AMCL
LEADING ASSET MANAGEMENT

WESTERN POWER

2020 Asset Management System Review

Review Report

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AMENDMENT HISTORY

Version	Sections	Amendment Details
A	4, 6.4	Preliminary findings and ratings tables issued for discussion
v0-3	All	Draft report issued for comment
v1-0	All	Final draft report
v2-0	Cover page	Draft watermark included
v3-0	Various	Updates to address ERA comments
v4-0	Document control 8. Approval of the Review Report	Document updated to final version Section 8 completed and signed.

EXECUTIVE SUMMARY

Directions for the Review

Western Power is the holder of two operating licences granted by the Economic Regulation Authority of Western Australia (the ERA), these being the Electricity Distribution Licence (EDL1) and the Electricity Transmission Licence (ETL2). It is a condition of each licence that Western Power has an Asset Management System in place, with this system setting out the measures taken by Western Power for the proper management of those assets used in the supply or provision of electricity services, in accordance with its licence obligations.

Western Power is required to provide the ERA with an independent report by a suitability qualified entity as to the effectiveness of the Asset Management System governing the operation of their licences in the period from July 2017 to June 2020. AMCL Pty Ltd (the Reviewer) was engaged in April 2020 by Western Power to undertake this review to assess the effectiveness of the licensee's asset management system in accordance with the ERA's 2019 Audit and Review Guidelines for Electricity and Gas Licences.

The Asset Management System Review (AMSR) was conducted from May to August 2020. A review plan was submitted and approved in April 2020 by Western Power and the ERA. The impact of the COVID-19 pandemic necessitated that the review be adapted. The Review was undertaken by desktop assessment of documentation and structured tele-interviews of personnel. On-site assessments of the assets under management was not able to be undertaken, with AMCL relying upon documentary evidence and testimony of key personnel in lieu of this requirement.

Under the terms of AMCL's engagement and in accordance with the requirements of the ERA's review guidelines, the review was undertaken to the standard of Limited Assurance, in accordance with the approved review plan. Particular areas required more detailed assessments especially where Recommendations as to improvements have been made.

This report documents the assessments made by AMCL in the undertaking of the 2020 Review of Western Power's Asset Management System for licences EDL1 and ETL2.

Licences and Assets Covered by this Review

As noted, Western Power currently holds two licences from the ERA to operate electricity supply assets in Western Australia, viz:

- EDL1, granted to enable Western Power the functions required to construct and operate new distribution system assets or operate the existing distribution system assets and the system as a whole in accordance with the terms and conditions of the licence in the designated licence area; and
- ETL2, granted to enable Western Power the functions required to construct and operate new transmission system assets or operate the existing transmission system assets and the system as a whole in accordance with the terms and conditions of the licence in the designated licence area.

As a general principle, distribution assets are those that operate at a voltage level of 33kV and below, and transmission system assets are those that operate at a voltage level of 66kV and above.

AMCL has observed that there were no "substantial changes" to the nature of Western Power's business during the review period, with the licenced functions remaining unchanged for the purposes of this review. It was observed that:

- In the interests of economic efficiency and improved customer service levels, Western Power has during the review period adopted a key strategy relating to non-traditional distribution asset technologies in the form of Standalone Power Systems (SPS). A phased approach has been adopted with some assets installed within the review period, such that the makeup of the network has not fundamentally changed. Over the next review period a substantial number of SPSs are expected to be deployed. For the purposes of this review these have been treated as distribution system assets managed under EDL1 and accordingly have been subjected to the requirements of this review.
- A key focus and achievement over the review period has been the certification of Western Power's asset management system against ISO55001, the international standard for asset management.

Actions from the 2017 Review

The 2017 AMSR provided three recommendations to address limitations observed in Western Power's asset management system at the time.

We have observed evidence demonstrating that Western Power has implemented actions agreed with the ERA for each of the above recommendations.

2020 Review Process

The review was conducted through a combination of initial desktop assessment of key documentation, presentations by and interviews with key personnel, and a series of follow-up queries and documentation requests. The initial documentation request was based on the list of documents reviewed during the 2017 review, with similar or current equivalent documents sought.

AMCL reviewed all documentation provided and allocated each to the Asset Management Process and Effectiveness Criteria which we considered it to be relevant. This enabled an initial view of potential process or performance issues that needed to be further explored through the interviews and additional documentation requests.

In total, over 270 documents were reviewed and allocated to relevant Effectiveness Criteria as assessed by AMCL. Where possible, multiple allocations of a document to more than one Asset Management Process was avoided, except in cases where the documents clearly had a broader enterprise intent such as overall strategy or business planning documents, with these documents noted as being common to the Asset Management System as a whole.

Throughout the course of the review, over 70 Western Power personnel were interviewed and involved in follow-up discussions to understand Western Power's Asset Management System, its governing policies and processes, and its performance. Western Power proposed an approach that reflected the functionality of their asset management processes, which was adopted with AMCL's agreement. This approach required interpretation and disaggregation of the presented information in order to understand how it informed performance against specific Asset Management Processes and Effectiveness Criteria.

Impact of the changes in the 2019 Guidelines

The ERA's Review Guidelines define the Asset Management System as having 12 Asset Management Processes and 58 Effectiveness Criteria, with the 2019 Guidelines requiring that this review be conducted at the Effectiveness Criteria level. We understand that previous reviews were planned and conducted at the Asset Management Process level, with subsequent observations and recommendations allocated to an Effectiveness Criteria within an Asset Management Process.

This Review has been conducted with a focus on system effectiveness down to Effectiveness Criteria level, with the expectation that observations and findings would be more specific and targeted.

It is to be expected that some Asset Management Process and Effectiveness Criteria performance assessments will appear to imply a deterioration in performance compared to previous assessments. This is not necessarily the case, but is a reflection of the greater scrutiny required when assessing performance at the Effectiveness Criteria level, as outlined in the ERA's Audit Guidelines and reflected in the Review Plan.

Overall Assessment of the 2020 Review

In general, it was observed that Western Power has developed a sophisticated, well-structured and disciplined Asset Management System. Through the documentation review and tele-interview process Western Power demonstrated clear intent in its application of the system and diligence in its upkeep.

AMCL observes that attaining certification to the ISO55001 standard has clearly facilitated ongoing maturity development of Western Power's approach to asset management. Documentation for policies and procedures was both comprehensive and "useable", with few gaps observed. Where gaps were observed, they mostly (with some exceptions) tended to be around their currency and application as opposed to whether documentation was lacking for key asset management processes.

In line with ISO55001 requirements, the use of enterprise-wide systems for management of the Asset Management System was clear, as was (in most cases) the alignment of asset management outcomes with enterprise requirements. This in particular was observed for:

- Business and asset strategy alignment;
- Business performance:
- Risk management; and
- Key customer and business outcomes.

Whilst the continual improvement in the robustness of the management system is commendable, some limitations were observed in relation to the effectiveness when assessed against the specific criteria in accordance with the ERA's Audit Guidelines. These Guidelines provide a very specific set of requirements that may not necessarily be required under the ISO55001 framework, and pertain to Western Power demonstrating specific behaviours, asset management practices and asset management outcomes that form the basis of the ERA Guidelines for the asset management system.

Consequently, attaining ISO55001 certification does not necessarily mean that there will not be limitations of the Asset Management System when assessed against the ERA Audit Guidelines.

Findings of the 2020 Review

Three recommendations have been made. These are against three Asset Management Processes for EDL1 and ETL2. Within this allocation, two recommendations are applicable to more than one Effectiveness Criterion and more than one Asset Management Process.

In summary, the recommendations and the Asset Management Processes and Effectiveness Criteria to which they apply are as follows:

No.	Recommendation	Asset Management Process. Effectiveness Criteria	Rating	Licence
1/2020	We recommend that Western Power further develop, and ensure implementation of their framework for identifying, exploring, and progressing ***non-asset*** options (e.g. Demand Management) to address identified network and asset needs. This should involve clarifying and communicating the purpose and function of non-asset options in deferring the need for Western Power investment and consequently additions to the Regulatory Asset Base. To satisfy the requirement of this criteria it would normally be expected that the following existed: • Non-Asset Strategy; • The establishment of clear processes, criteria and thresholds for potential Non-Asset solutions in order to implement the strategy; • A Non-Asset Program established, implemented, governed, and monitored; • Embedding in the Investment Governance Framework the requirement for non-asset options to be actively explored and reported on for all investments above the pre-determined threshold; and • Management reporting on the above, including reporting on non-asset deliberations through the Investment Governance Framework compliance reporting arrangements.	1.4 2.1	B 3 B 3	EDL1 ETL2
2/2020	We recommend that Western Power: a. Document an approach for the development of asset whole-of-lifecycle costs, and for its application in the asset planning and in the asset investment decision making process. This approach for whole-of-life asset costing, should cover the following considerations on a net-present or net-future value basis: • an asset's up-front capital costs;	1.5 2.2	C 2 C 3	EDL1 ETL2

No.	Recommendation	Asset Management Process. Effectiveness Criteria	Rating	Licence
	• ongoing maintenance and service costs; • risk costs associated with the asset due to deteriorating performance for e.g. obsolescence, or non-compliance with regulatory requirements; • mid-life refurbishment costs; and • end-of-life retirement, and disposal costs or residual value. b. Within the above guideline, establish (or reinforce) a requirement that whole-of-life cycle costs be considered as standard rigour in asset planning and investment decisions, and that these considerations be explicitly evident in the business case documentation as evidence that the matter has been appropriately considered. In our opinion the above should also capture the treatment of risk costs, which is particularly deficient in relation to transmission assets: c. We recommend that Western Power further develop the policy and procedural requirements of investment governance so that: • The principles of the quantification of risk as outlined in the Risk-Based Planning Methodology be embedded as standard planning practice for all transmission asset renewal and capacity upgrade planning assessments; • All business case evaluations of network asset investments in the transmission network include a quantitative evaluation of pre and post investment risk outcomes and measurable benefits as required by the Investment Governance Framework; and • That greater rigour be applied in the Investment Gate Approval process to ensure that quantified and monetised network asset risk assessments become a key feature of business cases. Combined, the above will ensure that the expected economic impacts as well as the financial impacts of any proposed investment are considered and understood and will facilitate objective risk-based optimisation of the network investment portfolio.			

No.	Recommendation	Asset Management Process. Effectiveness Criteria	Rating	Licence
3/2020	We recommend that Western Power demonstrate a sustainable approach to maintaining the currency of documents in the asset management system, update the asset management system description and processes accordingly, and resource and implement the required changes. An appropriate SMART performance metric demonstrating year-on-year management of documents and document currency should also be developed and monitored. To satisfy the requirement of this criteria it would normally be expected that the following should exist: • Evidence of implementation and monitoring of the Corrective Action Plan in ISO 55001 Assessment Findings and Corrective Action Plan 2019; • Understanding of existing review cycles and basis including impact on dependencies for changing review cycles; • Evidence of reviews and maintenance of the currency of documents; • All asset management documents and processes reflect the current asset management activities and are approved and published when and as required by the system specification. This should include updating holocentric processes to maintain their currency.	12.1	B 3 B 3	EDL1 ETL2

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1. REVIEW OBJECTIVES

1.1 REVIEW OBJECTIVES AND PURPOSE

AMCL notes the following purpose for the Review as stated in the ERA's Audit Guidelines[1]:

> *The purpose of a review is to assess the licensee's asset management system, which includes the asset management plan, and the staff and IT resources that support the plan.*
>
> *An asset management plan sets out the measures the licensee will take to properly operate and maintain assets. The plan must detail the licensee's business strategies to ensure it maintains an effective asset management system over at least a five-year period.*

The Review is required to be performed consistent with the regulatory framework prescribed in the Electricity Industry Act 2004 (WA), the licenses and these guidelines.

1.2 REVIEW METHODOLOGY

The methodology for the review included three core elements:

- Review plan – The review plan was developed consistent with Section 9 of the ERA Guidelines and in conformance with the requirements outlined in ASAE 3000 (Sec. 40-47) and ASAE 3500 (Sec. 32 to 52).
- Interview – The effectiveness of Western Power's Asset Management System was assessed consistent with Section 10 of the ERA Guidelines. This included assessing: the effectiveness of the control environment, the effectiveness of information systems, the effectiveness of control procedures, the attitude towards effectiveness, and whether effective outcomes are achieved.
- Review Report – This review report is consistent with Section 11 of the ERA Guidelines to expresses our opinion in respect of the findings of the review.

[1] 2019 Audit and Review Guidelines, Electricity and Gas Licenses (March 2019)

2. SCOPE OF WORK

AMCL notes that the Review scope is as specified in the RFQ is as follows:

> *The scope of the asset management system review needs to focus on the asset management system, including asset management plans, which set out the measures that are to be taken by the licensee for the proper operation and maintenance of assets. The plans must convey the licensee's business strategies to ensure the effective management of assets over at least a five year period.*
>
> *The scope of the review must include an assessment of the adequacy and effectiveness of Western Power's asset management system for the period 1 July 2017 to 30 June 2020 by evaluating the key processes of:*
>
> • *Asset planning*
>
> • *Asset creation and acquisition*
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> • *Asset disposal*
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> • *Environmental analysis*
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> • *Asset operations*
>
> • *Asset maintenance*
>
> • *Asset management information system*
>
> • *Risk management*
>
> • *Contingency planning*
>
> • *Financial planning*
>
> • *Capital expenditure planning*
>
> • *Review of the asset management system*
>
> *The scope of this review must also include a follow up on the status of the last review report's (2017) management actions.*
>
> *The effectiveness criteria that are to be used are described in the 'Audit Guidelines' available from the ERA's website (www.erawa.com.au).*

The previous review covered the period of 1 July 2014 to 30 June 2017.

AMCL affirms this as the scope of the Review.

2.1 TYPE OF ASSURANCE ENGAGEMENT

For the review, AMCL performed a limited assurance engagement.

2.2 SITE VISITS

We note that deviation from Section 3.2.2 of the Audit Guidelines may be required due to the COVID-19 pandemic.

We understand that Western Power has sought guidance from the ERA on its position with respect to the potential for the COVID-19 Pandemic to impact the Review. Western Power has advised the following:

> *In recognition of the travel restrictions that have been put in place, advice has been sought from the Economic Regulation Authority (ERA) as to the operation of Clause 3.2.2 of the 2019 Audit and Review Guidelines – Electricity and Gas Licences. This clause requires that "The auditor must visit the licensee's business operations to conduct the audit or review; performing audit procedures remotely is not allowed."*
>
> *The ERA has stated that given the current circumstances, it will relax the requirement of on-site visits to be performed as part of Western Power's Asset Management System Review. Therefore, when preparing your response to the 2020 AMSR RFQ it would be appropriate to articulate your proposed approach to enable the meeting of the audit/review objective.*

In agreement with Western Power and the ERA, AMCL conducted the Review remotely through desktop review, and through video and tele-conferencing interviews with relevant Western Power personnel. Interviews and presentations were organised and coordinated by the Western Power team responsible for the oversight of their Asset Management System, broadly in accordance with the requirements of the review plan. Changes from the approach outlined in the review plan are given in Section 3 - Deviations from the Review Plan.

2.3 PERSONNEL AND DOCUMENTATION

For each of the key process areas, the interviews were planned to be conducted with the accountable process owner and the responsible process operator. Asset management system documentation to be reviewed is the system and process description, information standards, related software system guides and information management governance descriptions, as well as related master data and transaction records.

Western Power personnel interviewed throughout the course of the review are provided in Appendix A.

The list of documentation and information sources examined by AMCL during the course of the review is provided in Appendix B.

2.4 WORK SCHEDULE

AMCL performed the six primary stages with associated activities during the review, as listed in Table 1.

1.	Engagement & Mobilisation	• Confirmation of resources and availabilities, and agreement on potential variations • Timetable confirmation, and arrangements for field work • Risks associated with current travel restrictions and social isolation requirements, including timetable variation impacts • Establishment of data room access and/or confirmation of data sources

2.	Development/Agreement of Review Plan	• Agreement of focus areas with Western Power • Risk Assessment of Asset Management System areas for further investigation • AMCL and Western Power will agree on priorities for the review based on previous (2017) review outcome and actions items • Confirmation of review plan and preliminary timetable for Field work
3.	Desktop Review and Assessment	• Preparation of questions and matters for further follow-up • Further information requests • Development of questions and areas of assessment with key personnel • Identification of interview requirements (in lieu of field visits)
4.	Western Power Virtual On-site[2]	• Tele-interviews, presentations, reviews, based on feedback from desktop assessments • Follow-up tele-interviews with field/operational staff as required and as identified through Desktop review and Head-office tele-interviews.
5.	Report preparation, including review and follow-up	• Submission of Draft report for consideration and feedback by Western Power • Discussion with Western Power on draft report
6.	Close	• Submission of Final Draft Report for consideration and review • Discussions with ERA and Western Power on key observations and recommendations • Report finalisation and submission

Table 1: Work activities

The time applied by the AMCL team to carry out the review is provided in Table 2.

Reviewer	Role	Hours
Adam Homan	Reviewer	67
Michael Tamp	Lead Reviewer	174
Mathew Oakey	Reviewer	188

[2] Note AMCL undertook the interviews with Western Power personnel virtually via video and tele conferencing (refer to Section 2.2).

Reviewer	Role	Hours
Paul Brazier	Peer Review	8

Table 2: Time applied to review by AMCL team

The period over which the review has been performed was the 29 April 2020 to 31st July 2020.

3. DEVIATIONS FROM THE REVIEW PLAN

In general, the review approach outlined in the review plan has been followed. All licence effectiveness criteria were assessed, with none of the license criteria determined as being "not applicable".

The following deviations from the review plan occurred:

Reliance of Desktop Review and Tele-interviews

In the time between AMCL being engaged to undertake the review and the Review Plan being approved by the ERA, the impacts of the COVID-19 pandemic were being felt in Australia, with state borders being closed to non-essential travel. Consequently, the review approach was amended to rely primarily upon desktop reviews of documentation and tele-interviews conducted via team-based video conferencing, approximately in accordance with the timetable outlined in the review plan.

This meant that physical inspection of assets and systems was not possible, but this was not an impediment to effectiveness assessment of Western Power's Asset Management System in accordance with the requirements of the Guidelines. However, where necessary AMCL requested additional supporting evidence of processes and their respective performance to satisfy the requirements of the review.

AM functional approach as opposed to Asset Management Process-based approach

AMCL's approved review plan required that interviews with key Western Power personnel were to be conducted in a manner that grouped functions and processes into the Asset Management Processes outlined in the Guidelines. In planning the tele-interviews, Western Power requested that these be undertaken along the design of their asset management system that includes components that collectively build up a line of sight. This was in order to better manage the complexities associated with conducting the interviews remotely.

Acknowledging this, AMCL agreed to the revised approach promulgated by Western Power. Western Power was still required to demonstrate how each of the Effectiveness Criteria were addressed by the relevant asset management system components in order that assessments could be made as to their effectiveness. This approach led to significant overlap in some of the asset management process presentations and an insufficiently sharp focus on Western Power demonstrating its Policy & Procedural completeness and Performance for some of the Effectiveness Criteria.[3]

This had the unintended consequence of more detailed follow-up and desktop assessment being required for some Effectiveness Criteria, beyond that which would have been expected for a Limited Assurance review, particularly where shortcomings were observed.

Changes in Review Priority

The following Effectiveness Criteria were reviewed with a higher priority than that allocated in the Review Plan. This was due to the observance of gaps in Policy & Process or Performance for some criteria, as determined through the desktop reviews and the tele-interviews. The reallocation of the

[3] We note that that there are notable differences in designs of various industry standards like ISO55001 and ERA Audit guidelines. Western Power's Asset Management System is designed around line of sight view as opposed to asset management process view as in ERA Audit guideline. This does lead to policies and processes in Western Power's asset management system that apply to multiple process areas/ effectiveness criteria.

Review Priority was based on AMCL's judgement because of these observations, as opposed to re-application of the priority assessment approach given in the Guidelines.

Consequently, the Effectiveness Criteria assessed as requiring a higher review priority attracted additional review activity and to a greater depth than initially expected. In general, the priority for these criteria increased from a 4 or 3, to 2. All criteria affected have a Review Recommendation assigned to them.

Not all criteria that have attracted a Recommendation are provided in this list, as some of these criteria were initially assigned a higher review priority in the Review Plan.

Effectiveness Criteria	Initial Review Priority	As-conducted Review Priority
1.4 (EDL1 and ETL2) **Asset planning:** Non-asset options (e.g. demand management) are considered	4	2
2.1 (EDL1 and ETL2) **Asset Creation & Acquisition:** Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	3	2
1.5 (EDL1 and ETL2) **Asset planning:** Lifecycle costs of owning and operating assets are assessed	4	2
8.3 (ETL2) **Risk management:** The probability and consequences of asset failure are regularly assessed	4	2
12.1 (EDL1 and ETL2) **Review of asset management system:** A review process is in place to ensure that the asset management plan and the asset management system described in it remain current.	4	2

4. ACTIONS FROM PREVIOUS REVIEWS

Commentary on Western Power's actions in response to previous review findings is provided in the table format specified within the ERA Guidelines in Table 5.

4.1 A. RESOLVED DURING CURRENT REVIEW PERIOD

Reference	Process and Policy deficiency / Performance Deficiency	Previous Reviewer's recommendation	Date resolved	Further Action Required?
01/2017	Key Process Area (KPA): 1. Asset Planning **Effectiveness Criteria**: Asset management plan covers key requirements Effectiveness Rating (ER): B2 Whilst the asset management objectives take a strong position on the "safe" and "reliable" organisational objectives, and convert these into "key objective strategies" for the Asset Management System, the organisation's "affordable" objective does not appear to be given commensurate focus by the Asset Management System. The absence of strategic documentation in relation to affordability does not suggest that Western Power hasn't incorporated cost efficiency throughout its Asset Management System processes; only that it has not articulated its approach at the strategic tier of the Asset Management System as robustly as it has for other objectives. The review of cost related elements of the Asset Management System elements demonstrates that these considerations are	It is recommended that Western Power develop asset management strategy to articulate its delivery on the "affordable" objective, commensurate with the strategies developed to deliver on the "safe and reliable" objectives. It is noted that in the new corporate strategic plan (still under development), the "affordable" objective is likely to be replaced with new objectives. In this case, the above recommendation should consider the new objectives rather than the current "affordable" objective.	Western Power note in their 2019 Status update that this was resolved in Dec 2018	No further action required in relation to the actions understood to have been agreed with the ERA.

	strongly embedded throughout the Asset Management System processes. This includes: Affordability (or price impact): • Assessments undertaken as a part of the Regulatory Submission, and reviewed as a function of Corporate Strategy/ Business Plan; • New Facilities Investment Test (NFIT) Reviews as a part of business cases; and • Ex-Post reviews as a part of regulatory submission. Efficiency assessments: • Top down assessments undertaken as a part of the Corporate Strategy/ Business Plan; • NFIT Reviews as a part of business cases; and • Individual asset class level/ delivery provision efficiency tested through benchmarking, competitive tendering, optioneering for standards and strategy development (includes risk-cost-benefit assessment at asset class level). Notwithstanding these processes, it is appropriate for the Asset Management System to articulate its direction at the strategic tier for how it delivers on the "affordable" objective holistically, commensurate with the robust articulation of its approaches that deliver on the "safe" and "reliable" objectives.			
02/2017	Key Process Area (KPA): 2. Asset creation and acquisition **Effectiveness Criteria:** Projects reflect sound engineering and business decisions Effectiveness Rating (ER): B2 Generally, Western Power's Technical Rules appear highly prescriptive (as compared to rules applied to peer NSPs). Specifically, the Technical Rules impose prescriptive deterministic criteria to be applied for capacity planning. It is	It is recommended that Western Power undertake an internal review of the Technical Rules, with a specific focus on considering the deterministic planning criteria that are prescribed (predominantly within Section 2.5) to identify	Western Power sign-off sheet dated June 2018	No

	observed that peer NSPs have achieved significant efficiency gains through developing probabilistic risk-based capacity planning approaches with increasing sophistication. Although Western Power's risk-based approach to renewal planning can be considered amongst industry leaders, the prescription of the Technical Rules appears to be constraining it from achieving similar outcomes in relation to capacity planning. The application of a similar mindset (as currently applied to renewal planning) to capacity planning would significantly advance Western Power's maturity in this area. This is an increasing imperative as demand profiles and power flows on the network are altered by emerging technology (as is currently evident in Western Power's trend of increasing maximum demand and reducing energy throughput). It is noted that Western Power has made efforts in this area and has developed a draft Risk Based Capacity Planning Methodology document; however, the implementation of the methodology requires Western Power to seek exemptions from complying with the Technical Rules. It is understood that Western Power is planning to undertake an internal review of the Technical Rules.	areas that constrain it from optimising capacity planning through risk-based probabilistic approaches. The review should identify discrepancies between the Technical Rules and Western Power's Risk Based Capacity Planning Methodology (EDM 41025116) document (also in view of continued evolution of the document with leading industry practice).		
03/2017	Key Process Area (KPA): 3. Asset Disposal **Effectiveness Criteria:** Under-utilised and under-performing assets are identified as part of a regular systematic review process; The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken Effectiveness Rating (ER): B2 Traditionally, it may be considered satisfactory to consider asset utilisation predominantly in the following context:	It is recommended that Western Power define a clearer intent in relation to asset utilisation. This should consider: • Enhancing the understanding of asset utilisation and articulating a preferred position based on average demand in addition	Western Power sign-off sheet July 2018 indicates only partial action in closing this issue (largely around intent and interaction with Grid	No

	• Over-utilised assets as those that are peak-capacity constrained; • Under-utilised assets as those that are redundant, or that are found to not be highly utilised during investigations into other issues that may require an investment or disposal decision. However, a clearer intent with respect to asset utilisation is required in the context of: • Increasing peak demand and reducing average demand; • Increasing electricity prices; and • Increasing cost effectiveness of alternate power supplies. Western Power currently considers asset utilisation primarily in relation to peak demand. Peak demand thresholds are defined in relation to over-utilisation; however, under-utilisation does not appear to be clearly defined (although, there are examples of under-utilised assets being rationalised). The average utilisation of assets does not appear to be well understood, and opportunities for rotation / redeployment to achieve a target network utilisation are likely to be available. Further, the Risk Based Planning Methodology document shows that typical load-duration curves peak for a small percentage of time. The difference between the peak and average demand is widening as demand increases and energy throughput decreases. This indicates that considering utilisation based on peak demand thresholds is increasingly unsuitable.	to peak demand (in view of the demand profiles); • Defining target utilisation rates based on the above understanding for: o Maximum and minimum utilisation targets for individual assets or types of assets; and o Target average utilisation rates for the network as a whole. The above should be incorporated into asset strategy, which could consider opportunity for asset rotation and redeployment, and demand management. This should be considered in conjunction with tariff strategy, and transitioning towards risk-based capacity planning.	Transformation initiatives)	

Table 3: Status of resolved actions addressing system deficiencies from the previous audit

4.2 B. UNRESOLVED DURING CURRENT REVIEW PERIOD

Western Power has completed actions agreed with the ERA as detailed in Section 4.1.

5. PERFORMANCE SUMMARY

In assessing the effectiveness of the licensee's asset management system, AMCL rated both the adequacy of the licensee's processes and policies (process and policy rating) and the licensee's performance (performance rating) for each asset management process and effectiveness criterion. The ratings are based on the rating scales from the ERA Audit and Review Guidelines Electricity and Gas Licenses (2019) and provided in Appendix C. The results are summarised in Table 4 and Table 5.

5.1 PERFORMANCE SUMMARY FOR EDL1

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
1. Asset Planning	**A**	**2**
1.1. Asset management plan covers the processes in this table	A	1
1.2. Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	A	2
1.3. Service levels are defined in the asset management plan	A	1
1.4. Non-asset options (e.g. demand management) are considered	B	3
1.5. Lifecycle costs of owning and operating assets are assessed	C	2
1.6. Funding options are evaluated	A	1
1.7. Costs are justified and cost drivers identified	B	2
1.8. Likelihood and consequences of asset failure are predicted	A	1
1.9. Asset management plan is regularly reviewed and updated	A	2
2. Asset Creation and Acquisition	**B**	**2**
2.1. Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	B	3
2.2. Evaluations include all life-cycle costs	C	2
2.3. Projects reflect sound engineering and business decisions	B	2
2.4. Commissioning tests are documented and completed	B	1
2.5. Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	A	1
3. Asset Disposal	**A**	**2**

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
3.1. Under-utilised and under-performing assets are identified as part of a regular systematic review process	A	2
3.2. The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	A	1
3.3. Disposal alternatives are evaluated	B	2
3.4. There is a replacement strategy for assets	A	1
4. Environmental Analysis	**A**	**1**
4.1. Opportunities and threats in the asset management system environment are assessed	A	1
4.2. Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	B	1
4.3. Compliance with statutory and regulatory requirements	A	1
4.4. Service standard (customer service levels etc) are measured and achieved.	A	1
5. Asset Operations	**A**	**2**
5.1. Operational policies and procedures are documented and linked to service levels required	A	1
5.2. Risk management is applied to prioritise operations tasks	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	A	2
5.4. Accounting data is documented for assets	B	2
5.5. Operational costs are measured and monitored	A	1
5.6. Staff resources are adequate, and staff receive training commensurate with their responsibilities	B	2
6. Asset Maintenance	**A**	**1**
6.1. Maintenance policies and procedures are documented and linked to service levels required	A	1
6.2. Regular inspections are undertaken of asset performance and condition	A	1
6.3. Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	A	1
6.4. Failures are analysed and operational/maintenance plans adjusted where necessary	A	1

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
6.5. Risk management is applied to prioritise maintenance tasks	A	1
6.6. Maintenance costs are measured and monitored	A	1
7. Asset Management Information System	**B**	**2**
7.1. Adequate system documentation for users and IT operators	B	2
7.2. Input controls include appropriate verification and validation of data entered into the system	B	2
7.3. Security access controls appear adequate, such as passwords	B	2
7.4. Physical security access controls appear adequate	B	2
7.5. Data backup procedures appear adequate and backups are tested	A	1
7.6. Computations for licensee performance reporting are materially accurate	B	1
7.7. Management reports appear adequate for the licensee to monitor licence obligations	A	1
7.8. Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	B	2
8. Risk Management	**A**	**1**
8.1. Risk management policies and procedures exist and are being applied to minimise internal and external risks	A	1
8.2. Risks are documented in a risk register and treatment plans are actioned and monitored	A	1
8.3. The probability and consequences of asset failure are regularly assessed	B	2
9. Contingency Planning	**A**	**1**
9.1. Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	A	1
10. Financial Planning	**A**	**1**
10.1. The financial plan states the financial objectives and strategies and actions to achieve the objectives	A	1
10.2. The financial plan identifies the source of funds for capital expenditure and recurrent costs	A	1
10.3. The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	A	1

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
10.4. The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period	A	1
10.5. The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	A	1
10.6. Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	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	A	1
11.2. The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	A	1
11.3. The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	B	1
11.4. There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented	A	1
12. Review of asset management system	**B**	**2**
12.1. A review process is in place to ensure that the asset management plan and the asset management system described in it remain current	B	3
12.2. Independent reviews (e.g. internal audit) are performed of the asset management system	A	1

Table 4: Performance summary table for EDL1 reviews

5.2 PERFORMANCE SUMMARY FOR ETL2

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
1. Asset Planning	**B**	**2**
1.1. Asset management plan covers the processes in this table	A	1
1.2. Planning processes and objectives reflect the needs of all stakeholders and are integrated with business planning	A	2
1.3. Service levels are defined in the asset management plan	A	1
1.4. Non-asset options (e.g. demand management) are considered	B	3
1.5. Lifecycle costs of owning and operating assets are assessed	C	3
1.6. Funding options are evaluated	A	1
1.7. Costs are justified and cost drivers identified	B	2
1.8. Likelihood and consequences of asset failure are predicted	B	2
1.9. Asset management plan is regularly reviewed and updated	A	2
2. Asset Creation and Acquisition	**B**	**2**
2.1. Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	B	3
2.2. Evaluations include all life-cycle costs	C	3
2.3. Projects reflect sound engineering and business decisions	B	2
2.4. Commissioning tests are documented and completed	B	1
2.5. Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	A	1
3. Asset Disposal	**A**	**2**
3.1. Under-utilised and under-performing assets are identified as part of a regular systematic review process	A	2
3.2. The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	A	1
3.3. Disposal alternatives are evaluated	B	2
3.4. There is a replacement strategy for assets	A	1
4. Environmental Analysis	**A**	**1**

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
4.1. Opportunities and threats in the asset management system environment are assessed	A	1
4.2. Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	B	1
4.3. Compliance with statutory and regulatory requirements	A	1
4.4. Service standard (customer service levels etc) are measured and achieved.	A	1
5. Asset Operations	**B**	**2**
5.1. Operational policies and procedures are documented and linked to service levels required	A	1
5.2. Risk management is applied to prioritise operations tasks	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	B	2
5.4. Accounting data is documented for assets	B	2
5.5. Operational costs are measured and monitored	A	1
5.6. Staff resources are adequate, and staff receive training commensurate with their responsibilities	B	2
6. Asset Maintenance	**A**	**1**
6.1. Maintenance policies and procedures are documented and linked to service levels required	A	1
6.2. Regular inspections are undertaken of asset performance and condition	A	1
6.3. Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	A	1
6.4. Failures are analysed and operational/maintenance plans adjusted where necessary	A	1
6.5. Risk management is applied to prioritise maintenance tasks	A	1
6.6. Maintenance costs are measured and monitored	A	1
7. Asset Management Information System	**B**	**2**
7.1. Adequate system documentation for users and IT operators	B	2
7.2. Input controls include appropriate verification and validation of data entered into the system	B	2

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
7.3. Security access controls appear adequate, such as passwords	B	2
7.4. Physical security access controls appear adequate	B	2
7.5. Data backup procedures appear adequate and backups are tested	A	1
7.6. Computations for licensee performance reporting are materially accurate	B	1
7.7. Management reports appear adequate for the licensee to monitor licence obligations	A	1
7.8. Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	B	2
8. Risk Management	**A**	**1**
8.1. Risk management policies and procedures exist and are being applied to minimise internal and external risks	A	1
8.2. Risks are documented in a risk register and treatment plans are actioned and monitored	A	1
8.3. The probability and consequences of asset failure are regularly assessed	B	2
9. Contingency Planning	**A**	**1**
9.1. Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	A	1
10. Financial Planning	**A**	**1**
10.1. The financial plan states the financial objectives and strategies and actions to achieve the objectives	A	1
10.2. The financial plan identifies the source of funds for capital expenditure and recurrent costs	A	1
10.3. The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	A	1
10.4. The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period	A	1
10.5. The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	A	1
10.6. Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	A	1

Asset management process & effectiveness criteria (Refer to the Electricity or Gas Compliance Reporting Manual)	Process and policy rating	Performance rating
11. Capital Expenditure Planning	**A**	**1**
11.1. There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	A	1
11.2. The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	A	1
11.3. The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	B	1
11.4. There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented	A	1
12. Review of asset management system	**B**	**2**
12.1. A review process is in place to ensure that the asset management plan and the asset management system described in it remain current	B	3
12.2. Independent reviews (e.g. internal audit) are performed of the asset management system	A	1

Table 5: Performance summary table for ETL2 reviews

6. AUDITOR'S OBSERVATIONS

The observations for each asset management process and effectiveness criterion form the basis for the auditor's ratings and recommendations.

6.1 KEY FINDINGS

6.1.1 GENERAL ASSESSMENT

In general, it was observed that Western Power has developed a sophisticated, well-structured and disciplined Asset Management System. Through the documentation review and tele-interview process Western Power demonstrated clear intent in its application of the system and diligence in its upkeep.

AMCL observes that attaining certification to the ISO55001 standard has clearly facilitated ongoing maturity development of Western Power's approach to asset management. Documentation for policies and procedures was both comprehensive and "useable", with few gaps observed. Where gaps were observed they mostly (with some exceptions) tended to be around their currency and their application, as opposed to whether documentation was lacking for key asset management processes.

In line with ISO55001 requirements, the use of enterprise-wide systems for management of the Asset Management System was clear, as was (in most cases) the alignment of asset management outcomes with enterprise requirements. This in particular was observed regarding:

- Business and asset strategy alignment;
- Business performance;
- Risk management; and
- Key customer and business outcomes.

Some limitations were observed in relation to the effectiveness of Western Power's Asset Management System when assessed in accordance with the ERA's Audit Guidelines. It is to be noted that these guidelines provide a very specific set of requirements that may not necessarily be required under the ISO55001 framework, and pertain to Western Power demonstrating specific behaviours, asset management practices and asset management outcomes that form the basis of the ERA Audit Guidelines for the AMS.

Attaining ISO55001 certification does not necessarily mean there will not be limitations of the Asset Management System when assessed against the ERA Audit Guidelines. This was observed, with some of these findings reflected in the recommendations that follow.

AMCL has made the general observation that Western Power's successful certification to the ISO55001 standard has engendered a culture of reliance on this for assurance of their Asset Management System. AMCL notes that the requirements of ISO50001 are not prescriptive and leave organisations to decide the process / practice most suited for their organisation. In our opinion, the ERA Audit Guidelines then prescribe through the Effectiveness Criteria specific requirements that the ERA considers should become a feature of the Asset Management System through defined asset management practice.

For example, one area of concern for AMCL is in Western Power's diligence in considering and pursuing non-asset options, particularly Demand Management. This activity is itself not a requirement that needs to be fulfilled to attain ISO55001 but it is a criteria for consideration within the ERA Audit Guidelines for the AMS Review. There are other aspects of this example, and others were Western

Power's Asset Management System may meet the requirements of IS55001 certification, but still fall short of the ERA Audit Guideline criteria for review. These are described in detail in Section 6.4 Observations and Recommendations.

6.1.2 KEY CONSIDERATIONS

AMCL observed shortcomings in Policy and Procedural attentiveness or Performance activity in some key areas, that on the surface may seem unrelated. AMCL observed limitations in the areas of:

- Consideration of Non-Asset Options (such as Demand Management) for investment decisions; and
- Use of whole of life-cycle costing in asset planning and investment decisions (including understanding and quantification of risk costs and risk outcomes in transmission asset investment decision making).

These shortcomings are explored more comprehensively in Section 6.4, with recommendations made accordingly.

These areas go to the overall effectiveness of the investment decision governance arrangements in place, or more particularly, the extent to which investment decisions are sufficiently scrutinised to find the most efficient investment to address an asset need. Whilst it was generally observed that an Investment Governance Framework is in place and understood to be followed as required, it is the pursuit of the more sophisticated considerations noted above where AMCL's observations are made.

Whilst AMCL has not made a finding or recommendation with respect to Investment Governance as a whole, the shortcomings identified do go to the effectiveness of the Investment Governance Framework, which in AMCL's view requires more diligent application for efficient asset investment decision making.

AMCL observed Western Power's Asset Management System to be mature, well-constructed, and diligently managed. Albeit, the business would benefit from a more sustainable approach to maintaining the currency of documents in the Asset Management System.

The observations and recommendations made in Section 6.4 - Observations and Recommendations if acted upon will support the addressing of the observed shortcomings and seek to mitigate their impact on the system as a whole.

6.2 INFORMATION SOURCES

Western Power personnel interviewed throughout the course of the review are provided in Appendix A.

The list of documentation and information sources examined by AMCL during the review is provided in Appendix B.

6.3 REVIEW PROCEDURES

The Review Procedures below are reflective of a Limited Assurance review, as noted in the Review Plan (v1-0-1).

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

Table 6: Review procedures for each review priority

With the COVID-19 situation and requirements, Western Power's and AMCL's approach for interviews was for several sequential meetings with different participants on each topic. This was preferred to one large team meeting of extended duration. Western Power and AMCL identified that the most effective approach for review of information was to use a file sharing site, prepopulated with available information, and with additional files added by Western Power as identified and requested by AMCL.

6.4 OBSERVATIONS AND RECOMMENDATIONS

This section explains for each asset management process or effectiveness criterion the basis for the auditor's ratings and recommendations.

Reporting Against EDL1 and ETL2

In general, many of the processes and activities that take place to enact Western Power's asset management system are common across both the EDL1 licence and the ETL2 licence. Consequently, the observations, ratings, and recommendations (where given) will also be common across both licences.

As such, the observances are generally given against EDL1, and reflected by simple reference against ETL2 where this is appropriate. Where evidence and artefacts differ for the two licences across an Effectiveness Criteria, this is highlighted primarily by exception reporting against ETL2. Where an observation or recommendation is attributable to one licence only, this is made clear.

Document tracking and Identification

AMCL developed and applied a librarian system for capturing the documents provided as evidence and artefacts in relation to the Asset Management Processes and their respective Effectiveness Criteria. The documents provided by Western Power on our request, or on their initiative in response to AMCL lines of review, have been logged in a master schedule. From this schedule, and following review, each document was re-allocated and referenced to the most relevant Asset Management Process (and Effectiveness Criteria where possible) and given a unique Asset Management Process reference number accordingly.

It is these allocated Asset Management Process document reference numbers that are used throughout this section of the report to refer to specific Western Power documents, with the index allocation given in parentheses. By way of example:

- *Document Asset Management Process1.01 is the Network Planning Standard (Initial Request D.02, Western Power EDM reference 43686305, allocated to Asset Management Process 1); and*
- *Document C.05 is the Corporate Strategy, which is a "common" overarching document (Initial Request D.09, Western Power EDM reference 52298712, not allocated to any specific Asset Management Process, hence the "C" allocation).*

The master list of documents reviewed is given in Appendix B, along with the initial views on Asset Management Process and Effectiveness Criteria allocations where this was made.

The final allocations of each Western Power document to each Asset Management Process and respective Effectiveness Criteria's (where possible) is provided in Appendix B.

It should be noted that many documents attended to several Asset Management Process's or Effectiveness Criteria's. However, where possible documents were allocated to a single primary Asset Management Process. This does not prevent a document from being an artefact for an Effectiveness Criteria in a different Asset Management Process to the primary allocation. Consequently, in some cases citations of evidence for an Effectiveness Criteria may refer to a document from another Asset Management Process.

Opportunities for Improvement

In line with the ERA guidelines, opportunities for improvement are not included in this Asset Management System review report. Opportunities for improvement could be developed by Western Power where the Process and Policy rating is B, or where the performance rating is a 2.

Nomenclature used in this section of the report

Western Power refers to Western Power.

Asset Management Process refers to Asset Management Process of the Asset Management System.

Effectiveness Criteria refers to an effectiveness criterion within an Asset Management Process.

As noted above, documents referred to as supporting evidence in this section of the report use the AMCL codes Asset Management Process(A).(BB), referring to document (BB) associated with Asset Management Process (A), as listed in the tables for each Asset Management Process given in Appendix B.

References to other Effectiveness Criterion(a) are generally noted as "Effectiveness Criteria Ref. No." For example, a reference to Effectiveness Criterion 8.2 will be shown as "Effectiveness Criteria Ref. No. 8.2."

6.4.1 ASSET MANAGEMENT PROCESS 1 ASSET PLANNING

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
1.	**Asset planning** Asset Planning focuses on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price)					
		EDL1			**A**	**2**
		ETL2			**B**	**2**
1.1	Asset management plan covers the processes in this table	EDL1	2	The asset management plan is established in accordance with the requirements of the *Asset Management Policy (C.06).* Western Power's certification to the ISO55001 Asset Management System standard is clear in the policy and subsequent supporting documents, including but not necessarily limited to: • *Asset Management System Description (C.10).* • Asset Management Objectives Report (C.07) • *Asset Management Framework (Asset Management Process1.14)* • *Asset Management System Map (C.11)*	A	1
		ETL2	2	As for EDL1	A	1
1.2	Planning processes and objectives reflect	EDL1	2	Integration of renewal-driven investments with capacity or security-driven investments and optimisation of investments, accordingly, was not observed to be strongly evident across all areas. Western Power demonstrated a mindset and processes whereby the	A	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	the needs of all stakeholders and are integrated with business planning			investment portfolio optimisation was undertaken to achieve the objectives of the business in an efficient way. Evidence of this included: • the outcomes outlined in *Asset Management Objectives Report* (C.07) *Network Planning Standard* (Asset Management Process1.01) • *Network Strategy, 2019* (Asset Management Process1.04).		
		ETL2	2	As for EDL1.	A	2
1.3	Service levels are defined in the asset management plan	EDL1	2	These are defined in the *Asset Management Objectives Report (C.07),* appear clear, demonstrable, and sufficient to drive the correct behaviours within the asset management system.	A	1
		ETL2	2	As for EDL1.	A	1
1.4	Non-asset options (e.g. demand management) are considered	EDL1	4	This Effectiveness Criteria has been given a rating below a B or a 2. Subsequently, we have provided further background commentary in relation to **Process and Policy** and **Performance** prior to outlining our **Observations and Recommendations**. The list of information relevant to the Effectiveness Criteria is provided in *Appendix B: Documentation and Information Sources Reviewed*. **Process and Policy**	B	3

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Western Powers Asset Management System includes a range of business processes. Examples of some of the evidence provided include: • Asset Management Policy (D.06) • Asset Management System Description (D.77.01) • Network Planning Standard (D.02) including for example development of demand forecasts, annual planning reports • Demand Management and Non-Network Solutions Guideline (D.83.19x) • NTWK.1.3 Manage Network Planning • Investment Management Policy (D.69.06) • Investment Governance Framework (D.69) • Investment Management Standard (D.71.01) including Investment Evaluation Model User Manual • Financial Management Policy (D.69.03) • Business Case Guideline (D.70) Supporting tools and processes: • Connections, Energy and Demand Forecasting • Demand Management Screening Tool Other supporting processes include Annual Planning Report, Stakeholder Consultation, Regulatory Test Submissions and evaluation, Investment Government Framework.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Performance Over the past three years Western Power has seen reduction in demand/ capacity driven investments Western Power is understood to have detailed alternative solutions including reducing network footprint: • transformer rationalisation • substation rationalisation • switchboard rationalisation The above projects would optimise asset replacement drivers viz a viz network capacity and favoured alternative network configurations as opposed to like-for-like solution. Demand management assessment and application included: • 100MW challenge (not implemented within the Review Period): – 100MW Challenge business plan (D.83.12) – 100MW Challenge trial business case (D.83.13) – 100MW Challenge Options Analysis Paper (D.83.14) • Engagement of Water Corporation in Demand Response (D.84.14) Other examples where non-network options are understood to have been considered include:		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• The Network Control Services contracts in the North Country and Eastern Goldfields regions. The contracts are in place and meet the obligations in the NQRS Code. The cost of network investment is significant in these regions. • Generator Interim Access (GIA). Connecting renewable generation on a constrained basis to avoid network investment. • Kemerton 330/132kV transformer states: "No specific non-network option has been identified to address the asset condition issues detailed in section 1.2.2". • The Picton South Staged 132kV Conversion project. Public consultation was undertaken, including seeking alternative options. One submission stated that Western Power should consider alternative power supply for growth areas such as for Wanju and Waterloo Industrial Park and the South West region in general but nothing specific was suggested. • Hay Mill switchboard upgrade project. This underwent a Reg Test and NFIT, and the suitability of investment and decisions is understood to have been endorsed by the ERA. The ERA's consultant stated that : "...we agree ....consideration for non-network alternatives would not be appropriate..." **Observations** The requirement to demonstrate the investigation on non-asset options was explored across a range of projects. Whilst numerous procedural documents outline the requirement for non-network and demand management options to be considered, the documented evidence of these procedures being implemented does not effectively		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				demonstrate non-asset options being routinely identified and appropriately investigated at the planning stages of project development. A project cited as evidence of "non-asset" options being considered was the introduction of Standalone Power Systems for remote network customers (Asset Management Process 2.12 and related documents). AMCL acknowledges SPS project, however still involved Western Power to invest in assets to supply customers; thus, it is a non-network solution rather than a non-asset solution. Western Power appeared to explore with AEMO the possibility of running non-Western Power generation to backup supply, but this was done seemingly as an emergency risk-management requirement as opposed to being a means to defer network investment. Further, an artefact of a Demand Response initiative was provided, that being the Business Case to *Engage Water Corporation Demand Response to Defer MH ZSS 66 MVA Rebuild by One Year (Asset Management Process 1.22)*. Whilst the example is noteworthy it is not sufficient evidence that this Effectiveness Criteria is regularly attended to in the network and asset planning process. Other cases were provided (*Asset Management Process 5.25* and *Asset Management Process 5.26)*, but these were operational contingency management initiatives as opposed to genuine demand management responses to defer or obviate new network investment. References were made to the demand management assessment tool being applied in all cases, but limited evidence of the outcomes of this tool was seen in business case documentation, except to say that it had been used to assess demand management potential.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				On further inquiry Western Power provided a *Demand Management & Non-Network Options Guideline* (Asset Management Process 1.18). The document appears to cover policy, strategy, and DM program initiatives but was updated in July 2017, with no further updates covering potential projects or programs within the review period. Furthermore, the apparent misunderstanding of the term "non-asset" to mean "non-network" is evident in the guide. The implication of this is that Western Power appears to consider non-traditional asset investments as legitimate demand management initiatives, which is not the case. It was not clear that the concept of non-asset options was well understood or applied consistently. Western Power were unable to demonstrate that an effective Demand Management Policy, or framework was established and operating. As opportunity has presented, in response to system challenges due to penetration of renewal energy, Western Power has embarked upon an initiative to address customer's behaviour through the *100MW Challenge* (Asset Management Process 1.15 and related documents). This appears to be a well-thought out and governed initiative to change customers behaviour in a way that defers the need for asset investment. This initiative sought to address low network loading issues that have emerged due to the uptake of Distributed Energy Resources (as opposed to the traditional problem of high-network loading), but still represents a good example of demand management at work. This appears aligned to similar challenges faced by many utilities across Australia and the world for the challenges due to penetration of distributed energy resources. It is noted that over the past three years Western Power has seen reduction in demand/ capacity driven investments. This is likely to be a contributing factor as to why there is limited evidence demonstrating non-asset options being implemented.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
		ETL2	4	As for EDL1. A further example of the limited evidence of the consideration of non-asset options relates to the replacement of the failed Picton transformer. The need for urgent action in this matter is acknowledged, however the express exploration and discussion pertaining to non-asset options as an alternative to network investment was not evident. In addition, the example of the Kemerton 330/132kV Transformer Installation was assessed (Asset Management Process 2.07 and related documents). The business case and related documentation does not comprehensively assess or explore the possibility on non-asset options being employed to defer network investment.	B	3

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Recommendation: 1/2020-EC1.4 ***Licence: EDL1 and ETL2*** We recommend that Western Power further develop, and ensure implementation of their framework for identifying, exploring, and progressing ***non-asset*** options (e.g. Demand Management) to address identified network and asset needs. This should involve clarifying and communicating the purpose and function of non-asset options in deferring the need for Western Power investment and consequently additions to the Regulatory Asset Base. To satisfy the requirement of this criteria it would normally be expected that the following existed: • Non-Asset Strategy; • The establishment of clear processes, criteria and thresholds for potential Non-Asset solutions in order to implement the strategy; • A Non-Asset Program established, implemented, governed, and monitored; • Embedding in the Investment Governance Framework the requirement for non-asset options to be actively explored and reported on for all investments above the pre-determined threshold; and • Management reporting on the above, including reporting on non-asset deliberations through the Investment Governance Framework compliance reporting arrangements.		
1.5	Lifecycle costs of owning and operating assets are assessed	EDL1	4	This Effectiveness Criteria has been given a rating below a B or a 2. Subsequently, we have provided further background commentary in relation to **Process and Policy** and **Performance** prior to outlining our **Observations and Recommendations**. The list of information relevant to the Effectiveness Criteria is provided in *Appendix B: Documentation and Information Sources Reviewed*.	C	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Process and Policy The asset management system includes various business processes. Some of these are identified below: • Asset Management Policy (D.06) • Asset Management System Description (D.77.01) • Network Planning Standard (D.02) • Renewal and Maintenance Requirements Analysis Standard including the supporting Options Analysis Methodology) • Engineering and Design Standard Development including Safety in Design Methodology • Procurement Standard • Investment Management Policy (D.69.06) • Investment Governance Framework (D.69) • Investment Management Standard (D.71.01) including Investment Evaluation Model User Manual • Financial Management Policy (D.69.03) • Business Case Guideline (D.70) **Performance**		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				The opportunities and extent to which life cycle cost evaluations are undertaken is dependent on the situation. Some examples of its application include: • Network Planning: Optioneering undertaken is understood to include consideration to network design that provides least whole of life cycle to meet a certain requirement. For e.g. in case of connection from a point A to B – considerations should include for example: overhead vs underground, network configurations, route. The Network Standards and Functional Specifications are understood to define the options and are based on these considerations. AMCL notes that the choices / options to meet stakeholder requirements may be limited by practical options available in the market. o In transmission : rationalisation of transformer fleet, switchboard and substations example reduced cost solutions. Other past examples include the introduction of STAT-Coms, three-way switches to improve network reliability. o In distribution : choosing SPS over traditional networks is another key example of reduced cost considerations. • Design/ Equipment Selection/ Procurement: Cost considerations, safety in design principles and price evaluations are integral to design and procurement. Examples include capitalised cost parameters for transformer procurement, application of surface coating requirement to reduce costs and other equipment design considerations including on-line condition monitoring solutions to reduce ongoing maintenance costs and improve effectiveness.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				In distribution, the past wood pole material selection report, conductor type selection, and equipment procurement process are various examples for design and equipment selection. • Maintenance/ Renewal: Decisions to repair/ replace, refurbish/ replace are made based on feasibility and cost. Examples included refurbish/ replace transformers, switchboards and the criteria used to derive wood pole defect remediation/ replacement for various wood pole defects/ failure modes. Implementation of service connection condition monitoring example a mechanism to mitigate risks due to electric shocks from service connections. This is understood to have moved to online monitoring in favour of intrusive inspections. • Disposal/ Reuse: Consideration of costs to test/ reuse vs capital cost of new plant including assessment of feasibility of these options are key considerations in decisions pertaining to disposal/ reuse. Examples include: o Ongoing maintenance costs were understood to be included in the scoping phase IEM (EDM#47445373) but not the planning phase IEM (EDM#50820539) for the Picton Replace 66/22kV TX5 project. It is understood that ongoing maintenance costs were not included as this is a transformer replacement project, so Western Power considered that there was no material impact on ongoing O&M.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				The same approach was adopted for the Kemerton 330/132kV transformer project (scoping phase IEM – EDM#50245737 and planning Phase IEM – EDM#51940466). Once an option is chosen in the scoping phase, generally only the capital costs are considered in the planning phase IEM unless there has been a significant change. o The Hay Mill switchboard upgrade included a Reg Test and NFIT. It is understood that the suitability of investment and decisions were endorsed by the ERA. A range of documented evidence presented against Effectiveness Criteria 1.4 also supports the requirement for cost assessments to be undertaken. **Observations** Whilst evidence was observed for some cases and assets, Western Power were unable to provide a consistent view on the application of lifecycle costing at network investment decision making level. In particular, no one overarching document was able to be identified that provided guidance on the application of lifecycle costs in asset class strategies, options analysis, investment decisions, equipment procurement, or other decisions where this should be a consideration. Some evidence was observed in relation to individual asset specification and procurement, but the ability of Western Power to demonstrate how operational costs were factored into re-investment decisions was not clear. There appeared to be limited policy and guidance around the principles to be used, and indeed a misunderstanding of what life-cycle costing principles actually were, with a perception portrayed that Net		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Present Cost assessments of capital investments without consideration of ongoing or escalating operational costs was the equivalent of full-life-cycle costing. Wide-spread application of the principles of asset life-cycle costing would normally be expected to be evident in Asset Class Plans, particularly in order to inform decisions pertaining to asset life and technical obsolescence of groups of ubiquitous asset types. In our opinion, risk cost should also be appropriately considered as part of lifecycle cost evaluations: • In general, quantitative risk assessments appear to be developed and applied for asset failures within the distribution network, particularly in relation to public safety and bushfire risk. • Western Power have developed models and decision support tools that calculate risk and use these to determine priorities for asset management activities and investments. • There was an observable tendency for Western Power to rely upon qualitative assessments and not evaluate and consider quantitative risk calculations in business cases for some investment or activities, particularly those where the need was an identified risk issue (such as safety or asset failure leading to a loss of network capability or supply). • As an example, the Asset Management Strategy for Distribution Conductors (Asset Management Process 3.03) states: *"challenge exists for Western Power in determining the condition of the rest of the conductors not covered by the categories above"*.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• It is observed that whilst the Network Risk Management Standard (NRMS) is generally sound and there is clear demonstrable intent to reflect risk outcomes in asset-management decision making, the calculation and quantification of risk outcomes in a uniform "currency" for the asset management system (or for the enterprise as a whole) is not evident. • For example, it is possible and indeed worthwhile to consider whether the Value of Statistical Life is factored into safety risk outcome deliberations, whether Value of Customer Reliability is factored into reliability and capacity investments, and whether there is a value placed upon reputational risk impacts, etc. However, it is acknowledged that such exercises are non-trivial, but also that other network businesses across Australia are doing this. • Without this, risk outcomes of asset management decisions remain qualitive and therefore potentially frustrate the ability to objectively justify and prioritise different activities or investment decisions.		
		ETL2	4	**Observations** As for EDL1. Business cases and economic evaluations for major project investments that were observed (such as *Kemerton Capacity upgrade* – Asset Management Process 2.07) had little detail regarding operational cost impacts for the life of the proposed assets. It is understood that for the Kemerton Capacity Upgrade Project (Asset Management Process 2.07), the operation and maintenance costs were included in the scoping phase IEM evaluation. This used the standard 0.3% O&M costs as per the IEM methodology).	C	3

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Within its IEM methodology, Western Power then considers that the total network opex forecast costs would largely remain the same. Subsequently these are not included in the final business case evaluation. Whilst it is acknowledged that per-unit assessments of operational costs for proposed new-investments do not necessarily influence the outcome of the evaluations (as they can be largely common costs) the lack of explicit consideration of operational life-cycle costs in business cases was reflective of that observed for other investment cases or asset class plans. In another example, Western Power deemed the Picton transformer T5 unserviceable and subsequently cost evaluations for repair / refurbishment options were not pursued. As such, the comparative assessment of repair or refurbishment costs for the failed Picton transformer was not evident in the business justification for replacing the asset. It is understood that cost evaluations are noted in asset procurement (e.g. transformers), asset decision making, i.e. switchboard refurbishment vs replacement options that allowed deferral of switchboard replacement. Again, it is noted that ongoing maintenance costs for these projects were understood to be included in the scoping phase but not in the planning phase. Once an option is chosen in the scoping phase, generally only the capital costs are considered in the planning phase investment evaluation model. In our opinion, risk cost should also be appropriately considered as part of lifecycle cost evaluations: • It was observed that the application of risk costs within evaluations was more lacking in relation to transmission assets investment decision making. In general, risk issues		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				based on poor asset condition (for example) or potential shortfalls in supply capacity and system security have long-been able to be determined, and indeed are used across the industry. This is because of the unique singly-identifiable nature of the state of transmission assets, and the predictable failure modes and the subsequent network states that a failure would result in. • Western Power developed the *Risk Based Capacity Planning Methodology (Asset Management Process 1.05)* in 2017 and, partly as an action against Rec 2/2017 worked with the ERA to apply this methodology on an interim basis in some cases whilst a proposed review of the Technical Rules was being considered. The risk-based planning methodology requires, amongst other things an assessment and quantification of the amount of load at risk as part of the determination of the requirement to replace or enhance capacity at a particular location. • Given this, it would have been expected that safety or customer service levels outcomes for the projects reviewed would include an assessment of quantified risk outcomes, and it is normally expected that these outcomes would be monetised and factored into the proposed investments business cases. This was unable to be observed in any of the following examples: o *HAY & MIL Switchboard Refurbishment Business Case* (Asset Management Process 8.10) o *Picton Transformer Replacement Business Case* (Asset Management Process 3.08) o *Kemerton Transformer Replacement/Capacity Upgrade Business Case* (Asset Management Process 2.07)		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• The assessment of pre and post investment risk outcomes tended to be at the discussion level, or qualitative at best (albeit in a manner seemingly consistent with the enterprise risk management framework guidelines). • Little evidence was observed that the initial foray into using risk-based planning methodologies had gathered momentum in relation to its application for the planning of asset renewal or capacity upgrades. Further, Western Power's *Investment Governance Framework (Asset Management Process 10.02)* requires that[4]: *"…financial capital is allocated and managed consistently across the Investment lifecycle and drives Investments to achieve strategic objectives by ensuring Investments:* o *Demonstrate value for money* o *Maximise shareholder value* o *Are economically justified with appropriate evidence supporting the Investment driver with expected outcomes captured through measurable Benefits* o *Mitigate corporate risks by supporting Investments needed for risk controls and treatments."* • For the projects reviewed the absence of risk quantification or any assessment of quantifiable benefits in measurable terms, together with the lack of comprehensive life-cycle costing data being considered in asset investment decisions, as noted		

[4] *Page 11, Investment Governance Framework, 15/7/2019, EDM 34147155*

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				previously, indicates that the requirements of the IGF are not being adhered to and that the requirements of this Asset Management Process are not being met.		

		EDL1 ETL2	**Recommendation: 2/2020-EC1.5** **Licence EDL1 and ETL2** We recommend that Western Power: a. Document an approach for the development of asset whole-of-lifecycle costs, and for its application in the asset planning and in the asset investment decision making process. This approach for whole-of-life asset costing, should cover the following considerations on a net-present or net-future value basis: • an asset's up-front capital costs; • ongoing maintenance and service costs; • risk costs associated with the asset due to deteriorating performance for e.g. obsolescence, or non-compliance with regulatory requirements; • mid-life refurbishment costs; and • end-of-life retirement, and disposal costs or residual value. b. Within the above guideline, establish (or reinforce) a requirement that whole-of-life cycle costs be considered as standard rigour in asset planning and investment decisions, and that these considerations be explicitly evident in the business case documentation as evidence that the matter has been appropriately considered. In our opinion the above should also capture the treatment of risk costs, which is particularly deficient in relation to transmission assets: c. We recommend that Western Power further develop the policy and procedural requirements of investment governance so that: • The principles of the quantification of risk as outlined in the Risk-Based Planning Methodology be embedded as standard planning practice for all transmission asset renewal and capacity upgrade planning assessments; • All business case evaluations of network asset investments in the transmission network include a quantitative evaluation of pre and post investment risk outcomes and measurable benefits as required by the Investment Governance Framework; and • That greater rigour be applied in the Investment Gate Approval process to ensure that quantified and monetised network asset risk assessments become a key feature of business cases.

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
			Combined, the above will ensure that the expected economic impacts as well as the financial impacts of any proposed investment are considered and understood and will facilitate objective risk-based optimisation of the network investment portfolio.			
1.6	Funding options are evaluated	EDL1	4	Capital planning process is evident for funding availability. Refer to Asset Management Process 10	A	1
		ETL2	4	As for EDL1	A	1
1.7	Costs are justified and cost drivers identified	EDL1	4	In general, it was observed that the investment approval gateway process was robust, well governed and appropriately followed. Further it was noted that the investment decision review and the business cases and their approval process considers the justification of costs and drivers. Observations were made regarding the rigour associated with the life-cycle costing process and its application in the business investment decision making process reducing the effectiveness of the cost identification process.	B	2
		ETL2	4	As for EDL1 As an example, the Hay St and Milligan St Switchboard Refurbishment Option Paper (Asset Management Process 2.05) reverted to a comparative assessment of up-front capital costs without further consideration of the comparative ongoing maintenance costs, or even differing risk-costs associated with the various options explored.	B	2
1.8	Likelihood and consequences of	EDL1	4	The likelihood and consequence of asset failure in general translate into network and business risk. The understanding of this and the factoring of it into asset planning was	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	asset failure are predicted			generally observed to be in place at the top-level of the business and covered multiple asset classes through the Network Risk Management Tool process. Also refer to *Risk-Based Capacity Planning Methodology* (Asset Management Process 1.05), *Distribution Reliability Strategy* (Asset Management Process 1.07). This was particularly evident for distribution assets operating in high-risk environments (such as in bush-fire zones).		
		ETL2	4	As for EDL1. Also refer to *Transmission Reliability Strategy* (Asset Management Process 1.06). For ETL2, some limitations were identified in the quantification and monetisation of risk impacts of potential major asset failures. Assessment of risk and consequence tended to be qualitative (or assumed to be understood) as given in the under-pinning arguments for the investment decision making process, such as the Picton Transformer Replacement (Asset Management Process 02.19 and related documents). Quantitative assessment such as estimates of the potential Value of Energy not supplied (or similar parameters) was not evident, although an appreciation of the risk and consequences of an asset failure clearly were understood. Further evidence of this approach is in the business case for the *Kemerton transformer capacity upgrade* (Asset Management Process 2.07), where there is little observable evidence of the use of Value of Unserved Energy or similar analysis in the business justification for the investment.	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
1.9	Asset management plan is regularly reviewed and updated	EDL1	4	There is strong evidence that the *Asset Management System Description* (C.10) is well organised, aligned to key standards, internally managed and maintained, and is regularly reviewed and updated, with ongoing minor corrections being identified. The *Asset Management System Description* (C.10) states the asset management plan includes the Asset Management Framework and the *Asset Management System Description* (C.10), and is further supported with more granular material by documents including the *Asset Management Objectives (C0.7), Network Management Plan (*C.08*), Network Development Plan (*Asset Management Process 1.08). *Network (Investment) Plan* (C.09) and *The Business Plan (*Asset Management Process10.12). The Review identified some documents mentioned in the Asset Management System Description need increased diligence with review and updating. Particularly of note are *Network Management Plan (*C.08*), Network Development Plan (*Asset Management Process 1.08). As such there are elements of the asset management planning process and system management documents that require improvement. These are covered further in Asset Management Process 12.	A	2
		ETL2	4	As for EDL1	A	2

Table 7: Asset Management Process 1 Asset Planning

6.4.2 ASSET MANAGEMENT PROCESS 2 ASSET CREATION AND ACQUISITION

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
2.	**Asset Creation and Acquisition** Asset creation/acquisition is the provision or improvement of assets.					
		EDL1			**B**	**2**
		ETL2			**B**	**2**
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options	EDL1	3	This Effectiveness Criteria has been given a rating below a B or a 2. Subsequently, we have provided further background commentary in relation to **Process and Policy** and **Performance** prior to outlining our **Observations and Recommendations**. The list of information relevant to the Effectiveness Criteria is provided in *Appendix B: Documentation and Information Sources Reviewed*. **Process and Policy** Western Power's Investment Governance Standard applies for project evaluations. Western Power has a range of documents that are used to govern project evaluations, these include • Investment Management policy, reference D.69.06 • Investment Governance Framework, reference D.69 • Investment Management Standard D.71 • Business Case Guideline, reference D.70	B	3

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Performance Project considerations include options identification and analysis. Detailed assessments are undertaken of options that are considered feasible. Western Power's investment governance standard is supported by various procedures. Some examples include: • The Hay Mill switchboard upgrade project included a Reg Test and NFIT. It is understood that to the suitability of investment and decisions was endorsed by the ERA. **Observations** Western Power provided evidence for and demonstrated comprehensive capital cost analysis and some life-cycle cost considerations in various recent projects, including: • *Standalone Power System (SPS) Remote Power Supply Program* (Asset Management Process 2.12, Asset Management Process 2.13, and related documents) Whilst the overall approach to identifying costs for projects and undertaking comparative assessments is sound (using a Net Present Value methodology), in general only capital costs are appeared to be used in the evaluations. Consideration of other cost, such as full-cycle costs, the identification of unique (i.e. non-common) operational costs, and risk costs do not appear to factor into evaluations on a consistent basis.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Evaluation of non-asset options does not appear to be detailed, based on the review of the business justification documents sighted. Refer to Effectiveness Criteria Ref No. 1.4, 1.5, 2.2.		
		ETL2	3	As for EDL1. Evidence in support of the assessment above include: • *Picton Power Transformer Replacement* (Asset Management Process 2.19 and related documents); • *Hay Milligan Switchboard Upgrade* (Asset Management Process 2.05) • *Kemerton Transformer Capacity Upgrade* (Asset Management Process 2.07 2.08, 2.10)	B	3
		Recommendation: See 1/2020-EC1.4				

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
2.2	Evaluations include all life-cycle costs	EDL1	4	Refer to Effectiveness Criteria Ref No. 1.5	C	2
		ETL2	4	Refer to Effectiveness Criteria Ref No. 1.5	C	3
		Recommendation: See 2/2020-EC1.5				
2.3	Projects reflect sound engineering and business decisions	EDL1	4	Clear evidence that Western Power considers a range of engineering options and undertakes evaluations on a capital cost basis (with some provision for operational costs to be considered) in their new asset investment decision making was observed. There appears to be some limitations in the application of full life-cycle costing for network level investments (as noted above, refer Effectiveness Criteria Ref 1.5) and the consideration of non-network options appeared lacking, also as noted above (Effectiveness Criteria Ref 1.4). Procedures and frameworks to ensure these occurred as part of the investment decision making process was not strongly evident.	B	2
		ETL2	4	As per EDL1.	B	2
2.4	Commissioning tests are documented and completed	EDL1	4	Through various discussions and project reviews Western Power demonstrated that commissioning tests were undertaken prior to assets being activated in the network. Specific evidence was sought regarding the implementation of the SPS program and commissioning tests applicable to the assets, which was provided and reviewed (Asset Management Process 2.14, 2.15, & 2.16).	B	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				The evidence provided that tests were being carried out in what appears to be a methodical way, however, the evidence that this was directed or governed by a formally documented procedural framework and policy requirement was not strongly evident.		
		ETL2	4	Substantial evidence of the commissioning tests of primary and secondary plant for transmission assets was provided on request during the review period. As for EDL1, the systematic structure of this information, including established forms for the carriage of test outcomes is evidence that the process was undertaken as a routine and systematic requirement associated with the commissioning of assets. Similarly, as for EDL1, evidence of a formally documented policy and procedural framework governing this requirement was not strongly evident. Whilst the Western Power *Handover Certificate Process* (Asset Management Process 2.47) was provided as partial evidence of this, it did not establish the procedural requirements for commissioning tests except at a high-level as part of asset handover prior to energisation in the network. Further, this document was dated as having been last reviewed in 2014, and as such may not necessarily reflect current procedural requirements for asset commissioning and handover.	B	1
2.5	Ongoing legal / environmental / safety obligations of the asset owner	EDL1	4	It is noted that this Effectiveness Criteria overlaps with the requirements of: *E.C.-4.3 - Compliance with Statutory and Regulatory Requirements; and* *E.C. 8.2 – Risk documented, and action plans developed.* Evidence observed against this criterion includes:	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	are assigned and understood			• *Worker Authorisation Procedure (Asset Management Process 2.20)* • *Incident Management Procedure (Asset Management Process 2.21)* • *Technical Standards Development & Review Guide (Asset Management Process 2.06)* • *New Facilities Investment Test (NFIT) Explained (Asset Management Process 2.17)* Further, Western Power demonstrated a strong compliance and risk management culture across all of its asset management and business functions as observed later for Effectiveness Criteria 4.3 and 8.2 respectively. The evidence cited against these criteria is noted but is not repeated here.		
		ETL2	3	As for EDL1	A	1

Table 8 Asset Management Process 2 Asset Creation and Acquisition

6.4.3 ASSET MANAGEMENT PROCESS 3 ASSET DISPOSAL

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
3.	**Asset Disposal** Asset disposal is the consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets.					
		EDL1			**A**	**2**
		ETL2			**A**	**2**
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process	EDL1	3	Utilisation of the network and the assets, in the context of the changing role of the network is difficult to assess in traditional ways. Western Power has been confronted with this issue in recent times with the uptake and high penetration levels of distributed energy resources, such as roof-top solar P.V. generation. Further, the combination of this with a geographically sparse distribution network has led Western Power to identify cost-to-serve impacts for remote customers as an impediment to future investment efficiency in the remote and ageing distribution network. Western Power provided evidence of two programs to specifically address these issues: • *The 100MW Challenge* (Asset Management Process 1.15 and related documents); and • *The Standalone Power Systems initiative* (Asset Management Process 2.12 and related documents).	A	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				These programs appear to be well- developed, well-implemented and well-governed. The former addresses the underutilisation impacts on the network as a result of the changing customer behaviour, and the latter addresses the need to optimise investments to lower costs through the application of different technologies as opposed to merely replacing/upgrading the remote distribution network on a like-for-like basis. It was also observed that the identification and addressing of underperforming asset types is addressed and managed through the various asset class plans and Transmission and Distribution Network Strategies. The extent to which this process was uniformly and robustly applied for all assets was not able to be fully observed, noting that some limitations were observed in the understanding of full-cycle cost impacts for underperforming assets, as noted for Effectiveness Criteria Ref No. 1.5 above. Further, Western Power has developed a *Grid Transformation Engine* (Asset Management Process 1.13) and associated decision support tools that develop customer scenario-based distribution network development strategies to address the changing energy supply landscape. This was presented and discussed at various interview sessions (although direct observation of its application was not observed due to constraints of the review). The tool provides optimum development strategies for various parts of the distribution network that are impacted by changing customer behaviour and the uptake of Distributed energy resources. It appears to identify opportunities where changing utilisation of the network can lead to different outcomes such as the de-meshing of		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				various parts of the network and the establishment of autonomous distribution networks or microgrids. This planning approach provides the opportunity to optimise future investment that is tailored to the future utilisation requirements of the distribution network, thereby facilitating investment efficiency. This appears to be a sophisticated approach to the emerging problem of planning the distribution network in the face of significant changes in usage patterns whilst addressing long-term asset replacement requirements.		
		ETL2	3	As for EDL1. Western Power also provided evidence on the proposed changes on the interconnection configuration of various parts of the sub-transmission network to address falling energy throughput and minimise network investment requirements. In this respect, a program is being implemented to eventually devolve the 66kV sub-transmission network on an as-needs basis subject to asset loading and condition issues. The *Western Power 66 kV Rationalisation Strategy, 2017* (Asset Management Process 3.06) and the replacement of the *Picton 66/22kV Transformer Replacement* (with a 132/22kV unit) are examples of this. It is noted that the Grid Transformation engine and associated tools are currently not applied for the sub-transmission and transmission networks due to their different structures, operational drivers, and different planning requirements. In addition to the evidence cited, Western Power is implementing a strategy to de-mesh the 132kV network to re-orient its role towards sub-transmission (in lieu of the	A	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				66kV network) and to facilitate the more efficient operation of the interconnected transmission network. (Asset Management Process C.04 – *Annual Planning Report 2018-19 Overview* and various Western Power presentations)		
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	EDL1	5	The processes and examples, cited above in Ref no. 3.1, showed clear evidence of Western Power's examination of key performance and utilisation issues on the network. Other evidence includes the following: • *Distribution Structures Asset Management Strategy, 2017 (Asset Management Process 3.02)* • *Distribution Conductors Asset Management Strategy, 2017 (Asset Management Process 3.03)*	A	1
		ETL2	3	As for EDL1, noting the following artefacts: • *Western Power 66 kV Rationalisation Strategy, 2017 (Asset Management Process 3.06)* • *Transmission Circuit Breaker Switchboards Strategy, 2017 (Asset Management Process 3.04)* • *Transmission Power Transformer Detailed Strategy, 2017 (Asset Management Process 3.05)*	A	1
3.3	Disposal alternatives are evaluated	EDL1	3	It was observed that at asset class strategy or plan level, an appropriate range of suitable technical options are considered to address asset end-of-life issues and/or technological obsolescence.	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Relevant asset management strategies reviewed are noted in Effectiveness Criteria 3.2 above. The Standalone Power Systems (SPS) program is a clear example of non-traditional alternatives being considered as an option to renewing remote distribution assets that have reached the end of their serviceable lives. Further, evidence of an appropriate range of technical options being explored was present in the case of the Picton Transformer Replacement noted above. As per observations made in Ref 1.4, non-asset options are not observed to be widely considered as alternatives to facilitate disposal of an asset. In addition, the lack of comprehensive life-cycle costing being undertaken at asset-class level has the corollary of limiting the range or type of alternatives being considered.		
		ETL2	3	As for EDL1. In addition, it was observed that the deterministic planning standard requirements may in some cases prevent the full exploration of alternatives, including non-asset options for higher order transmission assets that are governed by the jurisdictional planning standard. (It is noted that the introduction of risk-based planning standards for the higher-order network configuration as addressed in *Rec 2/2017 – Review of Technical Rules* may open further opportunities in this respect.	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
3.4	There is a replacement strategy for assets	EDL1	4	The following asset class strategies were observed to address asset replacement requirements at an overarching level. • *Distribution Structures Asset Management Strategy, 2017 (Asset Management Process 3.02)* • *Distribution Conductors Asset Management Strategy, 2017 (Asset Management Process 3.03)* • *Western Power 66 kV Rationalisation Strategy, 2017 (Asset Management Process 3.06)* In addition, asset disposal planning is directed by *Renewal and Maintenance Options Analysis Procedure* (Asset Management Process 3.07), and actual physical disposal of an asset no longer required is directed by the *Asset Disposal Policy Guidelines* (Asset Management Process 3.01).	A	1
		ETL2	4	The following asset class strategies were observed to address asset replacement requirements at an overarching level. • *Transmission Circuit Breaker Switchboards Strategy, 2017 (Asset Management Process 3.04)* • *Transmission Power Transformer Detailed Strategy, 2017 (Asset Management Process 3.05)*	A	1

Table 9: Asset Management Process 3 Asset Disposal

6.4.4 ASSET MANAGEMENT PROCESS 4 ENVIRONMENTAL ANALYSIS

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
4.	**Environmental analysis** Environmental analysis examines the asset management system environment and assesses all external factors affecting the asset management system.					
		EDL1			**A**	**1**
		ETL2			**A**	**1**
4.1	Opportunities and threats in the asset management system environment are assessed	EDL1	4	It was evident that Western Power identified opportunities and threats in their strategic business planning activities and promulgated these through their asset management system on a "line-of-sight" basis. This is reflective of Western Power's adoption of asset management principles under the ISO 55000 framework, and the certification of Western Power's Asset Management System to the ISO 55001 standard. Evidence in support of this observation include, but is not necessarily limited to, the following key documents (AMCL document references in parentheses): • *Corporate Strategy 2017-2022 (C.05)* • *Asset Management Objectives Report (C.07)* • *Network Management Plan (C.08)* • *Statement of Expectations 2020-21 (Asset Management Process 4.04)* • *Annual Planning Report (C.04)*	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• *Asset Management System Description (C.10)* • *Asset Information System Strategy (Asset Management Process 4.05)*		
		ETL2	4	As for EDL1	A	1
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	EDL1	4	In general, Western Power has a well-founded and well-executed approach for identifying service standards required to address customer needs, and for translating these through their planning mechanisms into network asset-based outcomes and objectives. However with the changing role of the network, and traditional performance measures not necessarily reflecting these changing needs, it was observed that Western Power are in the process of revising their approach to setting measures and standards, and this is expected to be an ongoing activity in the short to medium term. Therefore, this area of activity remains a work in progress. Evidence of the policy and process framework directing this include: • *Asset Management Objectives Report (C.07)* • *State of the Infrastructure Report for 2018-19 (Asset Management Process 4.10)* • *Asset Performance Management Standard (Asset Management Process 4.18)* In addition, various other strategies covering different facets of the performance of the network or the assets themselves were reviewed and observed to also set performance standards. These include, but are not limited to the following:	B	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• *Power Quality Strategy, 2017 (Asset Management Process 5.05)* • *Transmission Network Reliability Strategy (Asset Management Process 1.06)* • *Distribution Network Reliability Strategy (Asset Management Process 1.07)* Reporting on performance took various forms subject to the area of focus, but in general high-level performance reporting against performance standards was observed to be consistently undertaken across all functional areas observed as required in accordance with the Electricity Networks Access Code (*Service Standard Performance Report 2019 (Asset Management Process 4.22*)). Executive level performance reporting is evidenced by • *Western Power Monthly Performance Report for Board-April 2020 Appendix (Asset Management Process 5.08)* • *Western Power Monthly Performance Report for Board-June 2019 Appendix (Asset Management Process 5.09)* • *Western Power Monthly Performance Report for Board-June 2018 Appendix (Asset Management Process 5.10)*		
		ETL2	4	As for EDL1	B	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
4.3	Compliance with statutory and regulatory requirements	EDL1	4	It is evident that Western Power has established a strong compliance culture which is reflected in its business management processes as well as in its Asset Management System. Evidence observed includes: • *Compliance Failure Reporting Procedure (Asset Management Process 4.01)* • *Compliance Framework 2017 (Asset Management Process 4.02)* • *Compliance Standard 2017 (Asset Management Process 4.03)* • *Statement of Expectations 2020-21 (Asset Management Process 4.04)*	A	1
		ETL2	4	As for EDL1	A	1

4.4	Service standard (customer service levels etc) are measured and achieved.	EDL1	3	In general, Western Power has a well-founded and well-executed approach for identifying service standards required to address customer needs, and for translating these through their planning mechanisms into network asset-based outcomes and objectives. Corporate objectives were observed to be measured in terms of financial performance. Monthly reports against corporate objectives were also observed in Western Power's Monthly Performance Report for Board Appendices, as noted for EC4.2. Corporate objectives also include the service standard benchmarks understood to have been agreed with ERA as a part of the Approved Access Arrangement. Reporting on performance took various forms subject to the area of focus, but in general high-level performance reporting against performance standards was observed to be consistently undertaken across all functional areas observed as required in accordance with the Electricity Networks Access Code (*Service Standard Performance Report 2019 (Asset Management Process 4.22*)). Based on the observed artefacts, the majority of targets appear to have been achieved. Those targets that appear not to have been achieved varied between the evidence samples with no obvious pattern observed. Samples were seen for: • April 2020 Appendix (Asset Management Process 5.08), • June 2019 Appendix (Asset Management Process 5.09), and • June 2018 Appendix (Asset Management Process 5.10). A set of asset performance reports were also observed and showed levels of achievement of targets. Reports reviewed include: • *Asset Performance Quarterly Report FY 2018/19 Quarter 4 (D.84.01),* • *Asset Performance Quarterly Report FY 2019/20 Quarter 2 (D.84.02).* It was also observed that specific projects have service levels defined such as the SPS initiative.	A	1

				The *Electricity Networks Access Code 2004 - Service Standard Performance Reports* show that: • FY18 performance: During the 2017/18 period, Western Power's overall performance surpassed the required levels in 14 of the 17 service standard benchmarks. o Distribution performance surpassed the required level for all nine service standard benchmarks. o Performance against target improved in 10 of the 17 service standard benchmarks. o The benchmark was not met for the following transmission network service standard benchmarks: ▪ System Minutes Interrupted – Meshed Network. ▪ System Minutes Interrupted – Radial Network. ▪ Loss of Supply Events >1 system minute interrupted • FY19 performance: During the 2018/19 period, Western Power's overall performance surpassed the required levels in all 15 SSBs which applied for the period. • FY20 performance: Western Power's overall distribution and transmission network performance was above the required levels for 15 of the 17 SSBs during the 2019/20 period. o The reliability performance of the distribution network was lower in 2019/20 compared to the previous period, with both SAIDI and SAIFI being lower. o All transmission SSBs were achieved during the period.		
		ETL2	3	As for EDL1	A	1

Table 10: Asset Management Process 4 Environmental Analysis

6.4.5 ASSET MANAGEMENT PROCESS 5 ASSET OPERATIONS

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
5.	**Asset operations** Asset operations is the day-to-day running of assets (where the asset is used for its intended purpose).					
		EDL1			**A**	**2**
		ETL2			**B**	**2**

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
5.1	Operational policies and procedures are documented and linked to service levels required	EDL1	4	Western Power demonstrated a comprehensive suite of operational policies and procedures, clearly linked to service levels set for the business through the strategic and business planning process of the company. Evidence observed in support of this is, but not limited the following: • *SOP 164 Restoration of Lines, Feeders, Reclosers & Fuses (Asset Management Process 5.02),* • *G_245_Prioritising Network Restoration Guideline (Asset Management Process 5.03)* • *G 237 Contact Procedure Emergency Service Organisations & Critical Infrastructure (Asset Management Process 5.04)* • *Power Quality Strategy, 2017 (Asset Management Process 5.05)* • *Tx Strategic Spares Standard (Asset Management Process 5.07)* • *Incident Management procedure (Asset Management Process 5.20)* • *Corporate Strategy 2017-2022 (C.05)* • *Asset Management System Description (C.10)* • *Asset Management Objectives Report (C.07)* • *Network Management Plan (C.08)*	A	1
		ETL2	4	As for EDL1	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
5.2	Risk management is applied to prioritise operations tasks	EDL1	2	The identification of risks and the prioritisation of operation responses is a clear feature in the evidence cited in Ref 5.1 above, as well as in the document *G 237 Contact Procedure Emergency Service Organisations & Critical Infrastructure (Asset Management Process 5.04)* In addition to this the document *F 105 Control Room Evacuation & Test Exercises (Asset Management Process 5.01)* demonstrated the understanding of potential risk issues associated with managing the operations centre, and Western Power's preparedness for addressing these risks.	A	1
		ETL2	2	As for 5.2 EDL1. In addition, there is significant overlap of this review area with matters pertaining to Ref. Asset Management Process 9 – Contingency Planning, especially with regards to operational responses to transmission network issues. This area is well treated by Western Power.	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	EDL1	4	This Effectiveness Criteria significantly overlaps with Effectiveness Criteria Ref No. 7.2 Ellipse and Geographical Information System (GIS) are the main software systems for holding asset related information. Evidence was observed of asset data captured into these systems, with reports generated therefrom to facilitate asset-related decision-making. The information, standards and performance reporting indicate significant work is underway to improve the asset register with improved attribute information and monitoring of data quality over time. Through interviews and the evidence provided therein, it was noted that there is further opportunity for improvement to address information gaps which were a result of legacy practices for capturing and warehousing information, primarily paper-based system and local data caching in spreadsheets, etc. Whilst there exist field mobility solutions for capturing and delivering asset data for Distribution assets, these technology solutions have not been developed or deployed for transmission assets. (Refer ETL2 for further commentary) The following documents govern and report on asset information quality (amongst other things): • *Enterprise Data Strategy (Asset Management Process 7.10)* • *Enterprise Data Quality Scorecard (Asset Management Process 7.02)* In this context, nothing has come to our attention that causes us to believe that there are limitations with Distribution asset data that prevents comprehensive asset management	A	2
		ETL2	4	In addition, for some ETL2 transmission and sub-transmission assets Western Power advised that legacy asset information capture and warehousing practices continue to be an issue that prevents the central asset information system from having a complete stock of available asset data. This in particular applies to asset condition and test related data generated and captured as a result of field activities, as opposed to asset	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				genesis data (which is generally created and captured at asset creation/acquisition stages of the lifecycle). Improvements to central data warehousing and quality are made on a needs/piece-meal basis when required as the data held in field locations is typically captured and held in non-structured ways (in paper records or locally held spreadsheets and databases). This prevents the use of automated methods for capturing and centrally warehouse the legacy data. Western Power is aware of this observation and the limitations that it may cause. Consequently, rectification initiatives to capture and centrally record legacy asset data are typically undertaken when required in accordance with the Enterprise Data Strategy.		

5.4	Accounting data is documented for assets	EDL1	4	This Effectiveness Criteria is considered to be detailed individual asset cost data associated with the operation and maintenance of discrete assets, and not an asset system as a whole. It is aimed at collecting information on assets at a granular level. It is noted that this Effectiveness Criteria overlaps significantly with Effectiveness Criteria Ref No. 6.6 and Asset Management Process Ref. No. 7. During virtual on-site interviews, Western Power advised that[5]: *"Western Power's periodic financial reporting processes includes a series of activities that are completed to validate, measure, and summarise the organisation's financial performance and position. These activities include (but is not limited to):* • *revenue and expense recognition* • *account reconciliations (controls and validation)* • *capital work in progress review (validation)* • *capitalisation of capital work in progress into assets* • *disposal of decommissioned or sold assets* • *variance analysis (actual vs budget/forecast)* • *preparation of monthly financial reports including* • *regulatory financial reports"* Further, Western Power demonstrated the relationship between the Fixed Asset Register (where asset value data is captured as parent asset category levels in accordance with standard accounting practices,) and the more granular detail required for the Regulated Asset Base register. Links between the two are established by the key of the project under which the asset was created, with ongoing asset cost data captured through the workorder process noted above and held against the asset in Ellipse.	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				The Review did not observe evidence regarding the use of accounting data being held against individual assets and used in asset-based life-cycle costing calculations as noted elsewhere. Direct linkages from the financial fixed asset register to the Ellipse technical asset register was not identified and the absence of such may cause limitations exist, of both the systems used and the differing compliance requirements associated with the keeping of each register. It is noted that this is typical across asset-intensive industries with high asset volumes and competing regulatory reporting requirements.		
		ETL2	4	As for EDL1	B	2

[5] *Presentation, Day 6 - 02 July 2020 - 1215-1415 - AMSR 2020 - ERA Asset Management Process # 07 - Asset Management Information System - Revision*

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
5.5	Operational costs are measured and monitored	EDL1	4	This Effectiveness Criteria is considered to be high-level operational function cost data associated with the operation and maintenance of the asset system, i.e. the network. It is not aimed at collecting information on assets at a granular level of an asset, as considered for Effectiveness Criteria.5.4. It is evident by the performance reports observed that operational costs are routinely measured and monitored at various levels throughout the organisation. Evidence observed include: • *Western Power Monthly Performance Report for Board* o *April 2020 (Asset Management Process 5.08),* o *June 2019 Appendix (Asset Management Process 5.09), and* o *June 2018 Appendix (Asset Management Process 5.10).* • *Operational Delivery Performance June 2019 (Asset Management Process 6.08)* • *Operational Delivery Performance May 2020 (Asset Management Process 6.09)*	A	1
		ETL2	4	As for EDL1	A	1

5.6	Staff resources are adequate, and staff receive training commensurate with their responsibilities	EDL1	2	Western Power indicated that resource planning is undertaken in response to the development of maintenance and operations plans being developed as part of the annual budgeting cycle through the development of the Delivery Strategy evidence D14, D14.01. These plans appear aligned to forecast and/or actual asset management activity and a breakdown of expected skill-set requirements. A single consolidated plan at the enterprise level was not able to be observed. Resource plans at functional level were more evident, organised along the lines of network asset function (i.e. Distribution Overhead, Distribution Underground, Transmission Overhead and Underground. Western Power demonstrated that resource requirements were supplemented through outsourcing to manage peak workloads, but more generally to target specific projects or asset management activity areas requiring specialised skills, such as for the SPS program and for the Vegetation Management program. Key functional areas such as Operations managed their own training programs at the functional level. In this respect training and competency development frameworks were observed to be established and implemented through the Safety, Environment and Quality Training Function and Network Operations Function. Further, leadership/soft skills competency requirements were centrally identified and developed thorough the corporate HR function, which was also observed. Examples of evidence observed include: • *Capability Establishment Business Case - Standalone Power Systems (Asset Management Process 5.15)* • *Redacted - SPS Capability Deliverables - June 2020 Presentation (Asset Management Process 5.16)* • *Redacted - 'Electrical Safety Certificate SPS (Asset Management Process 5.17)* • *Training and Development of Network Operations Employees (Asset Management Process 5.17)*	B	2

				As a general principle, this structure of devolving technical skill training requirements to functional levels was the common arrangement within Western Power. As such, there appeared to be a consistent understanding of technical training requirements and skill capability at the Head of Function level, but no enterprise-wide view of total resource requirements, skills requirements, succession planning for key technical resources was evident. At the Functional Area level a consistent business-wide view was not strongly evident, It is recognised that adopting a whole of enterprise approach to training and competency requirement is complex and problematic at best due to the wide and varied nature of skill sets requirements. Whilst the establishment of an enterprise-wide resource plan is not essential, a consistently applied framework and structure for the identification of staffing/skills requirements, training and competency requirements devolved to logical functional levels to implement would be expected to be seen in order to satisfy this criterion. In our opinion it would be beneficial for Western Power to develop a human resource planning framework, minimally covering the scope of the asset management system (although, in our opinion an enterprise wide approach would be most beneficial). Ideally this would include policy and procedural requirements to direct the following: • The identification of human resource requirements aligned to Access Arrangement investment plans, developed in a standard form for each functional area as required, so that the various plans can be rolled up and monitored at the enterprise level; • The identification and planning of staff training requirements for those resources, through the development of a staff training plan for each functional area as required, again in a standard enterprise-wide format; and • The development of a skills and resources strategic plan to identify and capture expected future skill/competency requirements to meet the challenges of the changing network operational environment. • This would not necessarily centralise the function, but allow for a framework so that the planning can be undertaken at the functional area level, done in		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				accordance with corporate guidelines so that it can be reviewed and monitored across the asset management system. Although there is opportunity to improve this capability across the Asset Management System (and the organisation), resource levels and skills across system operations and field staff appear adequate. Our assessment for this Effectiveness Criteria (Asset operations) is based on Western Powers approach in relation to these two business functions that are responsible for operating the assets.		
		ETL2	2	As for EDL1	B	2

Table 11: Asset Management Process 5 Asset operations

6.4.6 ASSET MANAGEMENT PROCESS 6 ASSET MAINTENANCE

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
6.	**Asset maintenance** Asset maintenance is the upkeep of assets.					
		EDL1			**A**	**1**

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
		ETL2			**A**	**1**
6.1	Maintenance policies and procedures are documented and linked to service levels required	EDL1	4	Strong evidence of a robust maintenance policy framework being available and implemented by Western Power was observed. Evidence in this respect includes, but is not limited to: • *Distribution Network Maintenance Strategy (Asset Management Process 6.12)* • *Distribution Easement and Vegetation Strategy, 2017 (Asset Management Process 6.02)* • *Distribution Transformer Reuse criteria, 2017 (Asset Management Process 6.04)*	A	1
		ETL2	4	As for EDL1. Evidence includes: • *Transmission Network Maintenance Strategy, 2017 (Asset Management Process 6.01)* • *Transmission Structure Transmission Lines Strategy, 2017 (Asset Management Process 6.03)*	A	1
6.2	Regular inspections are undertaken of	EDL1	2	As for Effectiveness Criteria Ref. No. 6.1. Additional evidence includes: • *Operational Delivery Performance June 2019 (Asset Management Process 6.08)*	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	asset performance and condition			• *Operational Delivery Performance May 2020 (Asset Management Process 6.09)* • *Service Condition Connection Monitoring (SCCM) OCSC Business Case (Asset Management Process 6.10)* • *Service Condition Connection Monitoring (SCCM) OCSC Business Case Stage 2 2021-22 (Asset Management Process 6.11)*		
		ETL2	2	As for EDL1	A	1
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	EDL1	4	Strong evidence of a robust maintenance policy framework being available and implemented by Western Power was observed. Evidence in this respect includes, but is not limited to: • *FY 19-20 Works Plan Overview (Asset Management Process 6.06)* • *FY 19-20 Internal & External Allocation Supporting Documents (Asset Management Process 6.07)* • *Operational Delivery Performance June 2019 (Asset Management Process 6.08)* • *Operational Delivery Performance May 2020 (Asset Management Process 6.09)*	A	1
		ETL2	4	As for EDL1	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary	EDL1	4	Western Power demonstrated a robust approach to analysing and understanding asset condition and performance issues, and the intelligence thus gained feeding into to the asset class plans and asset management strategies. Evidence to this effect includes: • *Distribution Structures Asset Management Strategy, 2017 (Asset Management Process 3.02)* • *Distribution Conductors Asset Management Strategy, 2017 (Asset Management Process 3.03)*	A	1
		ETL2	4	As for EDL1. Evidence includes: • *Transmission Circuit Breaker Switchboards Strategy, 2017 (Asset Management Process 3.04)* • *Transmission Power Transformer Detailed Strategy, 2017 (Asset Management Process 3.05)*	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
6.5	Risk management is applied to prioritise maintenance tasks	EDL1	4	Western Power demonstrated a substantial history in using risk to prioritise maintenance tasks. The ongoing application and development of the Zone Based Asset Management philosophy, combined with the Sniper Program and Priority Action Required (PAR) activities establish a comprehensive risk-based framework for targeting defects in conjunction with routine maintenance activities (in the interests of optimising maintenance efficiency as well). Ongoing development and integration of these approaches has led to the development of a rules-based engine for the identification and prioritisation of routine tasks on the basis of addressing risk factors (such as public safety, bushfire prevention, reliability performance). Where the rules/automated assessments are not able to inform the prioritisation, this is done manually in accordance with risk factors and risk management requirements of the business. In particular, Western Power uses a suite of in-house developed decision support tools to determine risk-based maintenance requirements, such as: "Structured Tools" and the "Rules Engine" for selection / prioritisation for Distribution Overhead corridor assets replacement Zonal and Sniper Work; and The "Rules Engine" for the selection of PAR and bushfire defect rectification activities. Refer to Effectiveness Criteria Ref No. 6.4 for supporting evidence cited thereto.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
		ETL2	4	Priorities are determined manually due to the unique nature and scale of transmission assets, in accordance with the requirements of the Transmission Network Maintenance Strategy. Western Power advised that: • *"A risk ranking methodology is applied to monitor and assess current and emerging asset issues (corrective Work Orders) to assist in prioritization of work.* • *Substations are ranked by risk of highest impact failure modes (heavily focused on transformer and oil-filled circuit breaker failure) and volume of corrective work* • *All corrective work that can be is reprioritised to align with scheduled maintenance to improve delivery by reducing travel and network access requirements."* Refer to Effectiveness Criteria Ref No. 6.4 for supporting evidence cited thereto.	A	1
6.6	Maintenance costs are measured and monitored	EDL1	4	**This Effectiveness Criteria overlaps with Effectiveness Criteria Ref. 5.5.** **Similar to Effectiveness Criteria 5.5, this Effectiveness Criteria is considered to be high-level maintenance cost data associated with an asset system managed at a functional level, e.g. Distribution Overhead Head Mains Maintenance, etc. It is not aimed at collecting information on assets at a granular level of an asset, as considered for Effectiveness Criteria.5.4.** Western Power demonstrated a comprehensive and rigorous approach to measuring and monitoring maintenance performance on activity level and cost bases. Reports on	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				this against plan are routinely presented to the leadership team for review and governance requirements. Much of the data and reports therefrom are provided directly and in real-time from Western Power's business reporting system CoRE as evidenced by the *"Project Status Reports Works Maintenance May 2020 Extract of pages 1-21" (Asset Management Process 6.05)* Other evidence observed includes: • *Western Power Monthly Performance Reports for Board (Appendices) (Asset Management Process 5.08, Asset Management Process 5.09, Asset Management Process 5.10); and* • *Operational Delivery Performance Reports (Asset Management Process 5.13, Asset Management Process 5.14).*		
		ETL2	4	As for EDL1	A	1

Table 12: Asset Management Process 6 Asset maintenance

6.4.7 ASSET MANAGEMENT PROCESS 7 ASSET MANAGEMENT INFORMATION SYSTEMS

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
7.	**Asset management information system** An asset management information system is a combination of processes, data and software supporting the asset management functions.					
		EDL1			**B**	**2**
		ETL2			**B**	**2**
7.1	Adequate system documentation for users and IT operators	EDL1	4	Western Power's performance in relation to this Effectiveness Criteria over the Review Period is considered adequate. We note that there is an opportunity for Western Power to improve in this area to prevent the opportunity deteriorating into a higher criticality issue over the next Review Period. Responsibility for the management of system documentation for users appears to be assigned to individual system managers. During the interviews a Wiki site was observed being maintained for GIS usage, providing current examples of information standards to be used, outside of the document management system and processes. SPIDAEdit Updating is stored in Confluence. As noted in the *Asset Information Management Strategy, 2018* (Asset Management Process 7.03) there is a roadmap flagging the need for improved workforce knowledge of existing tools & systems and to consider formal training (through e-learning or classroom methods). This was intended to be completed by December 2018. The *Asset Management System Description* (D.77.01) outlines the process on how to support user and IT operators with current documentation. It is observed however that	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				the process outlined in this document is not at present being followed uniformly across the enterprise.		
		ETL2	4	As for EDL1	B	2
7.2	Input controls include appropriate verification and validation of data entered into the system	EDL1	2	The *Asset Information Management Strategy, 2018* (Asset Management Process 7.03) identified in 2018 that…. *"just 67% of respondents considered data to be fit for purpose" and a similar result for systems.* An improvement plan was subsequently defined for 2019 to 2021. The *Enterprise Data Strategy* (Asset Management Process 7.10) was approved in 2019, and recognised a set of issues with the current system for information, including inefficient, unreliable, and duplicative uses of data, variable and inconsistent data management practices and multiple siloed sources of data with limited to no controls on coding or rules. It established a range of strategies to address the identified issues. The *Enterprise Data Quality Scorecard* (Asset Management Process 7.02) is a positive and key tool to raise visibility and knowledge of Western Power's data quality, and to *"assist in … knowing which data to trust…(and in) determining areas of poor data quality"*. For Q3 2019/20, Western Power identified quality issues with: • 16 of the existing 51 metrics for Plan the Network, • 8 of the existing 15 metrics for Operate the Network, • 5 of the 18 metrics for Maintain the Network, and	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• All metrics for Build the Network. Progress appears to have been achieved over the period in improving the monitoring of data quality at the enterprise level, including asset management system information. This is seen in the development of an information architecture for the data landscape, the development and implementation of governance and reporting, the development of data value chains. These is a recognised need for further activities to embed and mature the enterprise data strategy as presented in the interviews, and in our opinion it would be beneficial for Western Power to pursue this opportunity over the next Review Period.		
		ETL2	2	As for EDL1	B	2
7.3	Security access controls appear adequate, such as passwords	EDL1	2	The *Asset Data System Access Work Instruction* (Asset Management Process 7.04) provides appropriate processes for governing the granting of access to various systems including Asset Management Process Dx and Tx, Ellipse SPIDA, TRIS. It is overdue for review or retirement. The maintaining of user and IT operator documentation is addressed in the recommendation for EC7.1. *Information Access Provisioning Guideline* (Asset Management Process 7.05) (2018) provides a procedure with roles and responsibilities for information access approval and review as part of the information governance. The document is in draft. The maintaining of user and IT operator documentation is addressed in the recommendation for EC7.1. *Information Access Provisioning Guideline* (Asset Management Process 7.05) (2018) notes system access to core systems is provided through ServiceNow, as advised in the	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				interviews. This includes processes for approval to access the data warehouse and BI tools, regular reviews of access, and a termination process. The *Network Operations Resources Request Management* (PoF Access) (Asset Management Process 7.06) has been updated to change instructions from paper form to ServiceNow form. A change log for system access and updates *ICT Change Request Register* (Asset Management Process 7.17) was observed indicating various stages of access approvals for multiple systems. *Cyber Security Strategy & Roadmap* (Asset Management Process 7.07) (2019) sets out the assessment of cyber risks and initiatives for addressing these risks. The first governance initiative is to create a *Cyber Security Standard* (Asset Management Process 7.01). This has been created to set various principles for cyber security including identification and access management. This document states that passwords are established and maintained in alignment with the Western Power Password Management Guideline, which is yet to be created. The maintaining of user and IT operator documentation is addressed in the recommendation for EC7.1. However, given that the process is still in development it was difficult to see how the security procedures were fully effective in this respect. AMCL did not observe actions that would have suggested that the approach employed was ineffective.		
		ETL2	2	As for EDL1	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
7.4	Physical security access controls appear adequate	EDL1	2	The *Cyber Security Strategy & Roadmap* (Asset Management Process 7.07) includes reference to the *Physical Security Strategy* (Asset Management Process 7.11) (2018). The scope of Asset Management Process 7.11 covers the delivery of appropriate security solutions and support for the physical security needs of the organisation relating to personnel, telecommunications, depots, substations and primary and secondary systems. Records of data centre access was provided including *Data Centre Access Report for October 2019* (Asset Management Process 7.18) and *Data Centre Access Report for June 2020* (Asset Management Process 7.19). These records have been provided showing personnel granted entry by date and time. The Review noted that there is an ongoing development and implementation of *Cyber Security Strategy and Roadmap (*Asset Management Process 7.07) with further processes identified to be developed and documented.	B	2
		ETL2	2	As for EDL1.	B	2
7.5	Data backup procedures appear adequate and backups are tested	EDL1	2	Interviews revealed that an *ICT Backup and Recovery Standard* (Asset Management Process 7.12) (unapproved) exists, and the document covers backups and recovery. The interviews indicated backup of core systems occur regularly and data is stored in multiple secure locations. Nothing has come to our attentions that causes us to believe that Western Power has not met the requirements of this Effectiveness Criteria in all material respects.	A	1
		ETL2	2	As for EDL1.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
7.6	Computations for licensee performance reporting are materially accurate	EDL1	4	A set of reports have been identified and developed to meet licensee performance reporting requirements for a range of consumers/users and include regulatory stakeholders, as presented in the interview. It was stated there were 275 license obligations. Reports are generated from enterprise systems including PowerOn Fusion, Oracle and Qlik. Sample reports observed were the *2017-18 Annual Performance Report - Metering Code (Public document)* (Asset Management Process 7.20) and *2018-19 Annual Performance Report - Metering Code (Public document)* (Asset Management Process 7.22). Associated checklists were provided as part of the Financial Year Reporting timetable and checklists (Asset Management Process 7.21 and Asset Management Process 7.23). However, Western Power recognise that while reporting of current computations is deemed appropriate, a roadmap is being followed for further data quality monitoring and system improvements.	B	1
		ETL2	4	As for EDL1.	B	1
7.7	Management reports appear adequate for the licensee to monitor licence obligations	EDL1	3	The *Asset Management System Description* (C.10) lists key documents for each of the four stakeholder groups, viz: • Shareholders and customers, • Regulators, • Board, Executive, Senior Leadership Teams, and	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• Asset Managers & Process owners. This document includes processes for the preparation of key reports. A sample list of reports was presented in the interview with a list of twenty-three report types for a range of purposes with a range of internal stakeholders at various levels through the business and include reports forwarded to external stakeholders. A selection of reports has been reviewed: • *Asset Performance Quarterly Report FY 2019/20 Quarter 1* (Asset Management Process 5.27) • *Western Power Monthly Performance Report for Board-April 2020 Appendix* (Asset Management Process 5.08) • *Western Power Monthly Performance Report for Board-June 2019 Appendix* (Asset Management Process 5.09) • *Western Power Monthly Performance Report for Board-June 2018 Appendix* (Asset Management Process 5.10) • *Project Status report Major Works April 2020* (Asset Management Process 11.09) • *Operational Delivery Performance June 2019* (Asset Management Process *6.08*) • *Operational Delivery Performance May 2020* (Asset Management Process 6.09) These appear to satisfy the requirements of this criterion.		
		ETL2	3	As for EDL1.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
7.8	Adequate measures to protect asset management data from unauthorised access or theft by persons outside the organisation	EDL1	2	The *Cyber Security Strategy & Roadmap* (Asset Management Process 7.07) (updated 2019) shows a clear understanding of the current state, challenges, strategy, and required initiatives to address risks. The document reports on monitoring activities and indicates improvement since June 2018 up to October 2019. Initiatives cover five areas of Governance, Technical Controls, People and Awareness and Data Protection, Threat Detection & Response. Evidence of the progress and delivery of initiatives included the completed *Cyber Security Standard* (Asset Management Process 7.01) (2019) and the Secure Data Warehouse. Other projects are ongoing as noted in the *Cyber Security Program Steering Committee Meeting #13 Presentation May 2020* (Asset Management Process 7.09). The *Quarterly Cyber Security Report Quarter 3 2019-2020* (Asset Management Process 7.08) for the April 2020 meeting indicated that progress was being made on the implementation of the Cyber Security Strategy, and reported on ongoing assurance activities, and notably included adjustments to practices due to COVID 19 practices. The report included a discussion of progress in achieving the performance indicators identified in the *Cyber Security Strategy & Roadmap* (Asset Management Process 7.07). The Review noted that Western Power is embarking on an improvement program with respect to this criterion, it was evident that some improvements in process and therefore attendant improvement in effectiveness would be required to fully address this area.	B	2
		ETL2	2	As for EDL1	B	2

Table 13: Asset Management Process 7 Asset management information system

6.4.8 ASSET MANAGEMENT PROCESS 8 RISK MANAGEMENT

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
8.	**Risk management** Risk management involves the identification of risks and their management within an acceptable level of risk.					
		EDL1			**A**	**1**
		ETL2			**A**	**1**
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks	EDL1	2	Western Power demonstrated a comprehensive, enterprise-wide approach to understanding and mitigating business and network risk, and this was clearly promulgated across functional areas, and devolved down through key asset management processes. Traditionally, network businesses have executed operating, maintenance and asset investment processes to address implied risk. Western Power demonstrated an elevation of this into a clear understanding and demonstration of the various risks posed by the presence and operation of the network in the public environment. Risks, whether they be commercial, reputational, asset performance related, network performance related, public and worker safety, or reputational were clearly identified in various relevant strategies. Risk management plans appear to have been developed to achieve "As Low As Reasonably Practicable" risk outcomes through various risk mitigation measures, using modern risk evaluation techniques such as Bow-Tie and/or Barrier Threat processes to identify, understand and develop risk mitigation measures.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Evidence observed in support of this assessment include, but is not necessarily limited to, the following: • Business Continuity Management Standard 2017 (Asset Management Process 8.01) • Network Safety Strategy, 2017 (Asset Management Process 8.03) • Bushfire Risk Mitigation Strategy, 2017 (Asset Management Process 8.04) • Extract from Network Risk Register for In-Service Assets (Asset Management Process 8.05) • Network Risk Management Standard, 2019 (Asset Management Process 8.06) • Extract from Legislative Obligations Compliance Plan -Engineering & Design (Asset Management Process 8.07) • Extract from Legislative Obligations Compliance Plan - Grid Transformation (Asset Management Process 8.08) • Extract from Legislative Obligations Compliance Plan - Safety, Environment, Quality & Training (Asset Management Process 8.09) • HAY & MIL Switchboard Refurbishment Business Case (Asset Management Process 8.10) • Organisational Resilience Framework (Asset Management Process 8.11) • Enterprise Risk Assessment Criteria (Asset Management Process 8.12) • Enterprise Risk Management Standard (Asset Management Process 8.13)		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
		ETL2	2	As for EDL1	A	1
8.2	Risks are documented in a risk register and treatment plans are actioned and monitored	EDL1	2	• The narrative for Effectiveness Criteria Ref 8.1 informs the assessment for this Effectiveness Criteria as well. In addition, observed evidence includes: • *Sample from Western Power Cyber Security Risk register (Asset Management Process 8.02)* • *Extract from Network Risk Register for In-Service Assets (Asset Management Process 8.05)* • *Extract from Legislative Obligations Compliance Plan -Engineering & Design (Asset Management Process 8.07)* • *Extract from Legislative Obligations Compliance Plan - Grid Transformation (Asset Management Process 8.08)* • *Extract from Legislative Obligations Compliance Plan - Safety, Environment, Quality & Training (Asset Management Process 8.09)* • *Enterprise Risk Assessment Criteria (Asset Management Process 8.12)*	A	1
		ETL2	2	As for EDL2	A	1

8.3	The probability and consequences of asset failure are regularly assessed	EDL1	4	In general, quantitative risk assessments appear to be developed and applied for asset failures within the distribution network, particularly in relation to public safety and bushfire risk. As noted elsewhere, Western Power have developed models and decision support tools that calculate risk and use these to determine priorities for asset management activities and investments. The narrative informing the assessment for Effectiveness Criteria Ref. No.'s 6.4 and 6.5 also inform this assessment and are not repeated here. Evidence observed includes: • *Distribution Structures Asset Management Strategy, 2017* (Asset Management Process 3.02) • *Distribution Conductors Asset Management Strategy, 2017* (Asset Management Process 3.03) • *Bushfire Risk Mitigation Strategy, 2017* (Asset Management Process 8.04) There was an observable tendency for Western Power to rely upon qualitative assessments and not evaluate and consider quantitative risk calculations in business cases for some investment or activities, particularly those where the need was an identified risk issue (such as safety or asset failure leading to a loss of network capability or supply). As an example, the *Asset Management Strategy for Distribution Conductors* (Asset Management Process 3.03) states *"challenge exists for Western Power in determining the condition of the rest of the conductors not covered by the categories above"* It is observed that whilst the Network Risk Management Standard (NRMS) is generally sound and there is clear demonstrable intent to reflect risk outcomes in asset-management decision making, the calculation and quantification of risk outcomes in a uniform "currency" for the asset management system (or for the enterprise as a whole) is not evident.	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				For example, it is possible and indeed worthwhile to consider whether the Value of Statistical Life is factored into safety risk outcome deliberations, whether Value of Customer Reliability is factored into reliability and capacity investments, and whether there is a value placed upon reputational risk impacts, etc. However, it is acknowledged that such exercises are non-trivial, but also that other network businesses across Australia are doing this. Without this, risk outcomes of asset management decisions remain qualitive and therefore potentially frustrate the ability to objectively justify and prioritise different activities or investment decisions. Whilst there is an opportunity to improve the monetisation of risk within cost evaluations (refer to Effectiveness criteria 1.5 and 2.2), the probability and consequences of asset failure appear to be regularly assessed (qualitatively or quantitatively).		

		ETL2	4	In addition to the above assessment for EDL1, it was observed that this area was more lacking in relation to transmission assets investment decision making. In general, risk issues based on poor asset condition (for example) or potential shortfalls in supply capacity and system security have long-been able to be determined, and indeed are used across the industry. This is because of the unique singly-identifiable nature of the state of transmission assets, and the predictable failure modes and the subsequent network states that a failure would result in. Western Power developed the *Risk Based Capacity Planning Methodology (Asset Management Process1.05)* in 2017 and, partly as an action against Rec 2/2017 worked with the ERA to apply this methodology on an interim basis in some cases whilst a proposed review of the Technical Rules was being considered. The risk-based planning methodology requires, amongst other things an assessment and quantification of the amount of load at risk as part of the determination of the requirement to replace or enhance capacity at a particular location. Given this, it would have been expected that safety or customer service levels outcomes for the projects reviewed would include an assessment of quantified risk outcomes, and it is normally expected that these outcomes would be monetised and factored into the proposed investments business cases. This was unable to be observed in any of the following examples: • *HAY & MIL Switchboard Refurbishment Business Case* (Asset Management Process 8.10) • *Picton Transformer Replacement Business Case* (Asset Management Process 3.08) • *Kemerton Transformer Replacement/Capacity Upgrade Business Case* (Asset Management Process 2.07) The assessment of pre and post investment risk outcomes tended to be at the discussion level, or qualitative at best (albeit in a manner seemingly consistent with the enterprise risk management framework guidelines).	B	2

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				Little evidence was observed that the initial foray into using risk-based planning methodologies had gathered momentum in relation to its application for the planning of asset renewal or capacity upgrades. Further, Western Power's *Investment Governance Framework (Asset Management Process 10.02)* requires that[6].... *"...financial capital is allocated and managed consistently across the Investment lifecycle and drives Investments to achieve strategic objectives by ensuring Investments:* • *Demonstrate value for money* • *Maximise shareholder value* • *Are economically justified with appropriate evidence supporting the Investment driver with expected outcomes captured through measurable Benefits* • *Mitigate corporate risks by supporting Investments needed for risk controls and treatments."* For the projects reviewed the absence of risk quantification or any assessment of quantifiable benefits in measurable terms, together with the lack of comprehensive life-cycle costing data being considered in asset investment decisions, as noted previously, indicates that the requirements of the IGF are not being adhered to. Whilst there is a deficiency in relation to the monetisation of risk within cost evaluations (refer to Effectiveness criteria 1.5 and 2.2), the probability and consequences of asset failure appear to be regularly assessed using various means (qualitatively or quantitatively).		

Table 14: Asset Management Process 8 Risk Management

[6] *Page 11, Investment Governance Framework, 15/7/2019, EDM 34147155*

6.4.9 ASSET MANAGEMENT PROCESS 9 CONTINGENCY PLANNING

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
9.	**Contingency planning** Contingency plans document the steps to deal with the unexpected failure of an asset.					
		EDL1			**A**	**1**
		ETL2			**A**	**1**
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	EDL1	2	*Western Power demonstrated a well-considered, diligent, and thorough approach to understanding and preparing for major contingency events. This includes a comprehensive documentation suite covering emergency management planning, specific contingency event planning, recovery operational procedure planning, testing of contingency plans for effectiveness and organisational preparedness, and post-incident reviews.* *Evidenced observed includes* • *Network Emergency Management Plan (Asset Management Process 9.01)* • *SOP 126 Manual Operation of the Network Following Failure of Critical Systems (Asset Management Process 9.02)* • *G 367 Contingency Plan-Earthquake (Asset Management Process 9.03)* • *G 368 Contingency Plan-Flood, Major Storm and Cyclone (Asset Management Process 9.04)*	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• *G 380 Network Operations Guide to Emergency Levels with System Change Restrict (Asset Management Process 9.05)* • *G 386 Network Emergency Levels (Asset Management Process 9.06)* • *G 315 Pandemic Epidemic Guideline (Asset Management Process 9.07)* • *MS 026 Management Standard - Contingency Planning (Asset Management Process 9.08)* • *ENAR TX Outage Report 26th May 2020 (Asset Management Process 9.09)* • *SOP 104 Secondary Control Centre Activation, 2019 (Asset Management Process 9.10)* • *Crisis Management Plan, 2020 (Asset Management Process 9.11)* • *Criticality Framework for Terminal Substations, 2015 (Asset Management Process 9.12)* • *Annual Senior Leadership Team Bushfire Preparedness Post Exercise Report (Asset Management Process 9.13)* • *Annual Bushfire SLT Preparedness Exercise November 2019 (Asset Management Process 9.14)* • *Playbook - Incident Controller - Preparedness and Response (Asset Management Process 9.15)* Other evidence includes: • *Mogumber Bushfire - December 2019 PIR (Asset Management Process 4.07)*		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• *Extract from Yanchep & Two Rocks Bushfire PIR (Asset Management Process 4.23)* • *Extract from Generation Failure PIR (Asset Management Process 4.24)*		
		ETL2	2	As for EDL1	A	1

Table 15: Asset Management Process 9 Contingency planning

6.4.10 ASSET MANAGEMENT PROCESS 10 FINANCIAL PLANNING

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
10.	**Financial planning** Financial brings together the financial elements of the service delivery to ensure its financial viability over the long term.					
		EDL1			**A**	**1**
		ETL2			**A**	**1**

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives	EDL1	4	The *Draft Statement of Corporate Intent 2020/21 (Dec 2019)* (Asset Management Process 10.01) states the financial objectives in terms of performance measures and finances. Performance measures are detailed as government goals, objectives, desired outcomes, measures and targets for 2019/2020 and 2020/2021. Financial targets are set for Borrowings, Accounting policy, Pricing – Network Pricing and Tariffs and Dividend Policy and Community Service Obligations. The *Statement of Expectations for 2020-21* (replacing the *Strategic Development Plan)* (Asset Management Process 4.14) provides management responses to strategic and operational risks impacting business activities and addresses the delivery of Government policy objectives. The *10 Year Business Plan-Executive Presentation June 2019* (Asset Management Process 10.12) identified issues with Access Arrangement 4 (AA4), AA5, Access code uncertainty and new revenue and investment opportunities. High-level strategies and actions were stated to address the issues.	A	1
		ETL2	4	As for EDL1	A	1
10.2	The financial plan identifies the source of funds for capital	EDL1	4	The *Draft Statement of Corporate Intent 2020/21 (Dec 2019)* (Asset Management Process 10.01) identifies the high-level source of funds including Borrowings, Pricing (Network Pricing) and Tariffs, and Community Service Obligation requirements. The *Statement of Expectations for 2020-21* (Asset Management Process 4.14) identifies the source of funds for capital expenditure and recurrent costs.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	expenditure and recurrent costs			The *10 Year Business Plan-Executive Presentation June 2019* (Asset Management Process 10.12) identifies the sources of funding for capital expenditure and recurrent costs. The *Portfolio Management Standard, 2019* (Asset Management Process 10.10) defines the investment portfolios and whether they are considered capital or recurrent. The *Network Plan - Network Plan Volumes and Expenditure* (C.09) provides the volumes of capital (capex) and operating expense (opex) plans, with opex split between Distribution and Transmission and subdivided into appropriate regulatory expense categories.		
		ETL2	4	As for EDL1	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	EDL1	4	The *10 Year Business Plan-Executive Presentation June 2019* (Asset Management Process 10.12) provides 10-year projections of operating statements and investment for two key operating environment scenarios (*SPS unregulated,* and *Traditional Asset Replacement*). Reports were sighted that provide statements of operating statements and statements of financial position: • *Western Power Monthly Performance Report for Board-April 2020 Appendix* (Asset Management Process 5.08) • *Western Power Monthly Performance Report for Board-June 2019 Appendix* (Asset Management Process 5.09) • *Western Power Monthly Performance Report for Board-June 2018 Appendix* (Asset Management Process 5.10)	A	1
		ETL2	4	As for EDL1	A	1
10.4	The financial plan provides firm predictions on income for the next five years and reasonable	EDL1	4	The *10 Year Business Plan-Executive Presentation June 2019* (Asset Management Process 10.12) provides predictions over the next 10 years for the two key scenarios noted above. The *Investment Governance Framework 2019* (Asset Management Process 10.02) defines roles and responsibilities for management of regulated revenue funding for investment activities.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	indicative predictions beyond this period	ETL2	4	As for EDL1	A	1
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	EDL1	3	The *Portfolio Management Standard* (Asset Management Process 10.10) provides definitions for twenty-four financial portfolios covering operations and maintenance, administration and capital expenditure requirements of the services. The *10 Year Business Plan-Executive Presentation June 2019* (Asset Management Process 10.12) provides actuals, current and predictions over the next 10 years for Network, Customer and Business Support.	A	1
		ETL2	3	As for EDL1	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
10.6	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	EDL1	4	The *10 Year Business Plan-Executive Presentation June 2019* (Asset Management Process 10.12) provides a review of AA4 and forecasts for AA5. A range of issues are identified for the AA4 that impact on investment and regulatory compliance and achieving of efficiency savings. Issues are being identified for AA5 around investment and performance, that has prompted a strategy review. Reports were sighted that provide variances in budget and cashflow: • *Western Power Monthly Performance Report for Board-April 2020 Appendix (Asset Management Process 5.08)* • *Western Power Monthly Performance Report for Board-June 2019 Appendix (Asset Management Process 5.09)* • *Western Power Monthly Performance Report for Board-June 2018 Appendix (Asset Management Process 5.10)*	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
		ETL2	4	As for EDL1 The *Project Management IGF Health Check Badgingarra Wind Farm July 2019* (Asset Management Process 10.13) identified issues with the project moving through Gate 3 on an estimate that is less detailed than a Planning phase estimate. Findings of the health check included an adverse impact and risk to cashflow and a potential risk to customer satisfaction from significant variances in estimates. In addition, several governance documents were observed that sought Change Control Approval for expenditure programs, pre and post program completion, to adjust activity levels and for performance against budget forecasts to flow through the expenditure planning process. Additional evidence observed included: • *Change Control - Scope & Budget - (TX Wood Pole Management FY 2018/19) (Asset Management Process 11.06)* • *Change Control - Scope & Budget (TX Substation ARP FY 2018 to 2020) (Asset Management Process 11.08)* • *Post Implementation Review (PIR) stablish New Substation at QEII Medical Centre (Asset Management Process 11.07)*	A	1

Table 16: Asset Management Process 10 Financial planning

6.4.11 ASSET MANAGEMENT PROCESS 11 CAPITAL EXPENDITURE PLANNING

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
11.	**Capital Expenditure Planning** The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure for these works over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates.					
		EDL1			**A**	**1**
		ETL2			**A**	**1**
11.1	There is a capital expenditure plan covering works to be undertaken, actions proposed, responsibilities and dates	EDL1	4	The *Portfolio Management Standard, 2019* (Asset Management Process 10.10) provides the overview and process to develop the business plan, which includes the network level investment portfolio. This process considers the investment strategy and utilises a bottom-up approach to portfolio construction to develop the network plan. The *Network Plan - Network Plan Volumes and Expenditure* (C.09) provides a plan for works delivery of FY20/21 Works Program and out to FY29/30 for capital expenditure. Capital costs are grouped in line with the *Portfolio Management Standard* (Asset Management Process 10.10). The plan includes a list of stakeholders who had been consulted in the preparation of the plan, as well as an overview and statement of progress of the planning process.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
		ETL2	2	As for EDL1.	A	1
11.2	The capital expenditure plan provides reasons for capital expenditure and timing of expenditure	EDL1	3	The *Network Plan - Network Plan Volumes and Expenditure* (C.09) provides reasons for capital expenditure considering the corporate goals, business strategy, network vision and key network objectives, and recognises the challenges of balancing financial, cost and risk of an aging network and emerging issues. Capital costs for the distribution network specifically called out undergrounding in the Metro region and SPS in far regional areas. Highlighted capital costs for the transmission network included security, aging Tx assets, capacity expansion, growing risks with aging assets, SCADA, comms, and metering. The plan provides an indication of the capex works with costs for each year of the planning period, categorised by Dx or Tx, the regulatory category and the capex program.	A	1
		ETL2	3	As for EDL1.	A	1
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the	EDL1	2	The strategies stated in The *Network Plan - Network Plan Volumes and Expenditure* (C.09) include the application of strategies for SPS and undergrounding of distribution cable. Based on the interviews it was observed the trials of SPS have moved beyond a single site, is of significant benefit to Western Power, and is expected to become an important strategy for meeting customer service levels in remote areas in a more cost- efficient manner than renewal of the existing aged distribution network. The strategy therefore	B	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
	asset management plan			yields benefits beyond reliability improvement, but also provides benefits in the long-term reduction of the cost-to-serve remote customers. It was observed that these two strategies are only briefly mentioned in the Network Development Plan (Asset Management Process 1.08) and not mentioned in the Network Management Plan (C.08). As the Network Development Plan and Network Management Plan have significant impact on the business plan and are meant to be the current strategy to inform the investment strategy and Network Plan, they need to reflect current strategy. The Network Management Plan (C.08) has not been updated since 2016, and as with the Network Development Plan the strategies are no longer aligned with the current Network Plan. The Network Management Plan is dated August 2017, due for review one year later by August 2018, but has been delayed to December 2021, so the currency of the document is considered low for use in the current Network Plan. The Network Development Plan is dated June 2017 and is meant to be refreshed annually, so the currency of the document is also considered low for use in the Network Plan. In addition to the above, the commentary provided for Effectiveness Criteria 1.5 and 2.2 regarding the use of risk costing data and quantifiable outcomes in investment business cases also applies to this Effectiveness Criteria. It is not repeated here, however, with the performance ratings given for this Effectiveness Criteria pertaining only to the issues raised above.		
		ETL2	2	As for EDL1.	B	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and implemented	EDL1	4	The *Portfolio Management Standard, 2019* (Asset Management Process 10.10) provides for the yearly development of the *Network Plan - Network Plan Volumes and Expenditure* (C.09), with the process starting in October and considering portfolio and project level requirements. The Network Delivery Strategy FY 19-20 - Distribution and Transmission, (Sep 2018: Mar 2019) (Asset Management Process11.01) is focused on delivering the 2019/2020 Network Plan, with a particular focus on using the appropriate mix of internal and external resources, in a way that aligns with the corporate objectives. Success has been defined through a series of key performance measures including: • Achieving safety targets • Deliver the target proportion of the Network Delivery Plan • Achieve high utilisation target levels of internal resources. • Competitively tender all work allocated to the external workforce • Achieve audit conformance of the work completed. Prior year's results for the key performance measures are shown in *Network Delivery Strategy - Distribution and Transmission 20/21* (Asset Management Process5.30). The IGF Compliance Report - October 2019 Meeting - IRC Paper (Asset Management Process 11.13) demonstrated monitoring of the investment and project gateway activities and satisfactory compliance. The *IGF Compliance Report - February 2020 Meeting - IRC Paper (Asset Management Process 11.14)* indicated compliance with the investment gateway requirements but not	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				with the project gate compliance target. Analysis of the non-compliance identified issues including: • projects commencing prior to appropriate approvals in place, • mandatory documentation not existing or appropriately stored, or • project gates being approved by the delivery team. This was explored by Western Power in detail in *Project Management IGF Health Check Review February 2019* (Asset Management Process 11.17). The system used to store project data is OPPM[7]. Several sample data check reports were provided and reviewed including *OPPM Monthly Data Checks January 2020* (Asset Management Process 11.16). The report reviewed a range of data values to check project data quality. The *Change Control Guideline, 2019* (Asset Management Process 11.02) sets the criteria for when a change control needs to be completed. Criteria are associated with changes in scope, value, schedule and benefits. Evidence observed of application of the Change Control process, covering Scope and Budget changes, included: • *TX Wood Pole Management FY 2018/19* (Asset Management Process 11.06)		

[7] OPPM: Oracle Primavera Project Management

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				• *Transmission Substation Asset Replacement Program (Tx Substation ARP) FY 2018 to 2020* (Asset Management Process 11.08) Further, the Project Status Report *Major Works April 2020 (Asset Management Process 11.09)* showed evidence of the change control for the *Tx Substation ARP* (Asset Management Process 11.08) being applied.		
		ETL2	4	As for EDL1.	A	1

Table 17: Asset Management Process 11 Capital Expenditure Planning

6.4.12 ASSET MANAGEMENT PROCESS 12 REVIEW OF ASSET MANAGEMENT SYSTEM

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
12.	**Review of asset management system** The asset management system is regularly reviewed and updated.					
		EDL1			**B**	**2**
		ETL2			**B**	**2**
12.1	A review process is in place to ensure that the asset management plan and the asset management system described in it remain current.	EDL1	4	The asset management system has been outlined and scoped by the *Asset Management System Map* (C.11). This document was updated in June 2020. The *Asset Management Policy* (C.06) was updated in December 2019 in line with the Corporate Document Framework scheduled review cycle. The *AM Framework, 2020* (Asset Management Process12.02) provides the structure upon which the asset management system is designed and includes the scope of the assets covered by the AM Framework. The document was updated in May 2020. The *Asset Management System Description* (C.10) defines the asset management system and provides an overview of documents tools and systems. This was updated in June 2020, as the 17th version in the last 3 years. A range of audit and review activities are described. While core documents for the management of the Asset Management System were observed to be current, Western Power identified during the interviews the need for improved document management with significant numbers of documents to be	B	3

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				addressed. An activity is already underway to identify documents across functions undertaking core asset management activities that are no longer required or are required and need to be updated. Some examples of out-of-date key documents provided include: • *Asset Data System Access Work Instruction* (Asset Management Process 7.04) last revised 2014, and • the *Network Development Plan (2017) 2016/17 - 2027/28* (Asset Management Process 1.08). It is understood that a 2019 audit of Western Power's certification to ISO55001 by Lloyd's identified the currency of key Asset Management System documentation to be an issue, as outlined in the *ISO 55001 Assessment Findings and Corrective Action Plan 2019* (Asset Management Process 12.06), The action plan identified five (5) different areas of corrective actions being required. This affirms that documentation management associated with defining and controlling the Asset Management System is wanting in both process control and effectiveness. The *Asset Management System Description* (D.77.01) states that governance processes should be held in Holocentric. Responsibility for the management of system documentation for users appears to be have assigned to individual system managers. During the interviews it was observed that Operations were using process mapping in Holocentric, with links to process and documentation.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				It was stated by Western Power that whilst documentation for support of Operations processes are in a *"good"* state, many other areas of the business have documentation that is not in Holocentric, or are struggling to maintain currency of their support documentation due to rapidly changing environmental circumstances and resource constraints, with many documents remaining in draft form.		
		ETL2	4	As for EDL1.	B	3
		Recommendation: 3/2020-EC12.1 ***Licence: EDL1 and ETL2*** We recommend that Western Power demonstrate a sustainable approach to maintaining the currency of documents in the asset management system, update the asset management system description and processes accordingly, and resource and implement the required changes. An appropriate SMART performance metric demonstrating year-on-year management of documents and document currency should also be developed and monitored. To satisfy the requirement of this criteria it would normally be expected that the following should exist: • Evidence of implementation and monitoring of the Corrective Action Plan in ISO 55001 Assessment Findings and Corrective Action Plan 2019 (Asset Management Process 12.06); • Understanding of existing review cycles and basis including impact on dependencies for changing review cycles; • Evidence of reviews and maintenance of the currency of documents; • All asset management documents and processes reflect the current asset management activities and are approved and published when and as required by the system specification. This should include updating holocentric processes to maintain their currency.		

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system	EDL1	5	*Asset Management System Description* (C.10) requires audits • to investigate the maturity of the Asset Management System and to see if it is efficient and effective; • to be planned annually; • include routine and risk-based audits; • include the asset management system and asset management practice; • to check license obligations. *Asset Management Objectives Report* (C.07) requires a risk-based audit plan assessing the Asset Management System against the minimum requirements of the AS ISO 55001. Extracts from Internal Audit Performance Reports to Finance Risk & Audit Committee (Asset Management Process12.05) showed for February 2020 three completed audits, five in progress audits, two added audits and one cancelled audit. There are a range of high, medium, and low management actions being tracked. The report indicated management action closure status within due dates was achieved less than half the time. The document also showed summary results for May 2019 and March 2018. Audit areas included safety, finance, ICT and delivery. The Network Operations Audit Schedule (Asset Management Process 12.03) showed related Network Operations references and proposed dates for the audits.	A	1

Ref. no.	Asset management process & effectiveness criteria	EDL1 or ETL2	Review Priority	Observations and Recommendations	Process and policy rating	Performance Rating
				The *Network Operations Corrective & Preventative Actions List Screen Shot* (Asset Management Process 12.04) shows a range of network operations issues, but no other general asset management system issues.		
		ETL2	5	As for EDL1.	A	1

Table 18 Asset Management Process 12 Review of Asset Management System

7. RECOMMENDATIONS

This section includes recommendations on the actions Western Power should take to address:

- Performance ratings: - Asset management processes or effectiveness criteria that were rated 3 or 4.
- Process and policy rating – Asset management processes or effectiveness criteria that were rated C or D.

The Resolved Recommendations from the previous audit are included in Table 19.

7.1 RECOMMENDATIONS FROM PREVIOUS AUDIT - RESOLVED

Recommendations resolved during current review period have been documented and included in Table 19.

Reference / Recommendation reference from previous review (if applicable)	Process and policy deficiency / Performance deficiency (Rating / Asset management process & effectiveness criterion / Details of deficiency)	Date resolved and action taken by the licensee	Reviewer's comments
01/2017	Key Process Area (KPA): 1. Asset Planning **Effectiveness Criteria (Effectiveness Criteria)**: Asset management plan covers key requirements Effectiveness Rating (ER): B2 Whilst the asset management objectives take a strong position on the "safe" and "reliable" organisational objectives, and convert these into "key objective strategies" for the Asset Management System, the organisation's "affordable" objective does not appear to be given commensurate focus by the Asset Management System. The absence of strategic documentation in relation to affordability does not suggest that Western Power hasn't incorporated cost efficiency throughout its Asset Management System processes; only that it has not articulated its approach at the strategic tier of the Asset Management System as robustly as it has for other objectives. The review of cost related elements of the Asset Management System elements demonstrates that these	Western Power updated the Asset Management System (see Section 6.2.1, table 8 under element "Delivering the Efficient Objective"). Western Power note in their 2019 Status update that this was resolved in 31 Dec 2018.	No further action required in relation to the actions understood to have been agreed with the ERA..

Reference / Recommendation reference from previous review (if applicable)	Process and policy deficiency / Performance deficiency (Rating / Asset management process & effectiveness criterion / Details of deficiency)	Date resolved and action taken by the licensee	Reviewer's comments
	considerations are strongly embedded throughout the Asset Management System processes. This includes: Affordability (or price impact): • Assessments undertaken as a part of the Regulatory Submission, and reviewed as a function of Corporate Strategy/ Business Plan; • New Facilities Investment Test (NFIT) Reviews as a part of business cases; and • Ex-Post reviews as a part of regulatory submission. Efficiency assessments: • Top down assessments undertaken as a part of the Corporate Strategy/ Business Plan; • NFIT Reviews as a part of business cases; and • Individual asset class level/ delivery provision efficiency tested through benchmarking, competitive tendering, optioneering for standards and strategy development (includes risk-cost-benefit assessment at asset class level). Notwithstanding these processes, it is appropriate for the Asset Management System to articulate its direction at the strategic tier for how it delivers on the "affordable" objective holistically, commensurate with the robust		

Reference / Recommendation reference from previous review (if applicable)	Process and policy deficiency / Performance deficiency (Rating / Asset management process & effectiveness criterion / Details of deficiency)	Date resolved and action taken by the licensee	Reviewer's comments
	articulation of its approaches that deliver on the "safe" and "reliable" objectives.		
02/2017	B2 Key Process Area (KPA): 2. Asset creation and acquisition **Effectiveness Criteria (Effectiveness Criteria):** Projects reflect sound engineering and business decisions Generally, Western Power's Technical Rules appear highly prescriptive (as compared to rules applied to peer NSPs). Specifically, the Technical Rules impose prescriptive deterministic criteria to be applied for capacity planning. It is observed that peer NSPs have achieved significant efficiency gains through developing probabilistic risk-based capacity planning approaches with increasing sophistication. Although Western Power's risk-based approach to renewal planning can be considered amongst industry leaders, the prescription of the Technical Rules appears to be constraining it from achieving similar outcomes in relation to capacity planning. The application of a similar mindset (as currently applied to renewal planning) to capacity planning would significantly advance Western Power's maturity in this area.	Western Power sign-off sheet dated June 2018	No further action required in relation to the actions understood to have been agreed with the ERA.

Reference / Recommendation reference from previous review (if applicable)	Process and policy deficiency / Performance deficiency (Rating / Asset management process & effectiveness criterion / Details of deficiency)	Date resolved and action taken by the licensee	Reviewer's comments
	This is an increasing imperative as demand profiles and power flows on the network are altered by emerging technology (as is currently evident in Western Power's trend of increasing maximum demand and reducing energy throughput). It is noted that Western Power has made efforts in this area and has developed a draft Risk Based Capacity Planning Methodology document; however, the implementation of the methodology requires Western Power to seek exemptions from complying with the Technical Rules. It is understood that Western Power is planning to undertake an internal review of the Technical Rules.		
03/2017	B2 Key Process Area (KPA): 3. Asset Disposal **Effectiveness Criteria (Effectiveness Criteria):** Under-utilised and under-performing assets are identified as part of a regular systematic review process; The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken Traditionally, it may be considered satisfactory to consider asset utilisation predominantly in the following context: • Over-utilised assets as those that are peak-capacity constrained;	Western Power sign-off sheet July 2018 indicates only partial action in closing this issue (largely around intent and interaction with Grid Transformation initiatives)	No further action required in relation to the actions understood to have been agreed with the ERA.

Reference / Recommendation reference from previous review (if applicable)	Process and policy deficiency / Performance deficiency (Rating / Asset management process & effectiveness criterion / Details of deficiency)	Date resolved and action taken by the licensee	Reviewer's comments
	• Under-utilised assets as those that are redundant, or that are found to not be highly utilised during investigations into other issues that may require an investment or disposal decision. However, a clearer intent with respect to asset utilisation is required in the context of: • Increasing peak demand and reducing average demand; • Increasing electricity prices; and • Increasing cost effectiveness of alternate power supplies. Western Power currently considers asset utilisation primarily in relation to peak demand. Peak demand thresholds are defined in relation to over-utilisation; however, under-utilisation does not appear to be clearly defined (although, there are examples of under-utilised assets being rationalised). The average utilisation of assets does not appear to be well understood, and opportunities for rotation / redeployment to achieve a target network utilisation are likely to be available. Further, the Risk Based Planning Methodology document shows that typical load-duration curves peak for a small percentage of time. The difference between the peak and		

Reference / Recommendation reference from previous review (if applicable)	Process and policy deficiency / Performance deficiency (Rating / Asset management process & effectiveness criterion / Details of deficiency)	Date resolved and action taken by the licensee	Reviewer's comments
	average demand is widening as demand increases and energy throughput decreases. This indicates that considering utilisation based on peak demand thresholds is increasingly unsuitable.		

Table 19: A. Actions to address findings from Previous Audit – Resolved

7.2 RECOMMENDATIONS FROM PREVIOUS AUDIT – UNRESOLVED

Western Power has completed actions agreed with the ERA as detailed in Section 4.1.

7.3 RECOMMENDATIONS FROM CURRENT AUDIT – UNRESOLVED

Rec. reference (No/year)	Licence Reference	Process and policy deficiency / Performance deficiency (Rating / Reference Number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's Recommendation	Action taken by the licensee by end of review period
1/2020	*EDL1 and ETL2*	B3 **(EC1.4) Asset planning -** Non-asset options (e.g. demand management) are considered B3	We recommend that Western Power further develop, and ensure implementation of their framework for identifying, exploring, and progressing ***non-asset*** options (e.g. Demand Management) to address identified network and asset needs. This should involve clarifying and communicating the purpose	The recommendation has not yet been addressed.

Rec. reference (No/year)	Licence Reference	Process and policy deficiency / Performance deficiency (Rating / Reference Number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's Recommendation	Action taken by the licensee by end of review period
		(**EC2.1) Asset Creation and Acquisition** – Full project evaluations are undertaken for new assets, including comparative assessment of non-asset options. The requirement to demonstrate the investigation on non-asset options was explored across a range of projects. Western Power were unable to effectively demonstrate that non-asset options were routinely considered, identified and appropriately investigated at the planning stages of project development. It was not clear that the concept of non-asset options was well understood or applied consistently. Western Power were unable to demonstrate that an effective Demand Management Policy, or framework was established and operating.	and function of non-asset options in deferring the need for Western Power investment and consequently additions to the Regulatory Asset Base. To satisfy the requirement of this criteria it would normally be expected that the following existed: • Non-Asset Strategy; • The establishment of clear processes, criteria and thresholds for potential Non-Asset solutions in order to implement the strategy; • A Non-Asset Program established, implemented, governed, and monitored; • Embedding in the Investment Governance Framework the requirement for non-asset options to be actively explored and reported on for all investments above the pre-determined threshold; and • Management reporting on the above, including reporting on non-asset deliberations through the Investment Governance Framework compliance reporting arrangements.	
2/2020	*EDL1 / ETL2*	C2 / C3 **(EC1.5) Asset Planning** - Lifecycle costs of owning and operating assets are assessed	We recommend that Western Power: a. Document an approach for the development of asset whole-of-lifecycle costs, and for its application in the asset planning and in the asset investment decision	The recommendation

Rec. reference (No/year)	Licence Reference	Process and policy deficiency / Performance deficiency (Rating / Reference Number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's Recommendation	Action taken by the licensee by end of review period
		C2 / C3 **(EC2.2) Asset Creation and Acquisition** - Evaluations include all life-cycle costs Western Power were unable to provide a consistent view on the application of lifecycle costing at network investment decision making level. In particular, no overarching documentation by way of a framework or guideline was able to be identified that provided guidance on the application of lifecycle costs in asset class strategies, options analysis, investment decisions, equipment procurement, or other decisions where this should be a consideration. The ability of WP to demonstrate how operational costs were factored into re-investment decisions was not clear. There appeared to be limited policy and guidance around the costing principles to be used whilst evaluating life cycle costs. This should include consideration of ongoing or escalating operational costs and risk costs associated with time view of investment.	making process. This approach for whole-of-life asset costing, should cover the following considerations on a net-present or net-future value basis: • an asset's up-front capital costs; • ongoing maintenance and service costs; • risk costs associated with the asset due to deteriorating performance for e.g. obsolescence, or non-compliance with regulatory requirements; • mid-life refurbishment costs; and • end-of-life retirement, and disposal costs or residual value. b. Within the above guideline, establish (or reinforce) a requirement that whole-of-life cycle costs be considered as standard rigour in asset planning and investment decisions, and that these considerations be explicitly evident in the business case documentation as evidence that the matter has been appropriately considered. In our opinion the above should also capture the treatment of risk costs, which is particularly deficient in relation to transmission assets:	has not yet been addressed.

Rec. reference (No/year)	Licence Reference	Process and policy deficiency / Performance deficiency (Rating / Reference Number, Asset management process & effectiveness criterion / Details of deficiency)	Reviewer's Recommendation	Action taken by the licensee by end of review period
		These assessments should also inform decisions pertaining to asset life and technical obsolescence of groups of asset types.	c. We recommend that Western Power further develop the policy and procedural requirements of investment governance so that: • The principles of the quantification of risk as outlined in the Risk-Based Planning Methodology be embedded as standard planning practice for all transmission asset renewal and capacity upgrade planning assessments; • All business case evaluations of network asset investments in the transmission network include a quantitative evaluation of pre and post investment risk outcomes and measurable benefits as required by the Investment Governance Framework; and • That greater rigour be applied in the Investment Gate Approval process to ensure that quantified and monetised network asset risk assessments become a key feature of business cases. Combined, the above will ensure that the expected economic impacts as well as the financial impacts of any proposed investment are considered and understood and will facilitate objective risk-based optimisation of the network investment portfolio.	

3/2020	*EDL1 and ETL2*	B3 **(Effectiveness Criteria 12.1) Review of asset management system** - A review process is in place to ensure that the asset management plan and the asset management system described in it remain current. While core documents for the management of the Asset Management System were observed to be current, Western Power identified during the interviews the need for improved document management with significant numbers of documents to be addressed. It is understood that a 2019 audit of Western Power's certification to ISO55001 by Lloyd's Register, identified the currency of key AMS documentation to be an issue, as outlined in the ISO 55001 Assessment Findings and Corrective Action Plan. The action plan identified different areas of corrective actions being required. This affirms that documentation management associated with defining and controlling the Asset Management System is wanting in both process control and effectiveness.	We recommend that Western Power demonstrate a sustainable approach to maintaining the currency of documents in the asset management system, update the asset management system description and processes accordingly, and resource and implement the required changes. An appropriate SMART performance metric demonstrating year-on-year management of documents and document currency should also be developed and monitored. • To satisfy the requirement of this criteria it would normally be expected that the following should exist: • Evidence of implementation and monitoring of the Corrective Action Plan in ISO 55001 Assessment Findings and Corrective Action Plan 2019; • Understanding of existing review cycles and basis including impact on dependencies for changing review cycles; • Evidence of reviews and maintenance of the currency of documents. • All asset management documents and processes reflect the current asset management activities and are approved and published when and as required by the system specification. This should include updating holocentric processes to maintain their currency.	Western Power stated an activity was already underway to address the deficiencies in relation to management of documented information, as identified during the ISO55001 certification audit,.

Table 20: B. Recommendations from current review – unresolved

8. APPROVAL OF THE REVIEW REPORT

AMCL, as the auditor, confirms the review report is an accurate presentation of our findings and opinions.

Signature:

Date: 30 November 2020

Contact Details:

AMCL
171 Spring Street
Sydney NSW 2000
adam.homan@amcl.com

APPENDICES

Appendix A WESTERN POWER REPRESENTATIVES THAT PARTICIPATED IN THE REVIEW

Western Power personnel interviewed throughout the course of the review are provided in Table 21.

Name	Position	Function
Joint Planning Team (Personnel responsible for coordinating the Asset Management System Review)		
Rudi James	Regulatory Compliance Manager	Regulation & Investment Assurance
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
John Paolino	Senior Compliance Specialist	Regulation & Investment Assurance
Mike Pover	Senior Asset Systems Analyst	Asset Performance
Overview of Asset Management System and Asset Management Processes 08.30 am 25 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Mike Pover	Senior Asset Systems Analyst	Asset Performance
Jason Knott	Quality & Compliance Officer	Network Operations
Andrew Sherwin	Business Relationship Manager	Information & Communications Technology
Raj Parmar	Planning & Works Allocation Manager	Network Maintenance Planning & Delivery
Neil Chivers	Principal Asset Planning Consultant	Grid Transformation
Nathan Albrecht	Enterprise Reporting Manager	Business Planning & Reporting
Daniel Rossandich	Senior Compliance Specialist	Engineering & Design
Gordon East	Assurance Manager	Safety, Environment, Quality & Training
Scott Yates	Asset Performance Modelling Manager	Asset Performance
Actions to address previous recommendations 09.00 am 26 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Mike Pover	Senior Asset Systems Analyst	Asset Performance
John Paolino	Senior Compliance Specialist	Regulation & Investment Assurance
Neil Chivers	Principal Asset Planning Engineer	Grid Transformation

Name	Position	Function
Douglas Thomson	Transmission Grid Strategy Manager	Grid Transformation
Matthew Webb	Grid Portfolio Optimisation Team Leader	Grid Transformation
Key Process Areas: KPA1 and KPA4 – 09.00 am 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Gus Riggs	Strategy Manager	Business Development & Strategy
Key Process Areas: KPA2 and KPA4 – 09.45 am 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Janet Voon	Corporate Compliance Manager	Corporate Compliance
Shane Hart	Senior Compliance Specialist	Corporate Compliance
Key Process Areas: KPA1 and KPA4 – 10.30 am 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Key Process Areas: KPA1, KPA5, KPA6, KPA10 and KPA11 – 11.30 am 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Nathan Albrecht	Enterprise Reporting Manager	Business Planning & Reporting
Adam Payne	Senior Financial Analyst	Business Planning & Reporting
Gus Riggs	Strategy Manager	Business Development & Strategy
Dave Vielle	Finance Team Leader	Business Planning & Reporting
Matthew Ashton	Corporate & Networks Finance Manager	Business Planning & Reporting
Bobby Tan	Finance Team Leader	Business Planning & Reporting
Luke Manners	Corporate Finance & Investment Team Leader	Finance & Metering
Isabelle Roy	Senior Investment Evaluation Analyst	Finance & Metering
Key Process Area: KPA8 – 12.30 pm 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Kate Hayward	Risk & Resilience Manager	Governance, Risk & Compliance
Key Process Areas: KPA1, KPA2, KPA3, KPA4 and KPA8 – 01.45 pm 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Neil Chivers	Principal Asset Planning Consultant	Grid Transformation
Douglas Thomson	Transmission Grid Strategy Manager	Grid Transformation
Janica Lukas	Distribution Grid Strategy Manager	Grid Transformation
Grant Coble-Neal	Forecasting & Data Science Manager	Business Intel & Data Analytics

Name	Position	Function
Key Process Areas: KPA1, KPA2, KPA4, KPA5, KPA6 and KPA12 – 03.30 pm 29 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Daniel Rossandich	Senior Compliance Specialist	Engineering & Design
Marco Surace	Principal Electrical Design Engineer	Engineering & Design
Neil Chivers	Principal Asset Planning Consultant	Grid Transformation
Key Process Areas: KPA1, KPA2, KPA3, KPA4 and KPA8 – 09.00 am 30 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Margot Hammond	Standalone Power Systems Program Manager	Grid Transformation
Kevin Mayze	Tmp Senior Project Development Specialist	Grid Transformation
Matthew Webb	Grid Portfolio Optimisation Team Leader	Grid Transformation
Douglas Thomson	Transmission Grid Strategy Manager	Grid Transformation
Neil Chivers	Principal Asset Planning Consultant	Grid Transformation
Key Process Areas: KPA1, KPA2, KPA3, KPA4 and KPA8 – 10.00 am 30 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Carlos Gamez	Head of Asset Performance	Asset Performance
Archana Selva	Strategic Asset Performance Manager	Asset Performance
Ayan Ghosal	Principal Engineer	Asset Performance
Jaimal Kika	Distribution Strategies Team Leader	Asset Performance
Frederico Sousa De Carvalho Rego	Transmission Strategies Team Leader	Asset Performance
Chris Burke	Senior Asset Engineer, Strategies	Asset Performance
Nirav Shah	Senior Asset Engineer, Strategies	Asset Performance
Key Process Areas: KPA1, KPA2, KPA3, KPA4 and KPA8 – 11.00 am 30 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Carlos Gamez	Head of Asset Performance	Asset Performance
Archana Selva	Strategic Asset Performance Manager	Asset Performance
Jaimal Kika	Distribution Strategies Team Leader	Asset Performance
Frederico Sousa De Carvalho Rego	Transmission Strategies Team Leader	Asset Performance
Ayan Ghosal	Principal Engineer	Asset Performance
Amir Sherkat Masoum	Engineering Team Leader	Asset Performance
Chris Burke	Senior Asset Engineer, Strategies	Asset Performance
Mohsin Miyanji	Operational Asset Performance Manager Distribution	Asset Performance

Name	Position	Function
Key Process Areas: KPA1, KPA3, KPA7 and KPA11 – 01.30 pm 30 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Scott Yates	Asset Performance Modelling Manager	Asset Performance
Neville Scott	Asset Performance Modelling Team Leader	Asset Performance
Ed Willcox	Engineering Team Leader	Asset Performance
Tegan Farley	Senior Asset Risk Analyst	Asset Performance
Key Process Areas: KPA8 – 02.45 pm 30 June 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Carlos Gamez	Head of Asset Performance	Asset Performance
Scott Yates	Asset Performance Modelling Manager	Asset Performance
Tegan Farley	Senior Asset Risk Analyst	Asset Performance
Archana Selva	Strategic Asset Performance Manager	Asset Performance
Key Process Areas: KPA1, KPA4, KPA8, KPA10 and KPA11 – 09.00 am 1 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Matthew Webb	Grid Portfolio Optimisation Team Leader	Grid Transformation
Neil Chivers	Principal Asset Planning Engineer	Grid Transformation
Douglas Thomson	Transmission Grid Strategy Manager	Grid Transformation
Archana Selva	Strategic Asset Performance Manager	Asset Performance
Janica Lukas	Transmission Grid Strategy Manager	Grid Transformation
Carlos Gamez	Head of Asset Performance	Asset Performance
Ayan Ghosal	Principal Engineer	Asset Performance
Key Process Areas: KPA1, KPA2, KPA8 and KPA11 – 11.45 am 1 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Luke Manners	Corporate Finance & Investment Team Leader	Finance & Metering
Isabelle Roy	Senior Investment Evaluation Analyst	Finance & Metering
Shaun Porter	Senior Investment Evaluation Analyst	Finance & Metering
Dave Vielle	Finance Team Leader	Business Planning & Reporting
Lawrence Muhuthia	Senior Business Solutions Consultant	Regulation & Investment Assurance

Name	Position	Function
Key Process Areas: KPA5, KPA6 and KPA8 – 01.30 pm 1 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Raj Parmar	Planning & Works Allocation Manager	Network Maintenance Planning & Delivery
Don Stander	Scheduling & Dispatch Manager	Network Maintenance Planning & Delivery
Daniel Cassidy	Network Project Delivery Manager	Network Maintenance Planning & Delivery
Mohsin Miyanji	Operational Asset Performance Manager Distribution	Asset Performance
Karna Vyas	Engineering Team Leader	Asset Performance
Greg Stephenson	Engineering Team Leader	Asset Performance
Key Process Areas: KPA1, KPA5, KPA8 and KPA9 – 09.00 am 2 July 2020		
Rudy Van Den Wall Bake	Operations Development Manager	Network Operations
Jason Knott	Quality & Compliance Officer	Network Operations
Key Process Areas: KPA1, KPA5, KPA8 and KPA9 – 10.00 am 2 July 2020		
Rudy Van Den Wall Bake	Operations Development Manager	Network Operations
Jason Knott	Quality & Compliance Officer	Network Operations
Douglas Thomson	Transmission Grid Strategy Manager	Grid Transformation
Neil Chivers	Principal Asset Planning Engineer	Grid Transformation
Key Process Areas: KPA2 and KPA5 – 10.45 am 2 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Gordon East	Assurance Manager	Safety, Environment, Quality & Training
Key Process Areas: KPA5 and KPA7 – 12.15 pm 2 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Scott Yates	Asset Performance Modelling Manager	Asset Performance
Andrew Sherwin	Business Relationship Manager	Information & Communications Technology
Mahesh Mehta	Functional Support Consultant	Information & Communications Technology
Nicholas Howard	Senior Data Analyst	Business Intel & Data Analytics
Kathy Sheridan	Data Operations Team Leader	Business Intel & Data Analytics
Anthony Mitchell	Data Operations Team Leader	Business Intel & Data Analytics
Bobby Tan	Finance Team Leader	Business Planning & Reporting
Jamie Wallis	Financial Accounting Manager	Finance & Metering
Key Process Areas: KPA1 and KPA2 – 9.00 am 3 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance

Name	Position	Function
Douglas Thomson	Transmission Grid Strategy Manager	Grid Transformation
Neil Chivers	Principal Asset Planning Engineer	Grid Transformation
Key Process Areas: KPA1, KPA2, KPA4, KPA5, KPA6 and KPA12 – 9.45 am 3 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Daniel Rossandich	Senior Compliance Specialist	Engineering & Design
Marco Surace	Principal Electrical Design Engineer	Engineering & Design
Key Process Areas: KPA12 – 10.30 am 3 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Mike Pover	Senior Asset Systems Analyst	Asset Performance
Key Process Areas: KPA5 – 01.00 pm 3 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Mark Wilshusen	Head of Human Resources	Human Resources
Richard Tyler	Senior Insights & Total Reward Consultant	Human Resources
Key Process Areas: KPA1 and KPA2 – 10.00 am 7 July 2020		
Ankur Maheshwari	Asset Management Principal Consultant	Asset Performance
Kim Whattler	Senior Transmission Sponsor	Asset Performance
Sunny Zafar	Senior Project Development Engineer	Asset Performance
Srinivas Sampath	Senior Project Development Engineer	Asset Performance

Table 21: Western Power Interviews

Appendix B DOCUMENTATION AND INFORMATION SOURCES REVIEWED

Documents referenced through this review use the reference number in the following tables.

Document No.	Initial Request No.	Licence	Key Process Area												Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1	2	3	4	5	6	7	8	9	10	11	12						
C.01	D.70	Both										X	X		Framework Document	34001353	Business Case Guideline, 2019	Finance & Metering	21-May-20	28-May-20
C.02	D.74	Both										X	X		Framework Document	34112285	Benefits Management Framework, 2019	Finance & Metering	21-May-20	28-May-20
C.03	D.07	Both	X	X		X				X	X		X		Annual Planning Report	41561383	Annual Planning Report 2017	Grid Transformation	21-May-20	03-Jun-20
C.04	D.07.01	Both	X	X		X				X	X		X		Annual Planning Report	45375801	Annual Planning Report 2018/19 Overview	Grid Transformation		03-Jun-20
C.05	D.09	Both	X	X	X	X	X	X	X	X	X	X	X	X	Corporate Strategy	52298712	Corporate Strategy 2017-2022	Business Development & Strategy	21-May-20	03-Jun-20

C.06	D.06	Both	X	X	X	X	X	X	X	X	X	X	X	X	Corporate Policy	26576898	Asset Management Policy, 2019	Asset Performance	21-May-20	04-Jun-20
C.07	D.08	Both	X	X	X	X	X	X	X	X	X	X	X	X	Asset Management Objectives	34242337	Asset Management Objectives Report	Asset Performance	21-May-20	04-Jun-20
C.08	D.15	Both			X		X	X		X					Plan	34159326	Network Management Plan	Asset Performance	21-May-20	08-Jun-20
C.09	D.01	Both	X									X	X		Plan	48597763	Network Plan - Network Plan Volumes and Expenditure	Grid Transformation	21-May-20	10-Jun-20
C.10	D.77.01	Both	X	X	X	X	X	X	X	X	X	X	X	X	AMSR Policy, Guidelines, or Procedures	40304923	Asset Management System Description	Asset Performance	21-May-20	11-Jun-20
C.11	D.77.02	Both	X	X	X	X	X	X	X	X	X	X	X	X	AMSR Policy, Guidelines, or Procedures	40309083	Asset Management System Map	Asset Performance	21-May-20	11-Jun-20
C.12	D.78	Both	X	X	X	X	X	X	X	X	X	X	X	X	Additional Request: Organisation Chart	50472519	Western Power Executives & Heads of Function	Executive	12-Jun-20	16-Jun-20
C.13	D.83.26	Both	X			X	X		X					X	Day 3 Interviews - Legislative & Compliance	32119981	Corporate Document Framework	Corporate Compliance		13-Jul-20

													Obligations Management					

Table 22: Information provided by Western Power for Review – Common Documents

Document No.	Initial Request No.	Licence	Effectiveness Criteria									Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9						
Asset Management Process 1.01	D.02	Both		X		X					X	Management Standard	43686305	Network Planning Standard	Grid Transformation	21-May-20	03-Jun-20
Asset Management Process 1.02	D.13.00	EDL1		X								Issues Briefing Paper	34237217	Impacts of Inverter Embedded Generation, 2016	Grid Transformation	21-May-20	03-Jun-20
Asset Management Process 1.03	D.13.01	EDL1		X								Guideline/Technical Standard	33612889	Network Integration Guideline - Inverter Embedded Generation, 2019	Grid Transformation	21-May-20	03-Jun-20
Asset Management Process 1.04	D.10	Both	X		X		X				X	Strategic Asset Management Plan	34332534	Network Strategy, 2019	Grid Transformation	21-May-20	03-Jun-20
Asset Manageme	D.21	ETL2			X					X	X	Planning Standard/Methodology	41025116	Risk Based Capacity Planning	Grid Transformation	21-May-20	03-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria									Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9						
nt Process 1.05														Methodology, 2017			
Asset Management Process 1.06	D.23	ETL2		X	X					X	X	Strategy/Plan	34373791	Transmission Network Reliability Strategy	Grid Transformation	21-May-20	03-Jun-20
Asset Management Process 1.07	D.28	EDL1		X	X					X	X	Strategy/Plan	34266074	Distribution Network Reliability Strategy, 2017	Grid Transformation	21-May-20	03-Jun-20
Asset Management Process 1.08	D.03	Both		X							X	Strategy/Plan	42326141	Network Development Plan (2017) 2016/17 - 2027/28	Grid Transformation		03-Jun-20
Asset Management Process 1.09	D.18	Both		X								Forecast Methodology Review	41034178	NIEIR Forecast Methodology Review, 2016	Business Intel & Data Analytics	21-May-20	04-Jun-20
Asset Management Process 1.10	D.82.02	EDL1					X					Additional Request- Life cycle costing analyse for assets, asset types, disposal or renewal options, Procedure or standard required, plus evidence of application	N/A	Investigating Suitability of Current Material Selection Practice for Poles - Investigation	Asset Performance		24-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria									Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9						
														Findings Report			
Asset Management Process 1.11	D.82.06	EDL1							**X**			OFI Document Requests - OFI 11-2017 Design Standards Critical Efficiency Review. Western Power states that the review has been undertaken. AMCL has not seen evidence of this.	46453397	Distribution Design Efficiency Review Report by WSP	Engineering & Design		25-Jun-20
Asset Management Process 1.12	D.82.10	EDL1		**X**								Recommendation Document Request - R03-2017 Can Western Power provide copies of the documents identified in the actions associated with the close-out of Rec. 3, and further evidence of progress in this area?	50428323	Grid Transformation Engine Overview	Grid Transformation		25-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria									Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9						
Asset Management Process 1.13	D.84.00	Both					X					Day 4 Interviews - Network Renewal & Maintenance Strategies Overview	34321111	Asset Renewal & Maintenance Requirements Analysis (RMRA) Standard	Asset Performance		01-Jul-20
Asset Management Process 1.14	D.06.01	Both	X									Asset Management	34113439	Asset Management Framework - Published	Asset Performance		04-Jun-20
Asset Management Process 1.15	D.83.12	EDL1				X						Day 3 Interviews - Network Development Strategies	52023419	100MW Challenge Business Plan	Change & Innovation		13-Jul-20
Asset Management Process 1.16	D.83.13	EDL1				X						Day 3 Interviews - Network Development Strategies	52059332	100MW Challenge Trial Business Case	Change & Innovation		13-Jul-20
Asset Management Process 1.17	D.83.14	EDL1				X						Day 3 Interviews - Network Development Strategies	52038506	100MW Challenge Options Analysis Paper	Change & Innovation		13-Jul-20
Asset Management Process 1.18	D.83.19	Both				X						Day 3 Interviews - Network Development Strategies	40413678	Demand Management & Non-Network	Grid Transformation		13-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria									Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9						
														Options Guideline			
Asset Management Process 1.19	D.83.20	EDL1		X								Day 3 Interviews - Network Development Strategies	52786346	Distribution 10 Year Network Plan FY2020 to 2031 Executive Presentation	Grid Transformation		13-Jul-20
Asset Management Process 1.20	D.83.21	ETL2		X								Day 3 Interviews - Network Development Strategies	52729521	Transmission 10 Year Network Plan FY2020 to 2031 Executive Presentation	Grid Transformation		13-Jul-20
Asset Management Process 1.21	D.84.13	Both		X								Day 4 Interviews - Network Challenges & Our Response	52592791	Connecting Large Scale Renewables - Generator Interim Access (GIA) Presentation	Grid Transformation		16-Jul-20
Asset Management Process 1.22	D.84.14	EDL1				X						Day 4 Interviews - Network Challenges & Our Response	42523850	Engage Water Corporation Demand Response to Defer MH	Grid Transformation		16-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria									Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9						
														ZSS 66 MVA Rebuild by One Year			

Table 23: Information provided by Western Power for Review – Asset Management Process1 - Planning

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
Asset Management Process 2.01	D.25.00	EDL1			X			Asset Class Plan	41741217	Metering Strategy	Finance and Metering	21-May-20	03-Jun-20
Asset Management Process 2.02	D.25.01	EDL1			X			Asset Class Plan	49358278	Metering Asset Management Plan	Finance and Metering		03-Jun-20
Asset Management Process 2.03	D.25.02	Both			X			Asset Class Plan	46651700	SCADA & Telecommunications Strategy	Asset Performance		03-Jun-20
Asset Management Process 2.04	D.25.04	EDL1						Asset Class Plans	28270231	Distribution Structures Asset Management Strategy, 2017	Asset Performance		04-Jun-20
Asset Management Process 2.05	D.82.01	ETL2			X			Additional Request- Life cycle costing analyse for assets, asset types, disposal or renewal options,	46922680	Hay St and Milligan St Switchboard Refurbishment Option	Asset Performance		24-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
								Procedure or standard required, plus evidence of application					
Asset Management Process 2.06	D.82.08	Both			X		X	OFI Document Requests - OFI 10-2017 Summarise/overview design efficiency review processes. Documentation that captures and records this is not captured or is disparate. Technical; Standards Development and Review Guide has been developed to better control this activity. AMCL to see evidence.	45961650	Technical Standards Development & Review Guide	Engineering & Design		25-Jun-20
Asset Management Process 2.07	D.83.06	ETL2	X					Day 3 Interviews - Network Development Strategies	51739643	KEM Install 330-132kV T13 Transformer Business Case	Grid Transformation		02-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
Asset Management Process 2.08	D.83.07	ETL2	X					Day 3 Interviews Presentation - Network Development Strategies	N/A	KEM Install 330-132kV T13 Transformer- Planning Phase IEM Extract	Grid Transformation		06-Jul-20
Asset Management Process 2.09	D.83.05	Both			X			Day 3 Interviews - Network Standards and Engineering Design Standards	30626649	Design Management Procedure	Engineering & Design		03-Jul-20
Asset Management Process 2.10	D83.09	ETL2	X					Day 3 Interviews - Network Development Strategies	N/A	KEM Install 330-132kV T13 Transformer- IEM - Financial Inputs Worksheer Extract	Grid Transformation		06-Jul-20
Asset Management Process 2.11	D83.08	ETL2	X					Day 3 Interviews - Network Development Strategies	51876334	KEM Install 330-132kV T13 Transformer-JRT & IRC Presentation	Grid Transformation		02-Jul-20
Asset Management Process 2.12	D.84.06	EDL1	X					Day 4 Interviews - Network Challenges & Our Response	44874532	Standalone Power Systems 2 Demonstration Business Case	Grid Transformation		06-Jul-20
Asset Management Process 2.13	D.84.07	EDL1	X					Day 4 Interviews - Network Challenges & Our Response	45398312	Redacted SPS2 Demonstration Project - IEM	Grid Transformation		06-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
Asset Management Process 2.14	D.84.10	EDL1				X		Day 4 Interviews - Network Challenges & Our Response	N/A	Redacted - Inspection Test Plan SPS	Grid Transformation		06-Jul-20
Asset Management Process 2.15	D.84.11	EDL1				X		Day 4 Interviews - Network Challenges & Our Response	N/A	Redacted - Installation Test Record - SPS - 384-SOT-01-C	Grid Transformation		06-Jul-20
Asset Management Process 2.16	D.84.12	EDL1				X		Day 4 Interviews - Network Challenges & Our Response	N/A	Redacted - SPS Round 1 - SPS Connection Test	Grid Transformation		06-Jul-20
Asset Management Process 2.17	D.87.00	Both	X				X	Day 7 - Capital Project Business Case Walk Through - Augmentation	46588172	New Facilities Investment Test (NFIT) Explained	Regulation and Investment Assurance		08-Jul-20
Asset Management Process 2.18	D.12	Both			X			Forecasting methodology report new connections maximum demand	34382992	Connections, Energy and Demand Forecast Methodology	Business Intel & Data Analytics	21-May-20	04-Jun-20
Asset Management Process 2.19	D.87.02	EDL1	X					Day 7 - Capital Project Business Case Walk Through - Augmentation	47449624	PIC Replace 66-22kV with New TX7- Works Planning Report	Asset Performance		08-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
Asset Management Process 2.20	D.86.10	Both					X	Day 6 Interviews - Field Operations, SEQT Management System and related elements	34049383	Worker Authorisation Procedure	Safety, Environment, Quality and Training		08-Jul-20
Asset Management Process 2.21	D.86.09	Both					X	Day 6 Interviews - Field Operations, SEQT Management System and related elements	34255745	Incident Management Procedure	Safety, Environment, Quality and Training		08-Jul-20
Asset Management Process 2.22	D.87.03	EDL1	X					Day 7 - Follow Up Network Development Strategies	53055731	Audit Presentation on PIC T5 replacement	Asset Performance		09-Jul-20
Asset Management Process 2.23	D.87.04	EDL1	X					Day 7 - Follow Up Network Development Strategies	44034416	PIC T5 EMT Outcomes and Tesla PIC advice from AEMO	Asset Performance		09-Jul-20
Asset Management Process 2.24	D.87.05	EDL1	X					Day 7 - Follow Up Network Development Strategies	43995349	PIC T5 Post Contingent Project Considerations	Asset Performance		09-Jul-20
Asset Management Process 2.25	D.87.06	EDL1	X					Day 7 - Follow Up Network Development Strategies	43976232	PIC T5 Unserviceable - Meeting Minutes for Contingency Management - 1.11.2017	Asset Performance		09-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
Asset Management Process 2.26	D.83.15	Both	X					Day 3 Interviews - Network Development Strategies	50525398	Reactive Voltage Rectification Stage 1-Business Case	Asset Performance		13-Jul-20
Asset Management Process 2.27	D.83.16	Both	X					Day 3 Interviews - Network Development Strategies	51220132	Reactive Voltage Rectification Stage 2-Business Case	Asset Performance		13-Jul-20
Asset Management Process 2.28	D.83.17	Both	X					Day 3 Interviews - Network Development Strategies	52256640	Reactive Voltage Rectification Stage 3-Business Case	Asset Performance		13-Jul-20
Asset Management Process 2.29	D.83.18	Both	X					Day 3 Interviews - Network Development Strategies	46327413	Capacity Expansion in Bunbury and Muja Load Areas - Long Term Planning Report	Grid Transformation		13-Jul-20
Asset Management Process 2.30	D.83.22	EDL1			X			Day 3 Interviews - Network Development Strategies	46232140	Executive Undergrounding Strategy Workshop - Into and Summary Presentation 27 Aug 2018	Grid Transformation		13-Jul-20
Asset Management Process 2.31	D.83.29	ETL2	X					Day 3 Interviews - Network Development Strategies	47713259	KEM Install a New 330-132kV 490MVA Transformer -	Grid Transformation		14-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
										Issues Briefing Paper			
Asset Management Process 2.32	D.83.30	ETL2	X					Day 3 Interviews - Network Development Strategies	47586307	KEM Install a New 330-132kV 490MVA Transformer - Work Planning Report	Grid Transformation		14-Jul-20
Asset Management Process 2.33	D.87.07	Both			X			Day 7 - Follow Up Engineering & Design	42509915	12 to 36 kV Indoor Metal Enclosed Gas Insulated Switchboards - Part D - Vendor Technical Schedules	Engineering & Design		15-Jul-20
Asset Management Process 2.34	D.87.08	Both		X	X			Day 7 - Follow Up Engineering & Design	50849140	Pricing Workbook GIS Switchboards - 1	Engineering & Design		15-Jul-20
Asset Management Process 2.35	D.87.09	Both		X	X			Day 7 - Follow Up Engineering & Design	50849798	Pricing Workbook GIS Switchboards - 2	Engineering & Design		15-Jul-20
Asset Management Process 2.36	D.87.12	Both			X			Day 7 - Follow Up Engineering & Design	34094866	Extract from Engineering and Design Controlled Document Register	Engineering & Design		15-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
Asset Management Process 2.37	D.83.32	Both			X			Day 3 Interviews - Network Development Strategies	43911022	Procurement & Refurbishment of Strategic Spare Zone Substation Transformers - Business Case	Grid Transformation		16-Jul-20
Asset Management Process 2.38	D.88.05	ETL2				X		Response to question #65 on 22 July - 'For EC2.4, please provide some evidence that commissioning tests are documented and completed. We have seen evidence for distribution but need something for transmission.	EDM 52702449	CK803 Commissioning Notice - Cook Street Sub Station - Protection 1 Relay	Network Maintenance Planning & Delivery		23-Jul-20
Asset Management Process 2.39	D.88.06	ETL2				X		Response to question #65 on 22 July - 'For EC2.4, please provide some evidence that commissioning tests are documented and	EDM 52702449	CK803 P1-P140 Cook Street Sub Station (Secondary Equipment Sequence)	Network Maintenance Planning & Delivery		23-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
								completed. We have seen evidence for distribution but need something for transmission.					
Asset Management Process 2.40	D.88.07	ETL2				X		Response to question #65 on 22 July - 'For EC2.4, please provide some evidence that commissioning tests are documented and completed. We have seen evidence for distribution but need something for transmission.	EDM 52702449	CK803 Completion Checklist - Cook Street Sub Station - Protection 1 Relay	Network Maintenance Planning & Delivery		23-Jul-20
Asset Management Process 2.41	D.104.00	Both					X	Response to Question #50 on 20 July: Examples of Monthly Security Report	N/A	Weekly Security Incidents Summary 25 May 2020	Property & Fleet		29-Jul-20
Asset Management Process 2.42	D.104.01	Both					X	Response to Question #50 on 20 July:Examples	N/A	Weekly Security Incidents	Property & Fleet		29-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
								of Monthly Security Report		Summary 20 July 2020			
Asset Management Process 2.43	D.104.02	Both					X	Response to Question #50 on 20 July:Examples of Monthly Security Report	N/A	Security Report available in Qlik for January 2020	Property & Fleet		29-Jul-20
Asset Management Process 2.44	D.104.03	Both					X	Response to Question #50 on 20 July:Examples of Monthly Security Report	N/A	Security Report available in Qlik for June 2020	Property & Fleet		29-Jul-20
Asset Management Process 2.45	D.104.04	Both					X	Response to Question #50 on 20 July:Examples of Monthly Security Report	N/A	July 2019 Monthly Security Operations Report for Metro, Regional and Substations	Property & Fleet		29-Jul-20
Asset Management Process 2.46	D.102.01	ETL2				X		Response to Question #68 on 28 July: Actual evidence for a major plant	53347243 53346051 53360538 53346136	Four individual emails sent to AMCL containing 31 MB of zipped files (recorded in S: Drive) of commissioning, test procedures and reports for major plant. Emails are saved	Asset Performance		30-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria					Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			2.1	2.2	2.3	2.4	2.5						
										in S:Drive and in SharePoint.			
Asset Management Process 2.47	D.102.00	Both				x		Response to Question #67 on 28 July: Assets commissioning guideline/procedure	8497265	Handover Certificate Process	Operational Maintenance		30-Jul-20

Table 24: Information provided by Western Power for Review – Asset Management Process2 – Creation and Acquisition

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			3.1	3.2	3.3	3.4						
Asset Management Process 3.01	D.26	Both					Policy Guidelines	22439694	Asset Disposal Policy Guidelines	Finance and Metering	21-May-20	02-Jun-20
Asset Management Process 3.02	D.25.04	EDL1	X	X		X	Asset Class Plans	28270231	Distribution Structures Asset Management Strategy, 2017	Asset Performance		04-Jun-20
Asset Management Process 3.03	D.25.05	EDL1	X	X	X	X	Asset Class Plans	41011130	Distribution Conductors Asset Management Strategy, 2017	Asset Performance		04-Jun-20
Asset Management Process 3.04	D.25.07	ETL2	X	X	X	X	Asset Class Plans	40955284	Transmission Circuit Breaker Switchboards Strategy, 2017	Asset Performance		04-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			3.1	3.2	3.3	3.4						
Asset Management Process 3.05	D.25.08	ETL2	X	X	X	X	Asset Class Plans	33141537	Transmission Power Transformer Detailed Strategy, 2017	Asset Performance		04-Jun-20
Asset Management Process 3.06	D.30	EDL1	X	X	X	X	Replacement Strategy	34273096	Western Power 66 kV Rationalisation Strategy, 2017	Grid Transformation	21-May-20	04-Jun-20
Asset Management Process 3.07	D.20	Both	X		X	X	Methodology	34333892	Renewal and Maintenance Options Analysis Procedure	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 3.08	D.83.11	ETL2		X			Day 3 Interviews - Network Development Strategies	49649561	Business Case - PIC Replace 66-22kV TX5 with New TX7	Grid Transformation		06-Jul-20
Asset Management Process 3.09	D.41.02	Both	X				Day 3 Interviews - Network Development Strategies	51839552	Substation Capacity Assessment Spreadsheet Extract	Grid Transformation		16-Jul-20

Table 25: Information provided by Western Power for Review – Asset Management Process3 - Disposal

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			4.1	4.2	4.3	4.4						
Asset Management Process 4.01	D.34	Both			X		Procedure	24012640	Compliance Failure Reporting Procedure		21-May-20	28-May-20
Asset Management Process 4.02	D.35.00	Both			X		Framework	34019834	Compliance Framework 2017		21-May-20	28-May-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			4.1	4.2	4.3	4.4						
Asset Management Process 4.03	D.35.01	Both			X		Standard	42982044	Compliance Standard 2017		21-May-20	28-May-20
Asset Management Process 4.04	D.61.01	Both	X		X		Business/Financial Plan	50440885	Statement of Expectations 2020-21	Business Development & Strategy		03-Jun-20
Asset Management Process 4.05	D.50	Both	X				Asset Information System Strategy	45352753	Western Power Enterprise Architecture, Asset Information System Development Plan and Obsolescence Management Strategy, 2018	ICT	21-May-20	04-Jun-20
Asset Management Process 4.06	D.36	Both			X		Legislative Obligations Compliance Plan - Asset Performance	34189016	Extract from Legislative Obligations Compliance Plan - Asset Performance	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 4.07	D.41.00	EDL1		X			Major Network/Supply Incidents Review Reports	51733599	Mogumber Bushfire - December 2019 PIR	Network Operations	21-May-20	11-Jun-20
Asset Management Process 4.08	D.84.01	Both				X	Day 4 Interviews - Network Renewal & Maintenance Strategies Overview	49915803	Asset Performance Quarterly Report FY 2018/19 Quarter 4	Asset Performance		01-Jul-20
Asset Management Process 4.09	D.84.02	Both				X	Day 4 Interviews - Network Renewal & Maintenance Strategies Overview	51528540	Asset Performance Quarterly Report FY 2019/20 Quarter 2	Asset Performance		01-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			4.1	4.2	4.3	4.4						
Asset Management Process 4.10	D.83.00	Both		X			Day 3 Interviews	Web Site	State of the Infrastructure Report for 2018-19 (on Western Power website)	Asset Performance		01-Jul-20
Asset Management Process 4.11	D.83.01	Both			X		Day 3 Interviews - Legislative & Compliance Obligations Management	49250493	Extract from Annual Compliance Report to the ERA for 2018-19 Schedule A	Regulation and Investment Assurance		01-Jul-20
Asset Management Process 4.12	D.83.02	Both			X		Day 3 Interviews - Legislative & Compliance Obligations Management	50687894	Corporate Compliance-Senior Leader Induction Pack	Corporate Compliance		01-Jul-20
Asset Management Process 4.13	D.83.03	Both			X		Day 3 Interviews - Legislative & Compliance Obligations Management	10687224	Regulatory Changes Register	Corporate Compliance		01-Jul-20
Asset Management Process 4.14	D.83.04	Both	X				Day 3 Interviews - Business Planning	46832148	Statement of Expectations for 2020-21 (replaced Strategic Development Plan)	Business Development & Strategy		01-Jul-20
Asset Management Process 4.15	D.86.00	ETL2				X	Day 6 Interviews - Network Operations, Contingency & Emergency Management	53110373	Transmission Service Standard Benchmarks and Service Standard Adjustment Mechanism May 2020	Network Operations		06-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			4.1	4.2	4.3	4.4						
Asset Management Process 4.16	D.86.07	Both	X				Day 6 Interviews - Field Operations, SEQT Management System and related elements	49353460	Safety Health & Environment Vision and Journey	Safety, Environment, Quality and Training		08-Jul-20
Asset Management Process 4.17	D.86.08	Both	X				Day 6 Interviews - Field Operations, SEQT Management System and related elements	52747291	Maturity Strategy 4 Year Plan R11 June 2020	Safety, Environment, Quality and Training		08-Jul-20
Asset Management Process 4.18	D.89	Both		X			Asset Performance Management	32966882	Asset Performance Management Standard	Asset Performance		09-Jul-20
Asset Management Process 4.19	D.83.23	Both	X				Day 3 Interviews - Network Development Strategies	47251564	Network Plan NP21 Network Portfolio Optimisation	Grid Transformation		13-Jul-20
Asset Management Process 4.20	D.83.27	Both			X		Day 3 Interviews - Legislative & Compliance Obligations Management	43626511	Quarterly Compliance Assurance Report Q4 FY2018 - GT&SEQT	Corporate Compliance		13-Jul-20
Asset Management Process 4.21	D.83.28	Both			X		Day 3 Interviews - Legislative & Compliance Obligations Management	N/A	Quarterly Compliance Assurance Report Q4 FY2019 - GT&SEQT	Corporate Compliance		13-Jul-20
Asset Management Process 4.22	D.37	Both		X			Service Standard Performance Report	ERA website	Service Standard Performance Report	Regulation and Investment Assurance	21-May-20	28-May-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			4.1	4.2	4.3	4.4						
Asset Management Process 4.23	D.41.01	Both		X			Major Network/Supply Incidents Review Reports	53209596	Extract from Yanchep & Two Rocks Bushfire PIR	Network Operations		16-Jul-20
Asset Management Process 4.24	D.41.02	Both		X			Major Network/Supply Incidents Review Reports	53210044	Extract from Generation Failure PIR	Network Operations		16-Jul-20

Table 26: Information provided by Western Power for Review – Asset Management Process4 – Environmental Analysis

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
Asset Management Process 5.01	D.61.03	Both		X					Testing and Checks Evidence	33987429	F 105 Control Room Evacuation & Test Exercises	Network Operations	21-May-20	02-Jun-20
Asset Management Process 5.02	D.61.10	Both	X	X					Operational Procedures	33970824	SOP 164 Restoration of Lines, Feeders, Reclosers & Fuses	Network Operations	21-May-20	02-Jun-20
Asset Management Process 5.03	D.64	Both	X	X					Operational Procedures	33936427	G_245_Prioritising Network Restoration Guideline	Network Operations	21-May-20	02-Jun-20
Asset Management Process 5.04	D.61.05	Both	X	X					Operational Procedures	34044617	G 237 Contact Procedure Emergency	Network Operations		03-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
											Service Organisations & Critical Infrastructure			
Asset Management Process 5.05	D.17	Both	X	X					Performance Standard	34237321	Power Quality Strategy, 2017	Grid Transformation	21-May-20	04-Jun-20
Asset Management Process 5.06	D.39	Both						X	Training & Competency Matrix.	52728249	Extract from R019 Network Operations Training Matrix	Network Operations	21-May-20	04-Jun-20
Asset Management Process 5.07	D.29	ETL2	X						Strategic Spares Policy	32593523	Tx Strategic Spares Standard	Grid Transformation	21-May-20	10-Jun-20
Asset Management Process 5.08	D.68.00	Both					X		Financial Performance Reviews	52762768	Western Power Monthly Performance Report for Board-April 2020 Appendix	Business Planning and Reporting	21-May-20	11-Jun-20
Asset Management Process 5.09	D.68.01	Both					X		Financial Performance Reviews	52856100	Western Power Monthly Performance Report for Board-June 2019 Appendix	Business Planning and Reporting	21-May-20	18-Jun-20
Asset Management Process 5.10	D.68.02	Both					X		Financial Performance Reviews	52854389	Western Power Monthly Performance Report for Board-	Business Planning and Reporting	21-May-20	18-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
											June 2018 Appendix			
Asset Management Process 5.11	D.82.03	Both						X	Additional Request- Is there a training and Comptency Framework, and an overarching plan?	49954477	Western Power Competency Framework	Human Resources		24-Jun-20
Asset Management Process 5.12	D.82.04	Both						X	Additional Request- Is there a training and Comptency Framework, and an overarching plan?	46249044	The People Plan	Human Resources		24-Jun-20
Asset Management Process 5.13	D.85.02	Both					X		Day 5 Interviews - Program Delivery & Monitoring	49443516	Operational Delivery Performance June 2019	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 5.14	D.85.03	Both					X		Day 5 Interviews - Program Delivery & Monitoring	52700391	Operational Delivery Performance May 2020	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 5.15	D.84.05	EDL1						X	Day 4 Interviews - Network Challenges & Our Response	49408208	Capability Establishment Business Case - Standalone Power Systems	Grid Transformation		06-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
Asset Management Process 5.16	D.84.08	EDL1						X	Day 4 Interviews - Network Challenges & Our Response	N/A	Redacted - SPS Capability Deliverables - June 2020 Presentation	Grid Transformation		06-Jul-20
Asset Management Process 5.17	D.84.09	EDL1						X	Day 4 Interviews - Network Challenges & Our Response	N/A	Redacted - 'Electrical Safety Certificate SPS	Grid Transformation		06-Jul-20
Asset Management Process 5.18	D.86.01	Both						X	Day 6 Interviews - Network Operations, Contingency & Emergency Management	34124017	Training and Development of Network Operations Employees	Network Operations		06-Jul-20
Asset Management Process 5.19	D.86.06	Both						X	Day 6 Interviews - Field Operations, SEQT Management System and related elements	41205405	Safety Health & Environment Golden Safety Rules	Safety, Environment, Quality and Training		08-Jul-20
Asset Management Process 5.20	D.86.09	Both	X						Day 6 Interviews - Field Operations, SEQT Management System and related elements	34255745	Incident Management Procedure	Safety, Environment, Quality and Training		08-Jul-20
Asset Management Process 5.21	D.83.24	Both			X				Day 3 Interviews - Network	34141994	Network Standard - Transmission Network	Grid Transformation		13-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
									Development Strategies		Configuration and Rating			
Asset Management Process 5.22	D.86.14	Both	X					X	Day 6 Interviews - Network Operations, Contingency & Emergency Management	30856536	Quality Manual	Network Operations		14-Jul-20
Asset Management Process 5.23	D.87.11	Both	X					X	Day 7 - Asset Management System Governance Controls & Communications	34264852	SHE Management System Controlled Document Register	Safety, Environment, Quality and Training		14-Jul-20
Asset Management Process 5.24	D.83.31	Both			X				Day 3 Interviews - Network Development Strategies	33396376	Transmission Spare Transformers Inventory Audit	Grid Transformation		16-Jul-20
Asset Management Process 5.25	D.84.15	Both		X					Day 4 Interviews - Network Challenges & Our Response	45050284	Network Control Services (NCS) Eastern Goldfield (EGF) Load Area Business Case	Grid Transformation		16-Jul-20
Asset Management Process 5.26	D.84.16	Both		X					Day 4 Interviews - Network Challenges & Our Response	45352838	Network Control Services (NCS) North Country (NC) Load Area Business Case	Grid Transformation		16-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
Asset Management Process 5.27	D.40	Both							Operations Performance Report(s)	50705896	Asset Performance Quarterly Report FY 2019/20 Quarter 1	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 5.28	D.90	ETL2	X						Asset Performance Management	NA	Nework Operations - Corrective and Preventative action request - APA_209	Asset Performance		21-Jul-20
Asset Management Process 5.29	D.91	Both						X	Asset Performance Management	NA	Safety and health Assurance Audits and Actions - Guardian extract	Asset Performance		21-Jul-20
Asset Management Process 5.30	D.14.01	Both						X	Network Delivery Strategy - Distribution and Transmission	51667602	Network Delivery Strategy - Distribution and Transmission 20/21	Network Maintenance Planning & Delivery		23-Jul-20
Asset Management Process 5.31	D.84.22	Both	X						Day 6 Interviews - Network Operations, Contingency & Emergency Management	46884992	Management Review 2018 Network Operations	Network Operations		23-Jul-20
Asset Management Process 5.32	D.84.23	Both	X						Day 6 Interviews - Network Operations, Contingency &	50792707	Management Review 2019 Network Operations	Network Operations		23-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			5.1	5.2	5.3	5.4	5.5	5.6						
									Emergency Management					

Table 27: Information provided by Western Power for Review – Asset Management Process5 - Operations

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			6.1	6.2	6.3	6.4	6.5	6.6						
Asset Management Process 6.01	D.22	ETL2	X				X		Transmission Network Maintenance Strategy	34320020	Transmission Network Maintenance Strategy, 2017	Asset Performance	21-May-20	04-Jun-20
Asset Management Process 6.02	D.25.06	EDL1	X	X		X	X		Asset Class Plans	31120335	Distribution Easement and Vegetation Strategy, 2017	Asset Performance		04-Jun-20
Asset Management Process 6.03	D.25.09	ETL2	X	X		X	X		Asset Class Plans	41008510	Transmission Structure Transmission Lines Strategy, 2017	Asset Performance		04-Jun-20
Asset Management Process 6.04	D.27	EDL1	X	X					Standard	41259651	Distribution Transformer Reuse criteria, 2017	Asset Performance	21-May-20	08-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			6.1	6.2	6.3	6.4	6.5	6.6						
Asset Management Process 6.05	D.40.01							X	Operations Performance Report(s)	CoRE	Project Status Reports Works Maintenance May 2020 Extract of pages 1-21	Network Maintenance Planning & Delivery		19-Jun-20
Asset Management Process 6.06	D.85.00	Both			X				Day 5 Interviews - Network Investment Planning	46936851	FY 19-20 Works Plan Overview	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 6.07	D.85.01	Both			X				Day 5 Interviews - Program Delivery & Monitoring	47173786	FY 19-20 Internal & External Allocation Supporting Documents	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 6.08	D.85.02	Both		X	X				Day 5 Interviews - Program Delivery & Monitoring	49443516	Operational Delivery Performance June 2019	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 6.09	D.85.03	Both		X	X				Day 5 Interviews - Program Delivery & Monitoring	52700391	Operational Delivery Performance May 2020	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 6.10	D.84.03	EDL1		X		X	X		Day 4 Interviews - Network Renewal & Maintenance Strategies Overview	45038572	Service Condition Connection Monitoring (SCCM) OCSC Business Case	Asset Performance		01-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			6.1	6.2	6.3	6.4	6.5	6.6						
Asset Management Process 6.11	D.84.04	EDL1		X		X	X		Day 4 Interviews - Network Renewal & Maintenance Strategies Overview	51791174	Service Condition Connection Monitoring (SCCM) OCSC Business Case Stage 2 2021-22	Asset Performance		01-Jul-20
Asset Management Process 6.12	D.11	EDL1	X	X			X		Distribution Network Maintenance Strategy	34319988	Distribution Network Maintenance Strategy	Asset Performance	21-May-20	04-Jun-20
Asset Management Process 6.13	D.88.03	EDL1					X		Response to question #2 on 11 June - "Asset Disposal Policy Guidelines deal only with the process of disposal (especially financial aspects) and not the decision making (asset/network planning decisions) regarding this. How/where is this this directed.? What is Western Power's policy regarding triggers for	40195844	Risk Based Renewal Methodology – Distribution Overhead	Asset Performance Grid Transformation		08-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			6.1	6.2	6.3	6.4	6.5	6.6						
									replacements (end-of-life, fit-for-purpose, utilisation, obsolescence?, etc and how is this integrated with the overall investment portfolio planning process?					

Table 28: Information provided by Western Power for Review – Asset Management Process6 - Maintenance

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
Asset Management Process 7.01	D.45	Both			X	X				X	Asset Information Security Policy	33923497	Cyber Security Standard	Chief Financial Officer	21-May-20	02-Jun-20
Asset Management Process 7.02	D.49	Both		X					X		Asset Information Performance and Quality Review	52302827	Enterprise Data Quality Scorecard	ICT	21-May-20	02-Jun-20
Asset Management Process 7.03	D.44	Both		X							Strategy	44376614	Asset Information Management	Asset Performance	21-May-20	04-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
													Strategy, 2018			
Asset Management Process 7.04	D.46	Both			X						Asset Information System Security and Access Controls Procedures	34115634	Asset Data System Access Work Instruction	ICT	21-May-20	19-Jun-20
Asset Management Process 7.05	D.82.05	Both			X					X	Additional Request- Are cyber-security system access tests carried out regularly? How are access controls implemented/managed/reviewed. Is there a whole of system robustness assessment regularly undertaken.	45062144	Information Access Provisioning Guideline	ICT		24-Jun-20
Asset Management Process 7.06	D.86.02	Both		X							Day 6 Interviews - Network Operations, Contingency & Emergency Management	28346652	Network Operations Resources Request Management (PoF Access)	Network Operations		06-Jul-20
Asset Management Process 7.07	D.86.11	Both			X	X	X			X	Day 6 Interviews - Asset Management Information Systems	43076047	Cyber Security Strategy & Roadmap	Information & Communication Technology		08-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
Asset Management Process 7.08	D.86.12	Both			X					X	Day 6 Interviews - Asset Management Information Systems	52215761	Quarterly Cyber Security Report Quarter 3 2019-2020	Information & Communication Technology		08-Jul-20
Asset Management Process 7.09	D.86.13	Both			X					X	Day 6 Interviews - Asset Management Information Systems	52518805	Cyber Security Program Steering Committee Meeting #13 Presentation May 2020	Information & Communication Technology		08-Jul-20
Asset Management Process 7.10	D.88.04	Both		X							Response to question #8 on 11 June - "Is there a program to address the gaps in Business/AM process data quality management reporting"	49340639	Enterprise Data Strategy	Business Int & Data Analytics		10-Jul-20
Asset Management Process 7.11	D.86.15	Both				X					Day 6 Interviews - Asset Management Information Systems	44569863	Physical Security Strategy	Property & Fleet		16-Jul-20
Asset Management Process 7.12	D.86.16	Both					X				Day 6 Interviews - Asset Management Information Systems	34297013	ICT Backup and Recovery Standard	Information & Communicati		21-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
														on Technology		
Asset Management Process 7.13	D.86.17	Both	X	X	X	X	X		X	X	Day 6 Interviews - Asset Management Information Systems	34065060	ICT Incident Management Process	Information & Communication Technology		21-Jul-20
Asset Management Process 7.14	D.86.18	Both	X	X	X	X	X		X	X	Day 6 Interviews - Asset Management Information Systems	5327317	ICT Problem Management Process	Information & Communication Technology		21-Jul-20
Asset Management Process 7.15	D.86.19	Both	X	X							Day 6 Interviews - Asset Management Information Systems	26226584	Data Management Information Pack for 2020 AMSR	Information & Communication Technology		21-Jul-20
Asset Management Process 7.16	D.86.20	Both	X								Day 6 Interviews - Asset Management Information Systems	4322167	ICT Change Management Process	Information & Communication Technology		23-Jul-20
Asset Management Process 7.17	D.86.24	Both			X						Day 6 Interviews - Asset Management Information Systems	53304036	Response to Question 59 on 21 July - "A Register of	Information & Communication Technology		28-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
													changes for this Change Management Process over the last 3 years" Refers to D.86.20 ICT Change Request Register			
Asset Management Process 7.18	D.103.00	Both				X					Response to Question #69 on 28 July: Access evidence to controlled site	N/A	Data Centre Access Report for October 2019	Property & Fleet		29-Jul-20
Asset Management Process 7.19	D.103.01	Both				X					Response to Question #69 on 28 July: Access evidence to controlled site	N/A	Data Centre Access Report for June 2020	Property & Fleet		29-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
Asset Management Process 7.20	D.101.00	Both							X	X	Response to Question # 66 on 28 July: Maintained register of changes related to computations. After discussion with Mathew Oakey it was agreed that we would provide checklists used for licence performance reporting which show the levels of review of data and commentary. A sample of reports to be provided.	46142197	2017-18 Annual Performance Report - Metering Code	Regulation and Investment Assurance		29-Jul-20
Asset Management Process 7.21	D.101.01	Both							X	X	Response to Question # 66 on 28 July: Maintained register of changes related to computations. After discussion with Mathew Oakey it was agreed that we would provide checklists used for licence performance reporting which show the levels of review of data and commentary. A sample of reports to be provided.	44242675	2018 Financial Year Reporting Timetable and Checklists	Regulation and Investment Assurance		29-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
Asset Management Process 7.22	D.101.02	Both							X	X	Response to Question # 66 on 28 July: Maintained register of changes related to computations. After discussion with Mathew Oakey it was agreed that we would provide checklists used for licence performance reporting which show the levels of review of data and commentary. A sample of reports to be provided.	50268242	2018-19 Annual Performance Report - Metering Code	Regulation and Investment Assurance		29-Jul-20
Asset Management Process 7.23	D.101.03	Both							X	X	Response to Question # 66 on 28 July: Maintained register of changes related to computations. After discussion with Mathew Oakey it was agreed that we would provide checklists used for licence performance reporting which show the levels of review of data and commentary. A sample of reports to be provided.	46598224	2019 Financial Year Reporting Timetable and Checklists	Regulation and Investment Assurance		29-Jul-20
Asset Management Process 7.24	D.105.00	Both					X				Response to question#42 on 20 July:Evidence of data backup procedures and testing	9418714	Western Power Backup Catalogue	Information & Communicati		05-Aug-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria								Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8						
														on Technology		
Asset Management Process 7.25	D.105.01	Both					X				Response to question#42 on 20 July:Evidence of data backup procedures and testing	N/A	Western Power Daily Backup Check 17 July 2020	Information & Communication Technology		05-Aug-20
Asset Management Process 7.26	D.105.02	Both					X				Response to question#49 on 20 July:'Examples of Data Restoration	51583644	Western Power 2019 Annual DR Report	Information & Communication Technology		05-Aug-20

Table 29: Information provided by Western Power for Review – Asset Management Process7 – Information System

Document No.	Initial Request No.	Licence	Effectiveness Criteria			Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			8.1	8.2	8.3						
Asset Management Process 8.01	D.48	Both	X			Business Continuity Plans/ Disaster Recovery Plans	41492536	Business Continuity Management Standard 2017	Chief Financial Officer		
Asset Management Process 8.02	D.51	Both		X		Cyber security performance and risk review	52712645	Sample from Western Power Cyber Security Risk register	ICT	21-May-20	04-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria			Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			8.1	8.2	8.3						
Asset Management Process 8.03	D.32	Both	X			Network Safety Strategy	34339701	Network Safety Strategy, 2017	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 8.04	D.52	Both	X		X	Risk Mitigation Strategy	34360815	Bushfire Risk Mitigation Strategy, 2017	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 8.05	D.56	Both		X		Network Asset Risk Issues Register	34013320	Extract from Network Risk Register for In-Service Assets	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 8.06	D.16	Both	X			Standard	34297680	Network Risk Management Standard, 2019	Asset Performance	21-May-20	08-Jun-20
Asset Management Process 8.07	D.36.01	Both		X		Legislative Obligations Compliance Plan -Engineering & Design	34189576	Extract from Legislative Obligations Compliance Plan -Engineering & Design	Engineering & Design		19-Jun-20
Asset Management Process 8.08	D.36.02	Both		X		Legislative Obligations Compliance Plan - Grid Transformation	34190165	Extract from Legislative Obligations Compliance Plan - Grid Transformation	Grid Transformation		19-Jun-20
Asset Management Process 8.09	D.36.03	Both		X		Legislative Obligations Compliance Plan - Safety,	34190828	Extract from Legislative Obligations Compliance Plan - Safety, Environment, Quality & Training	Safety, Environment, Quality and Training		19-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria			Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			8.1	8.2	8.3						
						Environment, Quality & Training					
Asset Management Process 8.10	D.82.00	ETL2			X	Additional Request- Life cycle costing analysis for assets, asset types, disposal or renewal options, Procedure or standard required, plus evidence of application	47760849	HAY & MIL Switchboard Refurbishment Business Case	Asset Performance		24-Jun-20
Asset Management Process 8.11	D.53	Both	X			Enterprise Risk Management Framework	42240305	Organisational Resilience Framework	Governance Risk and Compliance	21-May-20	28-May-20
Asset Management Process 8.12	D.54	Both		X		Enterprise Risk Assessment Criteria	34037272	Enterprise Risk Assessment Criteria	Governance Risk and Compliance	21-May-20	28-May-20
Asset Management Process 8.13	D.55	Both	X			Enterprise Risk Management Standard	41495635	Enterprise Risk Management Standard	Governance Risk and Compliance	21-May-20	28-May-20

Table 30: Information provided by Western Power for Review – Asset Management Process8 – Risk Management

Document No.	Initial Request No.	Licence	Effectiveness Criteria	Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			9.1						
Asset Management Process 9.01	D.61.01	Both	**X**	Major Incident Management/Contingency Plans	33989270	Network Emergency Management Plan	Network Operations		
Asset Management Process 9.02	D.61.04	Both	**X**	Major Incident Management/Contingency Plans	34133180	SOP 126 Manual Operation of the Network Following Failure of Critical Systems	Network Operations	21-May-20	02-Jun-20
Asset Management Process 9.03	D.61.06	Both	**X**	Major Incident Management/Contingency Plans	34195557	G 367 Contingency Plan-Earthquake	Network Operations	21-May-20	02-Jun-20
Asset Management Process 9.04	D.61.07	Both	**X**	Major Incident Management/Contingency Plans	34198033	G 368 Contingency Plan-Flood, Major Storm and Cyclone	Network Operations	21-May-20	02-Jun-20
Asset Management Process 9.05	D.61.08	Both	**X**	Major Incident Management/Contingency Plans	34372381	G 380 Network Operations Guide to Emergency Levels with System Change Restrict	Network Operations	21-May-20	02-Jun-20
Asset Management Process 9.06	D.61.09	Both	**X**	Major Incident Management/Contingency Plans	40449365	G 386 Network Emergency Levels	Network Operations	21-May-20	02-Jun-20
Asset Management Process 9.07	D.63	Both	**X**	Major Incident Management/Contingency Plans	3250482	G 315 Pandemic Epidemic Guideline	Network Operations	21-May-20	02-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria 9.1	Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
Asset Management Process 9.08	D.65	Both	**X**	Management Standard	34204223	MS 026 Management Standard - Contingency Planning	Network Operations	21-May-20	02-Jun-20
Asset Management Process 9.09	D.59	ETL2	**X**	Major Incident Management/Contingency Plans	52654076	ENAR TX Outage Report 26th May 2020	Network Operations	21-May-20	03-Jun-20
Asset Management Process 9.10	D.61.02	Both	**X**	Major Incident Management/Contingency Plans	33991302	SOP 104 Secondary Control Centre Activation, 2019	Network Operations		03-Jun-20
Asset Management Process 9.11	D.61.00	Both	**X**	Major Incident Management/Contingency Plans	34031021	Crisis Management Plan, 2020	Network Operations	21-May-20	03-Jun-20
Asset Management Process 9.12	D.62	ETL2	**X**	Criticality Framework	12630799	Criticality Framework for Terminal Substations, 2015	Grid Transformation	21-May-20	04-Jun-20
Asset Management Process 9.13	D.88.00	Both	**X**	Response to question #10 on 11 June -"Evidence of contingency planning testing - contingency gaming"	51441752	Annual Senior Leadership Team Bushfire Preparedness Post Exercise Report	Network Operations		08-Jul-20
Asset Management Process 9.14	D.88.01	Both	**X**	Response to question #10 on 11 June -"Evidence of contingency planning testing - contingency gaming"	51416877	Annual Bushfire SLT Preparedness Exercise November 2019	Network Operations		08-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria	Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			9.1						
Asset Management Process 9.15	D.88.02	Both	**X**	Response to question #11 on 11 June -"Who has responsibility for convening the EMT as indicated in the various Contingency Plans"	40352976	Playbook - Incident Controller - Preparedness and Response	Network Operations		08-Jul-20

Table 31: Information provided by Western Power for Review – Asset Management Process9 – Contingency Planning

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			10.1	10.2	10.3	10.4	10.5	10.6						
Asset Management Process 10.01	D.66.00	Both	**X**	**X**					Business/Financial Plan	50713800	Draft Statement of Corporate Intent 2020/21 (Dec 2019)	Board, Executive Team	21-May-20	28-May-20
Asset Management Process 10.02	D.69.00	Both							Investment Framework	34147155	Investment Governance Framework 2019	Chief Financial Officer	21-May-20	28-May-20
Asset Management Process 10.03	D.69.02	Both							Investment Framework	43041786	IGF Delivery Risk Management Guideline 2019	Finance & Metering	21-May-20	28-May-20
Asset Management Process 10.04	D.69.03	Both							Investment Framework	12235205	Financial Management Policy	Company Secretary	21-May-20	28-May-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			10.1	10.2	10.3	10.4	10.5	10.6						
Asset Management Process 10.05	D.69.05	Both							Investment Framework	34111482	Capital Expenditure and Depreciation Standard, 2016	Head of Finance, and Metering	21-May-20	28-May-20
Asset Management Process 10.06	D.69.06	Both							Investment Framework	34234305	Investment Management Policy, 2019	Chief Financial Officer	21-May-20	28-May-20
Asset Management Process 10.07	D.69.07	Both							Investment Framework	42624629	Delegation of Financial Authority, 2019	Chief Financial Officer	21-May-20	28-May-20
Asset Management Process 10.08	D.69.08	Both							Investment Framework	34128500	Delegated Financial Authority (DFA) Matrix - Additional Guidance and Information	Chief Financial Officer	21-May-20	28-May-20
Asset Management Process 10.09	D.71.00	Both							Investment Framework	34178944	Investment Management Standard, 2019	Chief Financial Officer	21-May-20	28-May-20
Asset Management Process 10.10	D.71.01	Both							Investment Framework	34199397	Portfolio Management Standard, 2019	Chief Financial Officer	21-May-20	28-May-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria						Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			10.1	10.2	10.3	10.4	10.5	10.6						
Asset Management Process 10.11	D.69.01	Both							Investment Evaluation Framework	41868859	Program and Project Management Guideline	Finance and Metering		04-Jun-20
Asset Management Process 10.12	D.66.02	Both	X	X	X	X	X	X	Business/Financial Plan	48779902	10 Year Business Plan- Executive Presentation June 2019	Business Planning and Reporting		19-Jun-20
Asset Management Process 10.13	D.85.13	ETL2						X	Day 5 Interviews - Capital Expenditure Governance & Application	48919218	Project Management IGF Health Check Badgingarra Wind Farm July 2019	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 10.14	D.85.14	ETL2						X	Day 5 Interviews - Capital Expenditure Governance & Application	50831902	Project Management IGF Health Check Hay-Mill Supply Reinforcement December 2019	Regulation and Investment Assurance		03-Jul-20

Table 32: Information provided by Western Power for Review – Asset Management Process10 – Financial Planning

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			11.1	11.2	11.3	11.4						
Asset Management Process 11.01	D.14	Both				x	Network Delivery Strategy	46473187	Network Delivery Strategy FY 19-20 - Distribution and Transmission, (Sep 2018: Mar 2019)	Network Maintenance Planning & Delivery	21-May-20	28-May-20
Asset Management Process 11.02	D.75	Both					Investment Framework	34069810	Change Control Guideline, 2019	Finance & Metering	21-May-20	28-May-20
Asset Management Process 11.03	D.76	Both					Investment Framework	42403084	Quality Assurance Guideline, 2017	Finance and Metering	21-May-20	28-May-20
Asset Management Process 11.04	D.70	Both		X			Investment Framework	34001353	Business Case Guideline, 2019	Finance and Metering	21-May-20	28-May-20
Asset Management Process 11.05	D.69.01	Both				X	Investment Framework	41868859	Program and Project Management Guideline	Finance and Metering		04-Jun-20
Asset Management Process 11.06	D.80	EDL1				X	Additional Request: Evidence of Change controls being implemented, and changes to scope as well as budget are assessed	49890727	Evidence of Change Control & Scope & Budget (TX Wood Pole Management FY 2018/19)	Regulation and Investment Assurance	12-Jun-20	16-Jun-20
Asset Management Process 11.07	D.81	Both				X	Additional Request: Evidence of Post Implementation reviews being conducted, and	46375351	PIR Establish New Substation at QEII Medical Centre	Regulation and Investment Assurance	12-Jun-20	16-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			11.1	11.2	11.3	11.4						
							findings fed back into process improvements					
Asset Management Process 11.08	D.80.01	ETL2		X		X	Additional Request- Evidence of Change controls being implemented, and changes to scope as well as budget are assessed	47035225	Evidence of Change Control & Scope & Budget (TX Substation ARP FY 2018 to 2020)	Asset Performance		24-Jun-20
Asset Management Process 11.09	D.85.04	Both				X	Day 5 Interviews - Program Delivery & Monitoring	CoRE	Project Status report Major Works April 2020	Network Maintenance Planning & Delivery		03-Jul-20
Asset Management Process 11.10	D.85.05	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	N/A	Copy of 2020 IGF Assurance Activities	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 11.11	D.85.06	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	46805015	IGF Compliance Report - November 2018 Meeting - IRC Paper	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 11.12	D.85.07	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	47687382	IGF Compliance Report - March 2019 - IRC Paper	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 11.13	D.85.08	Both				X	Day 5 Interviews - Capital Expenditure	50174339	IGF Compliance Report - October	Regulation and		03-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria				Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			11.1	11.2	11.3	11.4						
							Governance & Application		2019 Meeting - IRC Paper	Investment Assurance		
Asset Management Process 11.14	D.85.09	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	51406582	IGF Compliance Report - February 2020 Meeting - IRC Paper	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 11.15	D.85.10	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	46434938	OPPM Monthly Data Checks September 2018	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 11.16	D.85.11	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	51423598	OPPM Monthly Data Checks January 2020	Regulation and Investment Assurance		03-Jul-20
Asset Management Process 11.17	D.85.12	Both				X	Day 5 Interviews - Capital Expenditure Governance & Application	46980604	Project Management IGF Health Check Review February 2019	Regulation and Investment Assurance		03-Jul-20

Table 33: Information provided by Western Power for Review – Asset Management Process11 – Capex Planning

Document No.	Initial Request No.	Licence	Effectiveness Criteria		Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			12.1	12.2						
Asset Management Process 12.01	D.19	Both		X	Development Process	40965939	Process NTWK.1.2.05 Develop 6 year NMP [APPROVED]	Asset Performance	21-May-20	04-Jun-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria		Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			12.1	12.2						
Asset Management Process 12.02	D.77	Both	X		AMSR Policy, Guidelines, or Procedures	34113439	AM Framework, 2020	Asset Performance	21-May-20	04-Jun-20
Asset Management Process 12.03	D.86.03	Both		X	Day 6 Interviews - Network Operations, Contingency & Emergency Management	34148108	Network Operations Audit Schedule	Network Operations		06-Jul-20
Asset Management Process 12.04	D.86.05	Both		X	Day 6 Interviews - Network Operations, Contingency & Emergency Management	53106988	Network Operations Corrective & Preventative Actions List Screen Shot	Network Operations		06-Jul-20
Asset Management Process 12.05	D.87.10	Both		X	Day 7 - Asset Management System Governance Controls & Communications	53205066	Extracts from Internal Audit Performance Reports to Finance Risk & Audit Committee	Corporate Compliance		14-Jul-20
Asset Management Process 12.06	D.87.13	Both	X		Day 7 - Asset Management System Governance Controls & Communications	49629359	ISO 55001 Assessment Findings and Corrective Action Plan 2019	Asset Performance		14-Jul-20
Asset Management Process 12.07	D.92	Both	X	X	Asset Performance Management	NA	Asset Management System Improvement Plan (AMSIP) extract - ISO55001	Asset Performance		21-Jul-20
Asset Management Process 12.08	D.93	Both	X	X	Asset Performance Management	NA	Asset Management System Improvement Plan (AMSIP) extract - AMSR action	Asset Performance		21-Jul-20

Document No.	Initial Request No.	Licence	Effectiveness Criteria		Document Type/Description	Western Power Reference or Doc No.	Title	Owner	Date Requested	Date Delivered
			12.1	12.2						
Asset Management Process 12.09	D.94	Both	X	X	Asset Performance Management	53254544	AMSIC Planning meeting for ISO55001 certification 13 Dec 2018	Asset Performance		21-Jul-20
Asset Management Process 12.10	D.95	Both	X	X	Asset Performance Management	NA	AMSIC meeting agenda and actions 12 Mar 2020	Asset Performance		21-Jul-20
Asset Management Process 12.11	D.96	Both	X	X	Asset Performance Management	NA	AMSIC meeting agenda and actions 12 Mar 2020	Asset Performance		21-Jul-20
Asset Management Process 12.12	D.97	Both	X	X	Asset Performance Management	NA	AMSIC meeting Thursday 9 Jan 2020	Asset Performance		21-Jul-20
Asset Management Process 12.13	D.98	Both	X	X	Asset Performance Management	46846143	AMSSC-AMSIC_Calendar	Asset Performance		21-Jul-20
Asset Management Process 12.14	D.99	Both	X	X	Asset Performance Management	49163040	20190612 Asset Management System Steering Committee Meeting	Asset Performance		21-Jul-20
Asset Management Process 12.15	D.100	Both	X	X	Asset Performance Management	49921895	Agenda and Minutes for Asset Management System Improvement Committee Meetings 26 Aug 2019	Asset Performance		21-Jul-20

Table 34: Information provided by Western Power for Review – Asset Management Process12 AM System Review

Appendix C PERFORMANCE RATING SCALES

The process and policy rating scale and performance rating scale have been based on the 2019 Audit and Review Guidelines – Electricity and Gas Licenses with the following rating scales.

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

Table 35: Process and Policy rating scale (reviews)

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

Table 36: Performance rating scale (reviews)