

2017 Asset Management System Review

Post Review Implementation Plan

2017 Asset Management System Review - Post Review Implementation Plan

Asset Management System Key Processes (KP)

KP 1	Asset Planning	KP 7	Asset Management Information System
KP 2	Asset Creation & Acquisition	KP 8	Risk Management
KP 3	Asset Disposal	KP 9	Contingency Planning
KP 4	Environmental Analysis	KP 10	Financial Planning
KP 5	Asset Operations	KP 11	Capital Expenditure Planning
KP 6	Asset Maintenance	KP 12	Review of Asset Management System

Recommendations

Rec No.	Key Processes	Recommendation	AMS Component and Management Actions	Accountability	Due Date
REC:01/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria - Asset management plan covers key requirements</p>	<p>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.</p> <p>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.</p>	<p><u>Ref: AMS Component – Strategy</u></p> <p>The Review report acknowledges that Western Power has a range of existing controls with considerations for affordability and efficiency strongly embedded throughout the Asset Management System (AMS) processes.</p> <p>Western Power will assess its suite of AMS documents to determine if and where the delivery of its “affordable” objective should be reflected, and put in place a plan to refine the selected AMS documents, to make a more explicit mention of the current approach in relation to delivering affordability/efficiency objectives.</p>	Asset Performance	31 Dec 2018
REC:02/2017	<p>KPA 2 – Asset creation and acquisition</p> <p>Effectiveness Criteria - Projects reflect sound engineering and</p>	<p>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 areas that constrain it from optimising capacity planning through risk-based probabilistic approaches. The review</p>	<p><u>Ref: AMS Component – Strategy and Planning</u></p> <p>Western Power will undertake an internal review of the Technical Rules (Rules) with a focus on Rule 2.5 to assess whether this Rule constrains the business from</p>	Regulation and Investment Management/ Network Planning	30 Jun 2018

Rec No.	Key Processes	Recommendation	AMS Component and Management Actions	Accountability	Due Date
	business decisions	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).	optimising capacity planning. The outcome of the review will assist in determining what changes or modifications may be required to optimise capacity planning.		
REC:03/2017	<p>KPA 3 – Asset disposal</p> <p>Effectiveness Criteria -</p> <p>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</p>	<p>It is recommended that Western Power define a clearer intent in relation to asset utilisation. This should consider:</p> <ul style="list-style-type: none"> • Enhancing the understanding of asset utilisation and articulating a preferred position based on average demand in addition to peak demand (in view of the demand profiles); • Defining target utilisation rates based on the above understanding for: <ul style="list-style-type: none"> ○ Maximum and minimum utilisation targets for individual assets or types of assets; and ○ Target average utilisation rates for the network as a whole. <p>The above should be incorporated into asset strategy, which could consider opportunity for asset rotation and redeployment, and demand management.</p> <p>This should be considered in conjunction with tariff strategy, and transitioning towards risk-based capacity planning.</p>	<p><u>Ref: AMS Component – Strategy</u></p> <p>Western Power acknowledges the benefit from implementing the proposed recommendation.</p> <p>Western Power's network plans, such as the Network Development Plan, Network Management Plan and the Network Strategy currently incorporate maximum asset utilisation, but generally not minimum utilisation.</p> <p>Western Power will develop a planning process which will address minimum asset utilisation, including defining target utilisation rates (where appropriate) for maximum, minimum and average utilisation.</p>	Network Planning	30 Jun 2018

Opportunities for Improvement

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
OFI:01/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria - Asset management plan covers key requirements</p>	<p>The Asset Management System Description document outlines that the Network Strategy (Nov 2016) captures how the business will deliver on the asset management objectives; however, its stated objectives do not clearly align with the Asset Management Objectives Report (Jun 2017) and other asset management documentation. Establishing clear purpose on objectives at the higher level of the AMS is important to ensure that they consistently filter to the lower level processes. The Asset Management Objectives Report and the Network Strategy are core documents that sit atop the AMS.</p> <p>There appears to be broad alignment between the objectives articulated through each; however, their alignment is difficult to trace and there is an opportunity for it to be improved.</p>	<p><u>Ref: AMS Component – Policy and Objectives/ Strategy</u></p> <p>Western Power acknowledges the opportunity to improve the consistency of representation between the identified components of the AMS.</p> <p>Western Power will refine the Network Strategy document to better align with the Asset Management Objectives document.</p> <p>For clarity, the highlighted issue is a case of representation in documents and inconsistency in language between these documents, and does not have any impact on the actual network performance or risk.</p>	Network Planning/ Asset Performance	31 Dec 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
OFI:02/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria - Asset management plan covers key requirements</p>	<p>The Asset Management System document is supported by an “Asset Management System Map” which provides a view of the AMS. The map is a key communication piece in describing the AMS and should accurately reflect its status. However, it was noted that some of the boxes of the map reflect documents, whilst others are conceptual (e.g. a box is shown for the “Strategy for the Asset Management System”, but this is a conceptual strategy and is understood as a concept rather than a document).</p> <p>There is an opportunity to improve the AMS Map by clearly identifying those components of the map that are documents within the AMS.</p>	<p><u>Ref: AMS Component – Governance Control and Communication</u></p> <p>Western Power acknowledges the opportunity to improve the pictorial representation of artefacts on its AMS map.</p> <p>The AMS map is supported by an AMS description document that defines the scope and purpose of each box represented in the AMS map.</p> <p>Western Power will identify clearly those components of the map that are documents.</p>	Asset Performance	31 May 2018
OFI:03/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria - Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning</p>	<p>Significant efforts by Western Power to engage with customers were observed. Western Power captures customer needs outside the AMS via its “customer insights” survey. These insights are then cross-checked against the asset management objectives to provide assurance of alignment.</p> <p>Notwithstanding, there is an opportunity to advance the AMS maturity through a concerted customer focus (within the AMS)</p>	<p><u>Ref: AMS Component – Asset Management Objectives</u></p> <p>Considerable focus is given to customers and their needs and these needs are embedded in various layers of Western Power’s AMS.</p> <p>The customer surveys provide useful insights for Western Power.</p> <p>Western Power will continue active</p>	Network Planning/ Asset Performance/ Customer Service	Ongoing

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
		<p>that demonstrably drives asset management objectives across the spectrum of applicable customer requirements.</p> <p>This is particularly important given that there may be a lag in regulated and legislative responses to customer requirements, and this lag is likely widening in a rapidly changing environment (with increasingly interactive consumers and producers (“prosumers”) and emerging technology feasibility).</p>	<p>consultation with customers, and where well defined “quantitative measures” are agreed, will further embed and align these measures within its AMS objectives, strategies and plans.</p>		
OFI:04/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria – Service levels are defined</p>	<p>Western Power measures and monitors a variety of AMS related indicators through different mechanisms (including the Corporate KPI Dashboard, the Asset Performance Quarterly Report, the Annual Reliability and Power Quality Report, the annual Service Standard Performance Report, and the KPI Dashboard for Service Standard Benchmarks (SSBs)).</p> <p>Notwithstanding, it is difficult to readily gauge how the AMS is performing against its scope of objectives and where to focus improvement effort.</p> <p>There is an opportunity for Western Power to improve in this area by maintaining an “AMS dashboard” that succinctly monitors the performance of the AMS against its stated</p>	<p><u>Ref: AMS Component – Performance Management</u></p> <p>Western Power has a range of dashboards that cover the specific KPIs in relation to the AMS (although not specifically branded as AMS KPIs on these reports/ dashboards).</p> <p>Western Power will consider and where feasible, produce a plan to provide AMS reporting that monitors performance of the AMS against its stated objectives.</p>	Asset Performance	31 Aug 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
		<p>objectives. It is envisaged that this would be similar to the Corporate KPI Dashboard, except monitoring the AM objectives rather than the corporate objectives. This would be beneficial as performance against the asset management objectives is a leading indicator for performance against the corporate objectives (and noting that the corporate objectives also have a broader scope than the AMS).</p>			
OFI:05/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria – Non-asset options (e.g. demand management) are considered</p>	<p>The DM Screening Tool appears to provide a sophisticated means for assessing the potential for a DM solution. The systematic consideration of non-network options and the application of the tool is observed within business case documentation. The DM guideline notes the importance of ensuring that the options (e.g. emerging technologies) and variables (e.g. price of batteries) within the tool are up to date. However, there does not appear to be a formal process to ensure that this occurs.</p> <p>There is an opportunity for improvement; whereby, Western Power can ensure that the DM screening tool variables are formally reviewed and updated on a periodic basis (e.g. annually). Ideally, this process would require robust market research into DER procurement</p>	<p><u>Ref: AMS Component – Strategy</u></p> <p>Western Power will implement a review cycle for its Demand Management screening tool and update the variables as and when new demand management options are available.</p>	Network Planning	30 Jun 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
		(e.g. cost of battery storage solutions).			
OFI:06/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria – Non-asset options (e.g. demand management) are considered</p>	<p>Whilst the impacts of emerging technologies appear to be recognised at the high-level strategy documents, the AMS itself does not appear to translate this into implementable strategy. Peer NSPs have stronger recognition of the current impacts, and how current investment decisions will impact into the future (and are subsequently adopting strong strategic responses).</p> <p>However, there is an opportunity for Western Power to strengthen the AMS' strategic response to emerging technologies through the incorporation of an emerging technology strategy as part of its core strategy documents (e.g. one of the key asset management objective strategies). Whilst this is suggested by the AMS map, the implementation appears solely reliant on the DM screening tool.</p> <p>This strategy would likely be more readily solidified once the actions under the corporate strategic plan have had time to progress. However, it is anticipated that the AMS will have responded to this issue prior to the next AMS Review.</p>	<p>Ref: AMS Component – Strategy</p> <p>Western Power is addressing this opportunity as part of the implementation of its corporate strategy with an intent to maximise the value of the existing and future network.</p> <p>The outcomes of evaluation and adoption of alternative technologies will be embedded within the AMS through updates to existing documentation or new documents as appropriate.</p>	Network Planning	Ongoing

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
OFI:07/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria – Non-asset options (e.g. demand management) are considered</p>	<p>Western Power’s corporately led initiatives play a strong role in what may ostensibly be considered Asset Management activities. This was observed in relation to driving efficiencies, stakeholder requirements, and establishing new initiatives (e.g. ICT strategy). The approach that Western Power applies was observed to be beneficial in setting new direction and managing core asset management issues with greater efficacy.</p> <p>To improve integration of the outcomes of corporately led asset management initiatives into the Asset Management System, there is an opportunity to improve the depth of action being taken through the corporate initiatives within the asset management improvement plan. This should then include considerations for management of change to the Asset Management System from these corporately led initiatives.</p>	<p><u>Ref: AMS Component – Governance Control and Communication</u></p> <p>Western Power acknowledges the opportunity to improve in this area, and will include asset management related improvements within the asset management improvement plan, regardless of the source of these improvements (for example, through corporate initiatives or through the AMS). This will also ensure the implications of change are considered and embedded across the AMS.</p>	Asset Performance	30 Mar 2018
OFI:08/2017	<p>KPA 1 - Asset Planning</p> <p>Effectiveness Criteria – Lifecycle costs of owning and operating assets</p>	<p>CutlerMerz has observed a variety of analyses considering lifecycle costs that feed into the development of asset strategies, including: planning, design and procurement, maintenance and renewal stages of the asset lifecycle. However, there is opportunity for Western Power to collate a succinct articulation of the scope of optioneering and</p>	<p><u>Ref: AMS Component – Governance Control and Communication</u></p> <p>Western Power acknowledges this opportunity.</p> <p>Western Power will review and identify an optimal way to</p>	Asset Performance	30 Jun 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
	are assessed	lifecycle analysis underpinning the strategies. It is envisaged that this could be captured as a “one pager” to support the asset strategies and subsequent volumetric repex and opex programmes	articulate the scope of optioneering and lifecycle analysis underpinning the development of strategies and update appropriate AMS documentation. This will be incorporated within the AMS strategies in line with their stated review cycles or earlier if required.		
OFI:09/2017	KPA 1 - Asset Planning Effectiveness Criteria – Likelihood and consequences of asset failure are predicted	Western Power appears to have applied thorough consideration to determining the level of sophistication that is applied for assessing risk for different asset classes. Notwithstanding, it was difficult to ascertain the range of tools that are used for different assets, which does not appear to be captured succinctly in a single location. There is an opportunity for Western Power to succinctly capture the risk approaches that are applied to different assets across the asset base (it is understood that Western Power is intending to include an appendix to its Network Risk Management Standard documentation suite which identifies the different methodology and tools applied to different assets which would achieve this purpose).	<u>Ref: AMS Component – Risk Management</u> Western Power will embed the list of approaches and tools applied for various asset classes in a formal document. This list of approved approaches and tools will underpin the Network Risk Management Standard.	Asset Performance	31 Jan 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
OFI:10/2017	<p>KPA 2 - Asset creation and acquisition</p> <p>Effectiveness Criteria – Projects – Projects reflect sound engineering and business decisions</p>	<p>Western Power undertakes a variety of value analyses in relation to investment decisions. Western Power has a process to review key controlled documents such as design standards, standard designs and material/plant/equipment specifications – either periodically or on an ad-hoc basis if a trigger occurs (e.g. an incident or a change in an industry standard and corporate efficiency drivers). For example, Western Power has a rolling cycle of renewing period contracts for the supply of standard items of plant and equipment (e.g. poles, conductors, transformers, switchgear). For controlled documents, this allows periodic testing of the market both from a commercial perspective, as well as a technical perspective. The process for review is discussed in the Strategic Planning & Standards and Technology Governance Framework document. Internal design reviews were also observed, for example: automation and control design, LV Protection Relays in Zone Substations, and transformer procurement.</p> <p>Notwithstanding, there is an opportunity to improve by summarising the various design efficiency review processes undertaken and</p>	<p>Ref: AMS Component – Strategy</p> <p>Western Power acknowledges this opportunity and will review the various design efficiency review processes and where appropriate, summarise the identified requirements within the relevant AMS documents.</p>	Engineering & Design	30 Sep 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
		<p>identify requirements within a single source such as the Strategic Planning & Standards and Technology Governance Framework document, including;</p> <ul style="list-style-type: none"> • Check lists, • Innovation and Continuous Improvement Review committees, • Lessons Learnt (following completion of large projects and procurement events) • Industry feedback • Benchmarking with Peer NSPs. 			
OFI:11/2017	<p>KPA 2 - Asset creation and acquisition</p> <p>Effectiveness Criteria – Projects reflect sound engineering and business decisions</p>	<p>Furthermore, whilst the reviews are comprehensive, the processes are predominantly internal. At peer NSPs, CutlerMerz has observed gains being achieved through external critical efficiency reviews; where the review team is not accustomed to the NSP’s established practices. It is noted that Western Power recently commissioned an external review of the most appropriate pole type, with the final recommendation being softwood poles (for the distribution network).</p> <p>There is an opportunity for improvement for Western Power to undertake external critical efficiency reviews of a sample of standard designs, including a targeted selection across (for example) distribution/transmission</p>	<p><u>Ref: AMS Component – Strategy</u></p> <p>Western Power acknowledges this opportunity and will undertake a more critical efficiency review of its design standards through benchmarking with peer national/ international utilities.</p>	Engineering & Design	31 Dec 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
		<p>overhead, substations, and underground assets. For example, for distribution overhead lines it is anticipated that such a review would consider:</p> <ul style="list-style-type: none"> • General opportunities for efficiency within the Distribution Overhead Line Design Manual; • Internal design requirements in excess of AS/NZS 7000:2010 Overhead line design and detailed procedures; and • Review of a sample that includes several recent distribution overhead line designs, in consideration of general efficiency opportunities and whether actual designs are in excess of the requirements specified in the internal and national standards. <p>Should the review identify significant scope for efficiency improvements, Western Power may wish to consider a broader review of standard designs.</p>			
OFI:12/2017	<p>KPA 5 - Asset operations</p> <p>Effectiveness Criteria – Assets are documented in an Asset Register including asset type,</p>	<p>It is noted that the capture of asset information has significantly improved over time; whereas practices relating to updating the Fixed Asset Register (FAR) do not appear to have changed. Western Power may wish to consider, if the level of detail included within the Fixed Asset Register (FAR), and the processes to update it, appropriately capture the level of details within the Asset</p>	<p><u>Ref: AMS Component – Performance Management</u></p> <p>The financial information captured within Western Power’s Fixed Asset Register (FAR) is recorded and maintained in accordance with relevant Australian Accounting</p>	Finance & Metering	30 June 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
	location, material, plans of components, an assessment of assets' physical/ structural condition and accounting data	Management System. Where appropriate, Western Power may wish to pursue enhancements (in FAR details and update process) where commensurate with the benefits gained from such enhancements.	<p>Standards.</p> <p>The FAR's main role is to provide financial information on fixed assets to allow for the calculation of depreciation for accounting and tax purposes.</p> <p>Western Power will evaluate the requirements to enhance information within the FAR to provide more granular financial information for its current assets.</p> <p>If found beneficial and cost effective, Western Power will implement these changes within FAR or other similar solutions within Western Power.</p>		
OFI:13/2017	<p>KPA 5 - Asset operations</p> <p>Effectiveness Criteria – Staff resources are adequate and staff receive training commensurate with their responsibilities</p>	A range of competencies (including qualifications and training requirements) for the business are systematically managed and monitored (particularly those relating to field qualifications and network access, network operations, compliance training, driver training, etc.). However, there appears to be opportunity to improve the management and monitoring of holistic asset management competency and training requirements. For example, Western Power may wish to	<p><u>Ref: AMS Component – Governance Control and Communication</u></p> <p>Western Power will evaluate establishing an asset management competency framework and central management of all asset management competency and training requirements as a part of its AMS.</p>	Asset Performance/ Human Resources	31 Dec 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
		establish an 'asset management competency framework', and centrally manage all asset management competency and training requirements.	The outcome of this evaluation will be documented, and if required, form the basis for an implementation plan.		
OFI:14/2017	<p>KPA 7 - Asset management information system (MIS)</p> <p>Effectiveness Criteria – Adequate system documentation for users and IT operators</p>	<p>In further developing the ICT Strategy, there is an opportunity for Western Power to ensure that the strategy:</p> <ul style="list-style-type: none"> • Will embed asset management philosophy within ICT management – possibly through peer review and contribution to the strategy document from asset management leader; and • Capture consideration of the relevant AMS effectiveness criteria for Asset management information system (MIS) i.e. the overarching requirements in relation to: <ul style="list-style-type: none"> - Verifying data upon entry, and then monitoring data quality; - To security and access to systems; - Physical security and access to data centres and user interfaces; - Backup of specific systems; and - Processes for generating reportable reliability metrics (SAIDI and SAIFI). 	<p><u>Ref: AMS Component – Knowledge Management, Tools & Systems</u></p> <p>Western Power acknowledges this opportunity for improvement and will evaluate the benefit of further enhancing the alignment of the ICT strategy with the requirements of the AMS.</p> <p>This will include managing the tools and systems as an “asset” with the life cycle asset management approach adapted as applicable to ICT systems.</p>	ICT	31 Dec 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
OFI:15/2017	<p>KPA 9 – Contingency planning</p> <p>Effectiveness Criteria – Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks</p>	<p>By nature, contingency plans are not regularly accessed, but need to be readily available when required in emergency situations. Whilst the contingency plans developed in Network Operations are accessible to relevant staff, those produced in Network Planning appear to be categorised within Western Power’s document management system and may only be known to select people that have been involved with their development.</p> <p>There is an opportunity for Western Power to ensure that all the contingency plans are readily retrievable and accessible to the workforce that need to apply them when required.</p>	<p>Ref: AMS Component – Strategy</p> <p>Western Power will ensure that its suite of contingency plans are readily accessible by all relevant users.</p>	Network Planning	31 Jan 2017
OFI:16/2017	<p>KPA 9 – Contingency planning</p> <p>Effectiveness Criteria – Contingency plans are documented, understood and tested to confirm their operability and to cover</p>	<p>Western Power has demonstrated a considered process for establishing its contingency planning requirements, and developing subsequent contingency plans. This process results in targeted contingency plans for assets and issues that have been considered as a reasonable contingency risk. For example, targeted terminal substations have been identified and subsequent contingency plans have been developed, strategic spares and rapid response transformers have been identified and</p>	<p>Ref: AMS Component – Strategy</p> <p>Western Power will document the criteria for identifying and applying contingency plans across its asset base.</p>	Network Planning	31 Dec 2018

OFI No.	Key Processes	Recommendation	Management Actions	Accountability	Due Date
	higher risks	<p>developed, targeted switchgear assets at substations. The process appears well considered; however, it is difficult to understand across the breadth of assets how some have been selected and not others.</p> <p>There is an opportunity for Western Power to document the process for identifying and establishing contingency plans across its asset base.</p>			
OFI:17/2017	<p>KPA 12 – Review of AMS</p> <p>Effectiveness Criteria – Independent reviews (e.g. internal audit) are performed of the asset management system</p>	<p>It is noted that Western Power undertakes “self-audits” as part of Functional Plans within AMS processes. These are incorporated in quarterly reporting and aggregated to Business Unit and the Executive.</p> <p>Notwithstanding, there is an opportunity for Western Power to establish a considered internal audit programme for the AMS as a whole, to provide greater assurance on the performance of high risk processes. Western Power has advised that it is considering establishing such a programme, and this will be decided in light of the approved annual corporate audit plan and auditing that it is undertaken as a part of regulatory reviews like ENSMS and AMS. It is understood that the makeup of cost and effort in auditing will be balanced with risk and benefit in designing the forward audit plan.</p>	<p><u>Ref: AMS Component – Governance Control and Communication</u></p> <p>Western Power will establish an audit plan that addresses audit requirements of the AMS and includes an assessment of selected AMS components at a point in time between the AMS regulatory review timeframes.</p>	Asset Performance	30 Sep 2018