

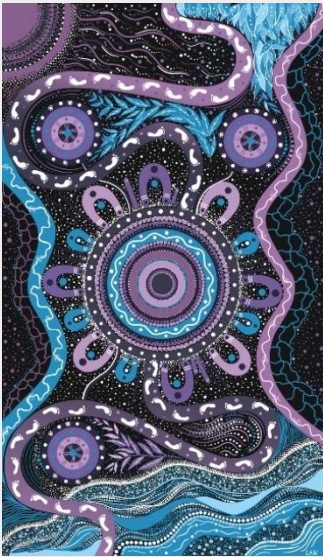
# FIRST & FINAL Implementation Assessment for MSDC3

Nov 2025

Ref: IA-2025-06

Preliminary assessment of the changes, impacts and risks  
to implement a new initiative





**We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.**

**We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.**

'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan

AEMO Group is proud to have launched its first [Reconciliation Action Plan](#) in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.

## Important notice

### Purpose

AEMO has prepared this document to provide preliminary information about the implementation of a round of updates to the Wholesale Electricity Market (WEM) Market Surveillance Data Catalogue (MSDC), known as the MSDC3 project.

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### Version control

Version	Release date	Changes
1	24/11/2025	N/A



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# 1 At a glance

<b>Problem / challenge</b>	<p>The Market Surveillance Data Catalogue (MSDC) database went live in July 2024 (MSDC1). Since then, there have been iterative updates to the MSDC to fill information gaps, fix bugs and address user access issues (MSDC2). AEMO has resolved the initial difficulties with the MSDC and the application is now in a position where it can be updated to reflect new data and functionality requirements.</p> <p>In addition AEMO has identified several potential MSDC enhancements, including reduced data processing time and improved database interrogation. These functionality and performance enhancements are referred to as MSDC3.</p>
<b>Proposed solution</b>	<p>AEMO will deliver the following MSDC updates:</p> <ul style="list-style-type: none"> <li>• Fulfil any outstanding data and functional requirements from the initial MSDC launch.</li> <li>• Implement new functional requirements and database enhancements.</li> <li>• Establish an enduring support and maintenance model for the MSDC.</li> </ul>
<b>Timing</b>	End of February 2026
<b>Estimated cost</b>	<p>\$1.8 million upfront investment (plus around \$200k contingency)</p> <p>From FY27 onwards, AEMO has accounted for an opex increase of \$600k per annum for ongoing development, support and maintenance costs (~40% of which may be truly additional).</p>
<b>Impact on market participants</b>	<p>No impact on market participants, as the MSDC users are the Economic Regulation Authority (ERA) and Energy Policy WA (EPWA).</p> <p>Some engagement will be required with the ERA and EPWA to walk through any functionality changes and how the new support model will work, however, the way users interface with the MSDC will remain unchanged.</p>

## 1.1 Purpose of the IA

This Implementation Assessment (IA) describes the changes we (AEMO) are planning to make to the MSDC and the support and maintenance arrangements. It outlines the proposed system, process and operational changes and the estimated costs and timeline for implementing these changes. This IA also provides our indicative assessment of what these changes may mean for MSDC users.

The timing of the MSDC3 project means we will publish this IA as a First and Final version only, as the scope of the project has already been defined with the affected parties (the ERA and EPWA). The purpose of this IA is to inform stakeholders of our plans.

## 1.2 Providing feedback

The proposed MSDC updates only affect EPWA and the ERA, who are the MSDC users. The scope of the MSDC3 project has already been settled in consultation with EPWA and the ERA, and we will continue to work with them during implementation.

Noting that there is limited opportunity at this point for any material changes in the scope of the current project, stakeholders can share any views or suggestions regarding AEMO’s ongoing work on the MSDC by email to [majorprojects@aemo.com.au](mailto:majorprojects@aemo.com.au).



## 1.3 Key dates

The key consultation dates for this IA are summarised in the following table.

**Table 1 Indicative timings for this process**

Step	Due date
AEMO First and Final IA distributed to MPWG members	24/11/2025
AEMO provide MPWG with Briefing on IA	1/12/2025
AEMO publish the First and Final IA to public website	15/12/2025

## 2 Overview

### 2.1 The problem / opportunity

The Electricity System and Market (ESM) Rules require AEMO to provide and maintain the MSDC, which the ERA and EPWA use to fulfill their market monitoring responsibilities. The MSDC must contain the information specified by the ERA/EPWA in the [MSDC Requirements List](#), which includes, for example, data on power system reliability, capacity requirements and bidding behaviours. We supply the data prescribed in the MSDC Requirements List either via access to our Enterprise Data Platform (EDP), or where this is information not kept in any database, via manual processes (adding files to a SharePoint library).

The initial MSDC solution went live in July 2024. We experienced some difficulties following the initial launch, identifying several data quality issues, bugs and user access problems. These early issues have now been resolved, other than a small number of information gaps that we aim to address as part of this latest MSDC project.

Since the initial MSDC launch, we have been working with the ERA and EPWA to identify functionality improvements and potential enhancements to the MSDC database solution. One of the key issues identified with the original MSDC launch was the lack of a dedicated support function and formal process for updating the MSDC. This is an area we are looking to improve.

### 2.2 Response

We are now in a position where we can commence implementing MSDC enhancements. We will deliver a suite of MSDC updates that will improve the MSDC functionality, deliver outstanding user information requests where cost effective to do so, and establish permanent MSDC support and maintenance arrangements. These changes are discussed below.

#### 2.2.1 Change 1 – Completing and enhancing the MSDC

This initiative will deliver several improvements including:

- Establishing a new mechanism to ingest selected SCADA data into the EDP to facilitate the delivery of several items within MSDC Requirements List.
- Complete the delivery of incomplete scope prescribed by the MSDC Requirements List where feasible and cost effective.
- Update the data dictionaries to ensure the datasets are adequately described.

- Review and complete the delivery of the non-database solution (this relates to data that is not stored within a database, such as supplementary capacity contracts)<sup>1</sup>.

## 2.2.2 Change 2 – MSDC support arrangements

This initiative will endeavour to establish a team responsible for:

- Delivering the MSDC improvement summarised in section 2.2.1.
- Providing ongoing support to ERA and EPWA.
- Identifying and implementing further MSDC enhancements, in consultation with the ERA and EPWA.
- Investigating and addressing MSDC issues as they are identified.
- Ongoing maintenance of MSDC data.

While the primary impetus for adopting these new support arrangements is to improve the reliability and quality of the MSDC, the same arrangements will also improve the support provided to AEMO’s implementation of the EDP in the WEM and to related services like the WEM Data Dashboard. Thus, in addition to the expected benefits for the ERA and EPWA, we anticipate other benefits for both external and internal users of WEM-related data services, as a result of implementing these arrangements.

## 2.3 Energy System and Market Rules considerations

The changes described in this IA are directed at meeting pre-existing obligations on AEMO under the ESM Rules. They are not driven by amendments to the ESM Rules.

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<sup>1</sup> AEMO’s solution for sharing information and data that are not systematically ingested into databases (and hence aren’t available to ingested into the EDP) is to upload files into a filesharing library that approved EPWA and the ERA staff have access to.



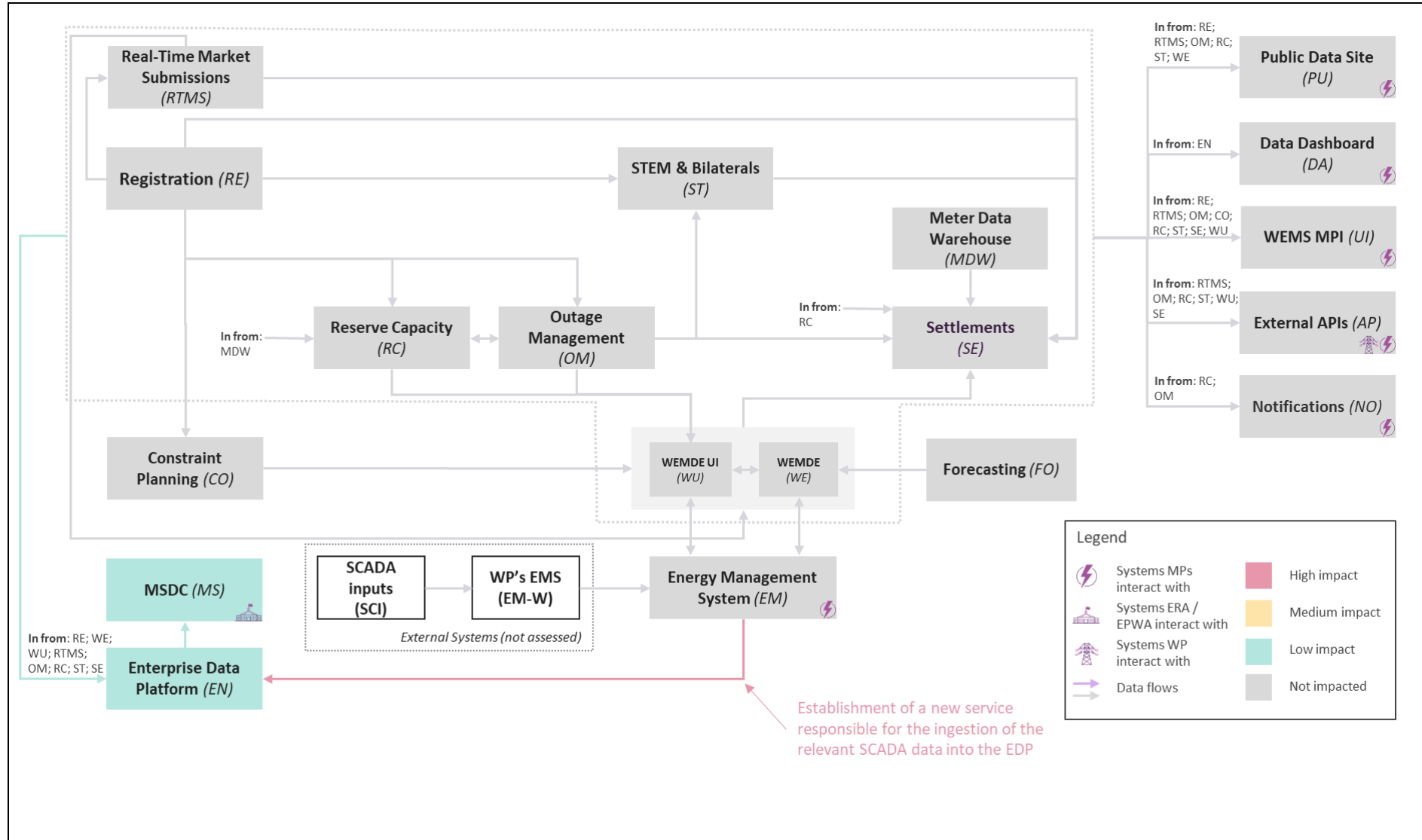
# 3 System impacts

## 3.1 MSDC

### 3.1.1 System impact illustration

Figure 1 below provides a simplified view of the applications and services currently used to support the operation of the South West Interconnected System (SWIS) and the WEM, highlighting the anticipated impacted systems as prescribed by the legend. Summary descriptions of the elements within the diagram are provided in Appendix A3.

Figure 1 Overview of impacts to AEMO systems





### 3.1.2 System impact summary

The following table summarises system impacts.

**Table 2 System impacts**

System / Component	Impact rating	Summary of impacts
Pi Integration (new application)	High	<ul style="list-style-type: none"><li>• Establishment of a new service responsible for the ingestion of the relevant SCADA data into the EDP.</li></ul>
Enterprise Data Platform	Low	<ul style="list-style-type: none"><li>• Ingestion of data from new and existing sources.</li></ul>
MSDC	Low	<ul style="list-style-type: none"><li>• Provision of certain SCADA data as required by the MSDC Requirements List</li><li>• Provision of corrected data sets.</li><li>• No change to the mechanism in which data is accessed.</li></ul>



## 4 Impacts on published documentation

This section lists the published artefacts AEMO will need to update or create as a result of the response(s) put forward and describes the basic nature of the new or modified information to be covered.

Minor amendments will be required to existing published documentation, as detailed in Table 3. Please note the MSDC Data Dictionaries are only published in the sense that it is made available to the ERA and EPWA, as external access to the MSDC is restricted to those two entities.

**Table 3 Summary of published documents affected by the project**

Document Name	New/Existing	Complexity of changes	Changes or new content	External briefings or consultation proposed?
<b>MSDC Data Dictionaries</b>	Existing	Low	Updated to reflect data sets provided in the MSDC.	Yes. Will be reviewed by ERA and EPWA only.



# 5 External impacts

## 5.1 Indicative impacts on external stakeholders

We have not identified any impacts on market participants arising from the changes to be delivered as part of this initiative. The only impacted parties are the ERA and EPWA, who are the MSDC users. They will receive new and corrected data sets through the MSDC; however, the anticipated impact is low.

**Table 4 Indicative impacts on other Rule Participants and related regulatory entities**

Function or Capability	New/Existing	Entity type	Impact rating	Related AEMO functions (WEM)	Remarks
<ul style="list-style-type: none"> <li>Access to data sets as prescribed in the MSDC Requirements List</li> </ul>	Existing	The ERA & EPWA	Low	Energy Market Management (EMM)	Ensuring completeness and accuracy of the MSDC Requirements List data, including access to SCADA data.

# 6 Implementation

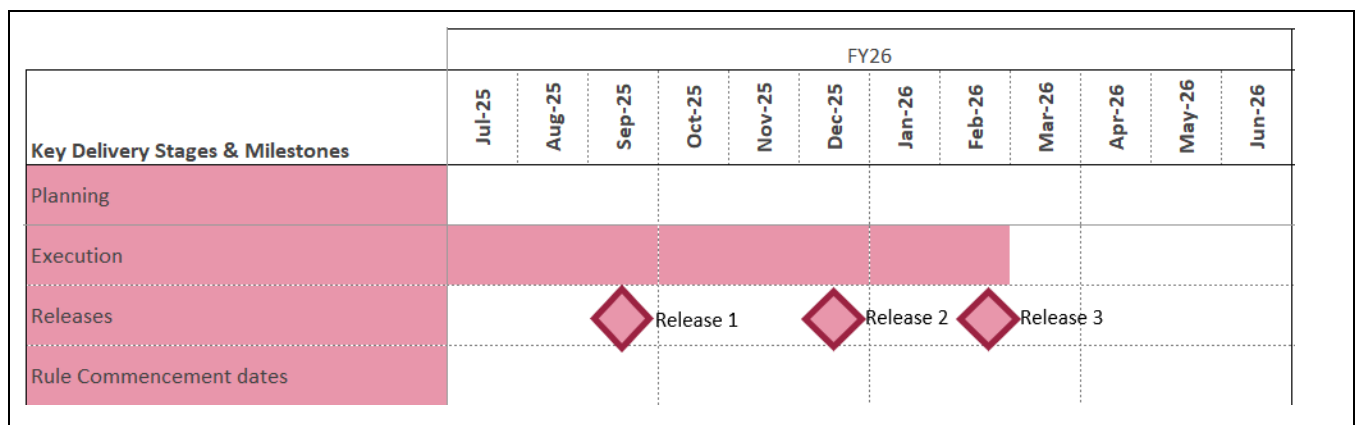
This section provides a high-level summary of the timeline and cost to implement the initiative and sets out the main implementation risks.

## 6.1 Indicative implementation timeline

The figure below sets out an indicative implementation pathway for the changes described in this IA. This initiative will be delivered in three releases with the following planned release dates:

- Release 1 was completed in late September 2025
- The estimated date for Release 2 is around December 2025
- The estimated date for Release 3 is around February 2026

Figure 2 Indicative delivery timeline



## 6.2 Market readiness approach

AEMO will work with the ERA and EPWA throughout the implementation of this initiative and will provide timely communications with these organisations regarding the timing of changes and actions required in response. Through regular engagement, light-touch learning on the new database functionality and a targeted user support function, AEMO will ensure the ERA and EPWA are informed, engaged and ready to use the enhanced solution.



### 6.3 Indicative implementation cost – AEMO

The preliminary assessment of the cost over the life of the project to implement this change is \$1.8 million (including Capex and Opex) plus a contingency allowance of around \$200k. Of this, AEMO expects to spend the full amount in FY26.

From FY27 onwards, AEMO expects that the opex allocated against operating the MSDC will increase by around \$600k per annum. This particularly reflects the additional staff time that will be dedicated to ongoing support and maintenance. It also covers a projected increase in cloud costs. As noted earlier, the new support model for the MSDC will bring improvements in the support of the MSDC, the EDP and to related data services like the WEM Data Dashboard. In evaluating the new support model, AEMO took all these costs and benefits into consideration.

We will report the current approved implementation budget (including contingency) for the project established to implement the changes described in this IA, as part of our reporting on the [WEM Implementation Roadmap](#). As implementation of the changes detailed in this IA has already commenced, we refer the reader to the following project included on the Roadmap: P03534 WEM MSDC3.

### 6.4 Implementation risks

The following table outlines implementation risks arising from the MSDC updates.

**Table 5 Initial assessment of implementation risks**

Identified risk	Current rating	Mitigation strategies	Residual rating
If there is a large number of additional requests or priority/critical requirements from ERA/EPWA (as MSDC3 is adaptable to critical changes), then it could negatively impact the project timeline. This may hinder the project's ability to accommodate the indicative scope outlined for MSDC3.	Medium	Ensure proper governance of requirements through joint prioritisation session with AEMO and ERA/EPWA. Maintain effective management of the product backlog throughout the project to ensure that development is aligned with the project's objectives and scope	Low
If consultation and response between AEMO and the ERA/EPWA takes longer than expected AND results in delay in completion of requirements, then project schedule will be impacted	High	Regular status calls with ERA/EPWA. Build response timeframes and lines of communication into the agreed 'ways of working'.	Medium
If there is an increase in data consumption, there is risk of increase in EDP Azure cloud consumption cost	Low	Continuous monitoring of Azure cloud cost for WEM EDP during project execution period. Before MSDC 3 handover, revalidate cloud cost and notify BAU owners	Low

# A1. Glossary

This document uses many terms that have meanings defined in the Electricity System and Market Rules (ESM Rules). The ESM Rules meanings are adopted unless otherwise specified.

Note further explanation of the terms used in the system impact illustration is provided in appendix A3.

**Table 6 Glossary of terms and acronyms**

Term	Definition
<b>AEMO</b>	Australian Energy Market Operator: The entity responsible for operating the Wholesale Electricity Market and managing power system security in the SWIS. (ESM Rules, Clause 2.1A)
<b>Data Dictionary</b>	The data dictionary is a resource maintained by AEMO, in accordance with ESM Rule clause 2.16.3(a) to assist the ERA and EPWA to use and interpret the data in the MSDC, including the relationship between the data and AEMOs business processes.
<b>EDP</b>	Enterprise Data Platform: A centralised system for managing, storing and retrieving AEMO's data.
<b>EPWA</b>	Energy Policy WA: The division of the Department of Energy and Economic Diversification responsible for energy policy and regulatory reform. The ESM Rules confers functions on the Coordinator of Energy and this position leads Energy Policy WA. (ESM Rules, Clause 2.2D)
<b>ERA</b>	Economic Regulation Authority. The independent body responsible for providing economic regulation and compliance oversight in the Western Australian energy sector.
<b>ESM Rules</b>	Electricity System and Market Rules. The WEM and the SWIS are governed by the Electricity System and Market Rules. See <a href="https://www.wa.gov.au/government/document-collections/electricity-system-and-market-rules">https://www.wa.gov.au/government/document-collections/electricity-system-and-market-rules</a>
<b>IA</b>	Implementation Assessment: a summary of AEMO's proposed or settled approach to implementing an initiative, to explain the changes or the benefit of external stakeholders.
<b>MPWG</b>	Major Projects Working Group: A consultative forum for engagement with industry stakeholders regarding the work program of AEMO's WA Reform Program - the delivery vehicle for AEMO's WA-focussed projects.
<b>MSDC</b>	Market Surveillance Data Catalogue: A catalogue of data used for monitoring and analysing market performance and compliance. (ESM Rules, Clause 10.6)
<b>PI</b>	Plant Information: Time series data collected from SCADA, Distributed Control Systems and Programmable Logic Controllers.
<b>SCADA</b>	Supervisory Control and Data Acquisition: A system used for monitoring and controlling power system operations in real time. (ESM Rules, Clause 2.36A)
<b>SWIS</b>	South-West Interconnected System: The interconnected electricity network in the south-west of Western Australia. (ESM Rules, Clause 1.1.2)
<b>WEM</b>	Wholesale Electricity Market: The market for the wholesale sale and purchase of electricity in the SWIS. (ESM Rules, Clause 1.1.2)



## A2. Impact rating guidance

AEMO's approach for rating impacts from No Impact, Low, Medium or High applies a predefined matrix of impact types, summarised in the table below (see next page).

Table 7 Impact assessment guidance

Dimension considered	Question	High	Medium	Low	None
<b>Impact on documentation</b>	What is the change to a given internal process, WEM Procedure or technical document that AEMO must maintain and/or publish?	Major changes to documentation. E.g. creating a significant new document (or extensively rewriting existing). E.g. document drafting and review extensively involves multiple AEMO teams.	Moderate changes to an existing document. E.g. addition, elimination or reorder of multiple process steps. E.g. document drafting and review involves multiple AEMO teams to some extent.	Minimal change to an existing document. E.g. addition, elimination or reorder of small number of process steps. E.g. document drafting and review is primarily carried out within a single AEMO team.	No changes to documentation
<b>Systems impact – market applications (internal only)</b>	How extensively will the change affect the underlying market applications?	Involves a major change to, or addition of, a market application. E.g. introduction of a new application or decommissioning of existing system	Moderate change to existing market applications. E.g. introducing many new features or significantly increasing non-functional requirements	Minor change to existing market applications. E.g. adding one or several minor new features. E.g. expanding system functionality with only minor adjustments to the application's data and processing frameworks.	No change market applications
<b>Systems impact – user interfaces (internal and external)</b>	How is the change affecting user interfaces? How easily will the change be integrated by users?	Major changes to user interface(s) e.g. introduction of significant new or decommissioning of existing UI tabs. E.g. many users may not understand the UI without training.	Moderate change to existing interfaces. E.g. significantly expanded range of controls within an existing UI tab. E.g. many users will understand the UI relatively quickly on their own, but without training, some many not.	Minor change to existing interfaces. E.g. small addition of controls within an existing UI tab. E.g. almost all users will understand the UI quickly on their own, even in the absence of training.	No change to user interfaces
<b>Systems impact – system to system interfaces (internal-internal and internal-external)</b>	How is the change affecting the interactions between systems? How easily will changes be accommodated by systems up or downstream?	Major systems interface change. E.g. entirely new machine interface, with unfamiliar data schema or transfer formats must be negotiated or understood. E.g. upstream or downstream limitations significantly constrain or complicate the implementation of the core application changes.	Moderate systems interface change. E.g. the change involves significantly expanding the number of parameters or data-streams to be exchanged, but closely follows established patterns, formats and schemas. E.g. upstream or downstream systems require many changes, but these closely follow established patterns, logic or structures.	Minor system interface change. E.g. the change involves adding a small number of parameters or data-streams, adhering to established patterns, formats and schemas. E.g. upstream or downstream systems require several minor changes.	No system to system interface impacts

## A3. System impact illustration: Explanatory notes

The appendix provides a description of each box used in the system impact illustration in Figure 1.

**Table 8 System descriptions**

Systems	Definition
<b>Constraint Planning</b>	The application and services used by AEMO to create and manage the constraint equations and sets used by WEMDE. This box includes the integration responsible for publishing the constraint equation and set data to WEMDE.
<b>Data Dashboard</b>	A webpage on AEMO's corporate website used to visualise Market Data (see <a href="#">AEMO   WEM data dashboard</a> ).
<b>Energy Management System</b>	The application that provides key functionality relating to SCADA telemetry and data retention, AGC control, network modelling and the dispatch of facilities, while also providing a real time visual representation of the current power system conditions. It provides data to and consumes data from WEMDE and WEMDE UI.
<b>Enterprise Data Platform</b>	A centralised system for managing, storing and retrieving AEMO's data At present, AEMO ingests all market data to the Enterprise Data Platform with a few exceptions. This data is used for internal reporting and provision of the MSDC Requirements List through the MSDC to the ERA and EPWA
<b>External APIs</b>	The suite of APIs used by Market Participants to make submissions to or extract market data from AEMO. This includes functionality relating to Real-Time Market Submissions, Outage Management, Reserve Capacity, STEM & Bilaterals, Settlements and WEMDE UI.
<b>Forecasting</b>	The suite of applications and services responsible for the collection of input data (e.g. from external weather providers, SCADA etc), creation and management of forecasting models and the integration to downstream consumers of forecast data such as WEMDE and WEMDE UI.
<b>Meter Data Warehouse</b>	The application responsible for collecting meter data from the Meter Data Agent and performing calculations to ensure the data is settlement ready. This box also represents the integration from the Meter Data Warehouse to Settlements.
<b>Notifications</b>	The service used by various applications to issue automated email notifications to Market Participants to confirm the status or progress of applications/submissions (e.g. Outage Plan submissions)
<b>Outage Management</b>	The application and services manage Outage Plans and Outage Intention Plans. AEMO also uses this system to manage the Approval / Rejection of the Outage Plans. This box also represents the integration from Outage Management to Reserve Capacity, STEM & Bilaterals and WEMDE UI, but excludes the user interface and APIs that Market Participants use to make or obtain Outage Plan or Outage Intention Plan submissions from AEMO.
<b>Public Data Site</b>	A webpage on AEMO's corporate website used to publish public Market Data as required under the ESM Rules (see <a href="#">AEMO   Market data</a> ).
<b>Real-Time Market Submissions</b>	The application and services responsible for the management of Market Participant Real-Time Market Submissions to be used by WEMDE in the co-optimisation of the six Market Services (i.e. energy and five types of FCESS). This box excludes the user interface and APIs that Market Participants use to make or obtain submissions from AEMO.
<b>Registration</b>	The application and services used by Market Participants to maintain their participant and facility level registration information, including standing data. This box also encompasses the APIs and services that facilitate the sharing of registration data to downstream systems but excludes the user interface that Market Participants use to update and obtain their Registration data.
<b>Reserve Capacity</b>	The suite of applications and services responsible for supporting the Reserve Capacity Mechanism including areas such as Certified Reserve Capacity, Capacity Credit Allocations, Individual Reserve Capacity Requirement, Network Access Quantities, and Reserve Capacity Testing. This box also represents the integration from Reserve Capacity to Outage Management and WEMDE UI but excludes the user interface and APIs that Market Participants use to make or obtain Outage Plan or Outage Intention Plan submissions from AEMO.
<b>SCADA Inputs</b>	The collection of systems and infrastructure within the SWIS that enable the provision of SCADA data to WP's EMS <b>The systems and infrastructure that form SCADA Inputs are not owned or controlled by AEMO.</b>

Systems	Definition
<b>Settlements</b>	The collection of applications and services that enable AEMO to perform its settlement function as prescribed by the ESM rules. This box excludes the user interface and APIs that market participants use to obtain settlement data.
<b>STEM &amp; Bilaterals</b>	The application and services responsible for the management of Bilateral and STEM submissions from Market Participants and the calculation of the STEM Auction. This box is also responsible for the provision of the STEM Auction results to Settlements but excludes the user interface and APIs that Market Participants use to make or obtain Outage Plan or Outage Intention Plan submissions from AEMO.
<b>WEMDE</b>	The collection of services that are responsible for input data management, the determination of co-optimisation dispatch and the provision of dispatch data to downstream applications.
<b>WEMDE UI</b>	The user interface of WEMDE, predominantly used by the control room to monitor dispatch outcomes and intervene where necessary. This application and associated services are also responsible for the provision of settlement data to Settlements but excludes the APIs that Market Participants use to obtain dispatch related data.
<b>WEMS MPI</b>	The WEM User Interface (i.e the WEMS MPI) used by Market Participants to make submissions to or extract market data from AEMO. This includes functionality relating to Registration, Real-Time Market Submissions, Outage Management, Constraint Planning (AEMO only), Reserve Capacity, STEM & Bilaterals, Settlements and WEMDE UI.
<b>WP's EMS</b>	The Energy Management System used by Western Power and the source of SCADA data for AEMO's systems that support the operation of the SWIS and the WEM. <b>This system is not owned or controlled by AEMO.</b>