial reporting mechanisms and examination of EDL’s financial plan and supporting monthly financial reports , we observed that the mechanisms applied provide for:</p> <ul style="list-style-type: none"> • Overhead cost variance analysis to be conducted and reported in the monthly P&L forecast extract reports for each site • Monthly reports on variances are prepared and sent to Operational Managers and the Board • Variances are mostly due to the impact of unexpected asset failure, which tend to be resolved in a timely manner. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.11 Capital expenditure planning

Key process: The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure 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

Expected outcome: A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.

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

Effectiveness Criteria	Findings	
<p>11.1 There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates</p>	<p>Through discussions with the Management Accountant – Remote Energy and consideration of EDL’s capital budgeting mechanisms relevant to its operations, we observed:</p> <ul style="list-style-type: none"> • In line with the provisions of the WKPP PPA, current procedures provide for expansion related CAPEX requirements (including expansion plans) to be included within the WKPP annual financial plan, including details of specific actions planned • EDL has established a tracking spreadsheet to monitor all CAPEX projects, including details of timeframes and actions to be completed. The spreadsheet has been separated to report on major overhaul work required and other planned CAPEX projects • Accountants have fortnightly meetings with Operations Managers to update on capital projects in progress (e.g. open commitments, if on hold, to be closed, costs within budget) • Accountants do monthly capex forecasting to end of year against budget • Annual capex budget process: All scheduled maintenance is budgeted through the CMMS (i.e. Pronto) e.g. 60,000 hours services. In addition, Operations conduct an annual review as part of the budgeting process to identify key balance of plant capex requirements (subject to risk assessment). <p>During the review period, EDL did not establish any expansion plans in relation to its assets.</p>	
	<p>Adequacy Rating: Adequately defined (A)</p>	<p>Performance Rating: Performing effectively (1)</p>
<p>11.2 The plan provides reasons for capital expenditure and timing of expenditure</p>	<p>Through discussions with the Management Accountant – Remote Energy and consideration of EDL’s capital budgeting mechanisms, we observed that those mechanisms provide for:</p> <ul style="list-style-type: none"> • CAPEX requirements to be based on the budgeting process and forecasts of Maximum Contract Demand (MCD) • Expansions to be planned and implemented if forecast MCD exceeds RGC for the plant • Justification of capital expenditure is obtained through net present value analysis and in conjunction with Horizon Power’s requirements • All CAPEX projects are entered via a SharePoint based online form, which has fields for reasons for capital spend and workflow approval processes. 	
	<p>Adequacy Rating: Adequately defined (A)</p>	<p>Performance Rating: Performing effectively (1)</p>

Effectiveness Criteria	Findings	
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the AMP	Through discussions with the Management Accountant – Remote Energy, we determined that the carrying value model prepared through EDL's Corporate Finance division includes asset life and condition data. Further, input from internal engineering experts is sought when conducting forecasts of future CAPEX costs to be incurred.	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
11.4 There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented	Through discussions with the Management Accountant – Remote Energy and consideration of WKPP's financial planning and monitoring mechanisms, we determined that: <ul style="list-style-type: none"> • The review and update of capital budgets is considered in the WKPP operations five year rolling forecast and budget, both of which are updated on an annual basis • EDL monitors capitalisation of CAPEX projects on a monthly basis to track completed project and works in progress. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

4.12 Review of AMS

Key process: The AMS is regularly reviewed and updated.

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

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

Effectiveness Criteria	Findings	
12.1 A review process is in place to ensure that the AMP and the AMS described therein are kept current	Through discussion with the Commercial Analyst and examination of the WKPP AMP, we determined that: <ul style="list-style-type: none"> • EDL’s applied processes are to review the AMP annually and update where necessary • The last update was performed in 2018. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)
12.2 Independent reviews (e.g. internal audit) are performed of the AMS	Through discussions with EDL’s Internal Audit Manager, we determined that: <ul style="list-style-type: none"> • EDL’s Group Audit function performs internal audits on WKPP power generation activities in accordance with the approved annual Audit Plan. The most recent internal audit was performed in September 2019. While this was outside of the review period, the internal audit process and plan was in place during FY19 • The audit focus was on: <ul style="list-style-type: none"> ○ Contractual and regulatory compliance as it applies to the activities of the Broome power station ○ WKPP power stations AMP and the underlying asset management system. Elements of the AMP and system (Pronto MMS) included in the audit consisted of asset operating strategy, asset maintenance strategy and maintenance activities. ○ Specific plant areas covered include fuel storage, unloading and vaporisation, diesel fuel system, and balance of plant – gas power station and diesel power station ○ In 2018 Group Audit conducted a similar review with emphasis on generator maintenance. EDL subjects its asset management system to independent review through the participation of technically competent and experienced staff from EDL’s broader operations for: <ul style="list-style-type: none"> • The periodic review and update of the WKPP AMP; • Sharing learnings pertaining to the management and operation of specific assets such as the CAT 3520C gas generator sets and Cummins diesel generator sets. The intention of this condition monitoring approach is to drive a continuous improvement program for the generator sets particularly as many of the WKPP generator sets are reaching operating hours that require more maintenance. 	
	Adequacy Rating: Adequately defined (A)	Performance Rating: Performing effectively (1)

5 Follow-up of previous review action plans

Reference (no./year)	Asset management effectiveness rating/ AMS Component & Criteria / details of the issue	Reviewer's recommendation or action taken	Date Resolved	Further action required
A. Resolved before end of previous review period				
N/A.				
B. Resolved during current review period				
1/2014	<p>Asset Maintenance</p> <p>6.2 Regular inspections are undertaken of asset performance and condition</p> <p>6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule</p> <p>Based on a walkthrough of EDL's maintenance scheduling processes and discussions with relevant staff, it was identified that some maintenance tasks have not been completed on schedule.</p>	<p>Recommendation</p> <p>EDL should:</p> <ul style="list-style-type: none"> a) Finalise the plan for completion of the maintenance tasks, including a schedule for timely completion b) Confirm with Horizon Power a suitable time for shutdown of the gas units, so that the remaining PSVs can be tested and/or replaced with three-way valves. Consider performing a formal risk review to support decisions being made around timing c) Report status to management periodically to ensure completion of the programme. <p>Action/s taken</p> <p>EDL has:</p> <ul style="list-style-type: none"> a) Finalised the plan for completion of its maintenance tasks, including a schedule for timely completion b) Confirmed with Horizon Power a suitable time for shutdown of the gas units, so that the remaining PSVs can be tested and/or replaced with three-way valves and dual PSVs. Further, EDL will consider performing a formal risk review to support decisions being made around timing c) Reported status to management periodically to ensure completion of the programme. 	May 2015	No
2/2014	<p>Asset Maintenance</p> <p>6.5 Risk management is applied to prioritise operations tasks</p>	<p>Recommendation</p> <p>EDL should:</p>	April 2015	No

Reference (no./year)	Asset management effectiveness rating/ AMS Component & Criteria / details of the issue	Reviewer's recommendation or action taken	Date Resolved	Further action required
	<p>We observed that:</p> <ul style="list-style-type: none"> • The exception report is not complete • The maintenance tasks in the exception report that have been risk assessed appear to be only those that have been rescheduled to a specific date, thereby indicating that at the risk assessment is only applied as the work is rescheduled, not as a proactive measure. A risk assessment should be performed up-front to determine the reschedule date • No formal responsibilities have been assigned to conduct risk assessments and for which tasks risks assessments are required • No formal procedure has been developed that links the assessed risk of the overdue maintenance item and the maximum permissible delay to complete the maintenance task. 	<p>a) Formalise its overdue maintenance risk assessment process and exception reporting into the its operational and maintenance procedures The procedure should expand on EDL's existing risk assessment framework to provide guidance on the acceptable level of maintenance delay based upon the assessed level of risk. E.g. risk level 24 = maximum of 12 month delay acceptable, risk level 1 = maximum of 24 hours delay acceptable, etc. (Note these values given here are arbitrary only to give an example, and actual values should be determined by EDL based on detailed understanding and risk assessment of the plant)</p> <p>b) Update the procedure to include clear responsibilities and accountabilities for performing the risk assessment activities, including consideration of who can accept the level of risk and what is deemed tolerable</p> <p>c) Review the exception report and ensure that all items are appropriately risk assessed.</p> <p>Action/s taken EDL has:</p> <p>a) Formalise its overdue maintenance risk assessment process and exception reporting into the its operational and maintenance procedures as recommended</p> <p>b) Updated the procedure to include clear responsibilities and accountabilities for performing risk assessment activities, including consideration of who can accept the level of risk and what is deemed tolerable</p> <p>c) Reviewed the exception report and ensured that all items are appropriately risk assessed.</p>		

Appendix A - Review plan

Appendix B - References

EDL staff participating in the review

- Senior Commercial Advisor
- Commercial Analyst
- Operations Manager WKPP
- Asset Analytics Manager
- Management Accountant – Remote Energy
- Environmental Manager
- Internal Audit Manager

Deloitte staff participating in the review

		Hours
• Vincent Snijders	Partner	12
• Maria Moreano	Senior Manager	8
• Lyle Stewart	Senior Analyst	36
• Morgan Jones	Analyst	102
• Christine Chin	Analyst	2
• Kecheng Shen	Engineer	29
• Ben Fountain	Technical QA Director	1.5
• Peter Rupp	Partner (Quality Assurance Review)	1

Sites visited by the auditor during the audit

EDL's Perth Office	06/09/2019 and 17/10/2019
Broome Power Station	27/08/2019

Key documents and other information sources examined

- Global Asset Management Strategy
- West Kimberley Power Project AMP
- Asset Management Policy
- Safe Work Instruction Form
- Delegation of Authority
- Procure to Pay Standard
- HSE Management System Overview
- Section 20: Legal and other Obligations
- Procurement walkthrough documents
- Workplace Health and Safety Policy
- Decommissioning Plan
- Asset Disposal Transaction Approval form
- Environmental Management Plan
- Annual Environmental Review Report
- Monthly HSE inspection

- Asset Register
- Change Management Process and Guidelines
- Document Change Request Workflow
- WKPP/ARC Site Availability Summary
- BME Work Orders
- Maintenance Work Management
- Managing and Reporting Critical and Statutory
- Managing Completed Work Instructions
- Acceptable Use Policy
- Cyber Security Event and Incident Management Policy
- Cyber Security Policy
- Pronto Xi Asset Facility Maintenance Management
- Risk management samples for testing
- Risk Matrix
- HSE Management System Overview
- Risk Management Tools Procedure
- Risk Assessment WRAC Template
- Risk Management Standard
- Broome Emergency Response Procedures
- Contingency Plan
- LNGSICP Hire Genset Report
- WKPP Emergency Response Procedure Reviews
- Medium Term Plan – Board Papers extract
- June 2019 P&L Forecast extract
- June 2019 Management Report extract
- 2019 Budget extract
- 2017 EDL Financial Statements
- 2018 EDL Financial Statements
- Financial Target 2017
- Horizon Power PPA extract
- Supplier Facilities Plan
- Broome Risk Register
- Monthly Maintenance report
- Snapshots of Cognos and Pronto
- EDL Training Management Plan
- WKPP Monthly Maintenance Report
- WKPP Training Matrix
- IPP Incident Report forms
- WKPP Daily Report