



Jemena Electricity Networks (Vic) Ltd

Pass through application

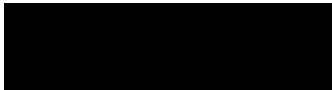
AEMO Market Interface Technology Enhancements initiatives



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Glossary

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
API	Application Programming Interfaces
ARR	Annual revenue requirement
aseXML	Australian Standard for Energy Transactions in XML (eXtensible Markup Language)
BPA	Business Process Automation
CER	Consumer Energy Resource
ESB	Enterprise Service Bus
FTE	Full Time Equivalent
ICT	Information and Communication Technology
IDAM	Identity and Access Management
IDX	Industry Data Exchange
iPaaS	Integration Platform as a Service
JEN	Jemena Electricity Networks (Vic) Ltd
JSON	JavaScript Object Notation (a data interchange format)
MITE	Market Interface Technology Enhancements
MSATS	Market Settlement and Transfer Solution
MSI application	Market System Interface Application
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rule
New MSI solution	The technology solution that JEN is seeking to replace MSI application with
NMI	National Meter Identifier
PC	Portal Consolidation
PQD	Power Quality Data
PTRM	Post Tax Revenue Model
RAFN	Reform and Future Networks Program Leadership group in JEN
SCS	Standard Control Services
SSO	Single Sign-on
SSP	Secondary Settlement Point
VPP	Virtual Power Plant
VSR	Voluntarily Scheduled Resource

1. Overview

Jemena Electricity Networks (Vic) Ltd (**JEN**) is making an application to the Australian Energy Regulator (**AER**) in accordance with the National Electricity Rule (**NER**) clause 6.6.1(a) to recover costs associated with the Information and Communication Technology (**ICT**) changes in JEN's systems, necessitated by the Australian Energy Market Operator's (**AEMO**'s) Market Interface Technology Enhancements (**MITE**) initiatives.

The Energy Security Board, in collaboration with AEMO, the Australian Energy Market Commission (**AEMC**) and the AER, has set a pathway to transition the National Electricity Market (**NEM**) into a modern energy system fit to meet the community's evolving wants and needs and towards a net-zero future for Australia (**the post-2025 NEM reforms**).

To manage the implementation of this package of reforms and deliver positive outcomes, AEMO established the NEM Reform Program in 2022 to work collaboratively with industry participants from across the energy sector. The scope of the NEM Reform Program has evolved and expanded over time, as new rule changes or policies are assessed and announced.

As part of the NEM Reform Program, AEMO released in July 2024 its business case for investments in initiatives including Identity and Access Management (**IDAM**), Industry Data Exchange (**IDX**), and Portal Consolidation (**PC**), termed the MITE initiatives.¹ The MITE initiatives represent the necessary investment in ICT systems or business processes across AEMO and market participants to uplift the base capability on which reforms are dependent.

To meet the capabilities targeted by the MITE initiatives, we must modify and replace our ICT systems and business processes to interact with AEMO's modified applications and systems securely and efficiently. The failure to do so would prevent JEN from participating in the NEM and would lead to non-compliance with our regulatory obligations to:

- provide a National Meter Identifier (**NMI**) for new connections under the NER clause 7.8.2(d)(2)
- provide NMI and NMI checksum requested by retailer under the NER clause 7.13.2
- provide metering data files to AEMO for market settlements under the NER clauses 7.3.1(a)(2) and 7.3.1(b)
- exhibit specific capabilities as a metering data provider to the reasonable satisfaction of AEMO under the NER clause S7.3.3
- comply with AEMO's Market Settlement and Transfer Solution Procedures under the NER clause 7.16.2(c)
- comply with the forthcoming changes to AEMO's B2B Procedures under the NER clause 7.17(d).

These investments are prerequisites to enable us to meet the requirements of anticipated rule changes² and reform initiatives under the NEM Reform Program, including but not limited to the Accelerating Smart Meter Deployment³ and CER data exchange⁴.

The obligations for JEN to comply with AEMO's technical specifications under the MITE initiatives arose after the final decision for JEN's 2021-26 electricity distribution price review was made. Therefore, the costs associated with the MITE initiatives were not accounted for in JEN's revenue allowance for the 2021-26 regulatory period.

The implementation of the system changes associated with the MITE initiatives spans across the 2021-26 regulatory control period (**current regulatory period**) and the 2026-31 regulatory control period (**next regulatory period**). The associated costs are material that JEN is seeking to recover through this cost pass through application in this current regulatory period, and we will include the relevant expenditures for the next regulatory

¹ AEMO, [MITE initiatives final business case](#), July 2024.

² This application does not seek cost recovery for the anticipated rule changes.

³ [Accelerating smart meter deployment | AEMC](#)

⁴ [AEMO | CER Data Exchange Industry Co-Design](#)

period in our revised regulatory proposal, which is under the AER's review currently in the 2026-31 electricity distribution price review.

The costs we expect to incur for the period to 30 June 2026 total \$5.53 million (\$2025). We consider the driver of our expenditure satisfies the criteria of a service standard pass through event, or alternatively, a regulatory change pass through event.

We propose a positive pass through amount of \$0.57 million, reflecting the incremental revenue necessary in the current regulatory period to account for the pass through expenditure. As prices have already been set for 2025-26, we propose to recover this positive pass through amount in 2026-27. We note that the AER has not made its final decision or set the price path for the next regulatory period. Accordingly, we are willing to work with the AER to determine which year works best to recover the pass through amount.

This application sets out the basis of our cost pass through application, the scope of activities and expenditures associated with the MITE initiatives and the evidence of our cost estimates.

2. Background

2.1 The NEM Reform Program

In 2020 and 2021, the Energy Security Board, in collaboration with AEMO, the AEMC and the AER, designed a pathway to transition the NEM into a modern energy system that meets the community's evolving wants and needs and towards a net-zero future for Australia (**post-2025 reforms**).⁵ The Energy Security Board recommended four interrelated reform pathways:

- **Resource Adequacy Mechanisms:** Investment in the right mix of resources (generation, storage and demand response) is in place prior to anticipated plant closures, and plant exit does not cause significant price or reliability shocks to consumers through the transition.
- **Essential System Services and Ahead Mechanisms:** Resources and services are available when needed to manage the complexity of dispatch and to deliver a secure supply to customers.
- **Transmission and Access:** The network is capable of meeting the future demands of the power system, including providing for appropriate investment signals to support investment that can deliver the energy transition at lower cost.
- **Integrating DER and Flexible Demand:** New opportunities are created for consumers about how they receive and use energy and are rewarded for doing so flexibly.

The four pathways are complemented by a data strategy for the NEM, which recognises that digitalisation and data are critical to enabling each of the reform pathways. The breadth of reforms aims to address essential change in a world of expanding consumer choices, new technologies, and large-scale capital replacement, as well as key actions to support a more secure, resilient and flexible gas market.

National Cabinet endorsed the Energy Security Board's post-2025 reforms recommendations on 29 October 2021.⁶

In 2022, AEMO established the NEM Reform Program – a multi-year program that encompasses the implementation of all reform initiatives across Australia's east coast gas and electricity markets, as well as the delivery of key AEMO foundational and strategic initiatives that bring an uplift to base capability on which reforms are dependent. As of April 2025, about 21 reform initiatives are identified as part of the scope of the NEM Reform Program.

2.2 The MITE initiatives

One of the main enablers for many of the reform initiatives is the development of supporting ICT systems and business processes. AEMO identified a subset of initiatives to uplift its systems and base capability as prerequisites to the effective implementation of several critical NEM reform initiatives. These initiatives are collectively termed the MITE initiatives (previously termed Foundational and Strategic Initiatives) and are summarised in Table 2-1.

Table 2–1: MITE initiatives

Initiative	Description
Identity and Access Management	A unified mechanism to authenticate and authorise external identity and entitlements when accessing AEMO services, enabling a single pane of glass

⁵ [Energy Security Board | Post 2025 electricity market design project](#)

⁶ Department of Climate Change, Energy, the Environment and Water. Post-2025 Market Design, 29 October 2021. <https://www.energy.gov.au/energy-and-climate-change-ministerial-council/working-groups/energy-transformation-enablers-working-group/post-2025-market-design>

Initiative	Description
	for participants accessing AEMO applications, while consolidating and improving overall cyber security controls.
Industry Data Exchange	A unified data exchange mechanism to support the secure and efficient exchange of data between energy stakeholders for new services required by NEM Reforms, existing legacy services and provide a framework extensible to other energy markets. AEMO has committed to developing a second business case for the migration and transition of legacy services to the IDX platform.
Portal Consolidation	A new web and mobile user portal to provide a single pane of glass user experience for participants, securely accessing all AEMO browser-based services.

Source: [AEMO NEM Reform Program Scope](#)

2.2.1 Drivers for the MITE initiatives

There are three key drivers for the MITE initiatives:

- **Energy Industry Transformation:** to deliver the significant set of NEM reforms, AEMO must either allocate resources strategically to provide a secure and fit-for-purpose technology foundation to deliver better consumer outcomes, or to take a tactical, reactive and fragmented approach, which is likely to compound complexity in AEMO and participant ICT landscapes, increase implementation and operational expenses and reduce agility to respond to change.⁷
- **Industry pain points:** AEMO's systems have been variously acquired over the last 10-15 years. As such, industry participants must interact through various access points, utilising different protocols, formats, and standards to access AEMO's services, resulting in an inconsistent, fragmented, and duplicated user experience.⁸
- **Security concerns:** Given the mandatory cybersecurity uplifts (such as the *Security of Critical Infrastructure Act 2018* requirements) and advanced security capabilities such as identity federation and context-based authentication, the presence of multiple routes for managing identities and access, coupled with non-standard data exchange protocols and patterns, existing alongside diverse entry points to AEMO services collectively represent an unacceptably vulnerable landscape. The interconnectivity of the energy sector and digitisation of the grid is increasing the surface area of potential vulnerabilities that can be exploited, and the impact if security is breached.⁹

AEMO considered that it would be unacceptable for both AEMO and industry to 'do nothing' given the considerations above. AEMO therefore developed the MITE initiatives to create a fit-for-purpose, resilient and secure framework for existing market services, which would provide the agility to support new services for NEM reform initiatives, thereby strengthening the market's ability to transition to a renewable generation future.¹⁰

The MITE initiatives are industry-wide reforms that involve changes to both AEMO's and industry participants' ICT systems. The MITE initiatives are interrelated:

⁷ AEMO, [MITE initiatives final business case](#), July 2024, p.9.

⁸ AEMO, [MITE initiatives final business case](#), July 2024, p.9.

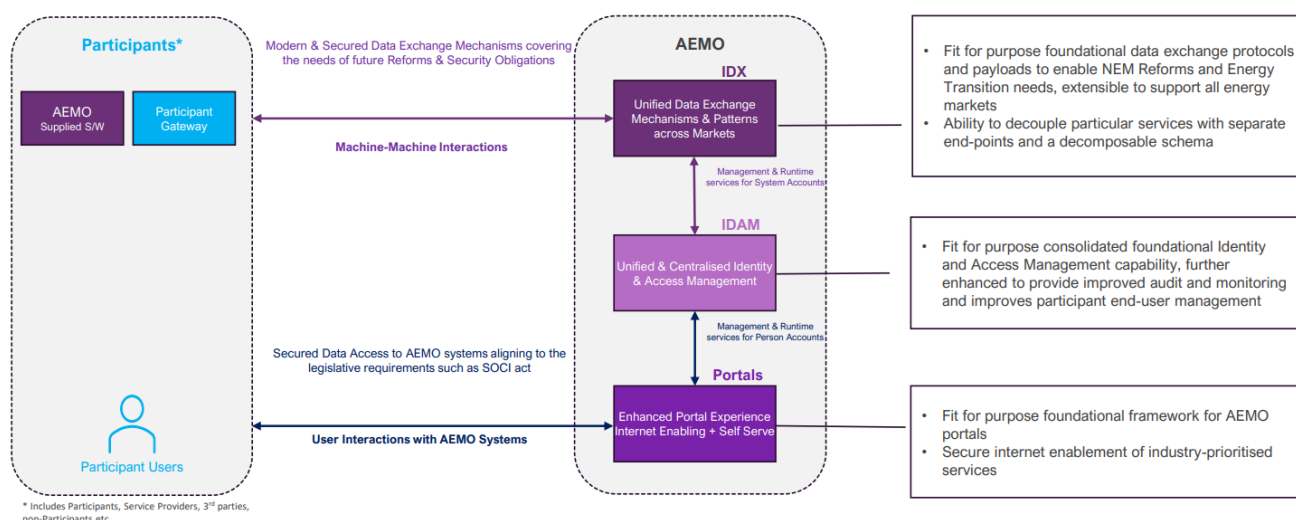
⁹ AEMO, [MITE initiatives final business case](#), July 2024, p.9.

¹⁰ AEMO, [MITE initiatives final business case](#), July 2024, p.5.

- New IDAM capability for both AEMO and industry participants would enable participant users to interact with AEMO systems and services through a single consolidated portal (**PC**) with a unified, secured access point.
- The uplift in IDAM capability also underpins the management and runtime services for system accounts, which are critical for maintaining secure, automated and compliant data exchanges between participant users' gateways and AEMO's IDX platform.¹¹
- The proposed change in the data exchange protocols and payload formats within AEMO's IDX platform, which necessitates a corresponding change in participant users' gateways and systems, aims to facilitate more efficient and secure data transfer in light of the increase in volume and complexity of data introduced under the NEM reforms.¹²

Figure 2–1 provides a visual representation of the target state that is aimed to be facilitated by the MITE initiatives.

Figure 2–1: Strategic target state for the MITE initiatives



Source: AEMO, MITE initiatives final business case, July 2025

AEMO conducted a series of business and technical workshops with industry stakeholders throughout 2023 and early 2024 to design and develop the MITE initiatives. With the stakeholders' endorsement and its internal governance approval, AEMO released its final business case for the MITE initiatives on 11 July 2024.¹³ The MITE initiatives then became part of AEMO's NEM Reform Program suite of initiatives formally.

AEMO's final business case has provided sufficient certainty for JEN to proceed with system modifications necessary to support integration with AEMO's new IDAM and IDX platforms, notwithstanding that the technical design of the ICT systems and the implementation timing remain subject to ongoing industry consultation.

2.2.2 Implementation timeline of the MITE initiatives

The IDX initiative presents significant complexity and costs to industry participants, as it requires extensive modifications to all dependent interfaces and applications that interact with AEMO's data exchange. Additionally, substantial effort is required to migrate legacy services to the new payload format and data exchange protocol in the new IDX platform.

¹¹ The management of system accounts includes the provisioning and deactivation of accounts, secure credential administration, enforcement of access controls, and maintenance of audit trails to ensure compliance with regulatory and operational requirements. Runtime services refer to the operational capabilities that support the continuous and secure execution of system processes and interactions. This includes session management, real-time monitoring, secure data transmission, automated task execution, and system availability management to ensure reliable and uninterrupted service delivery.

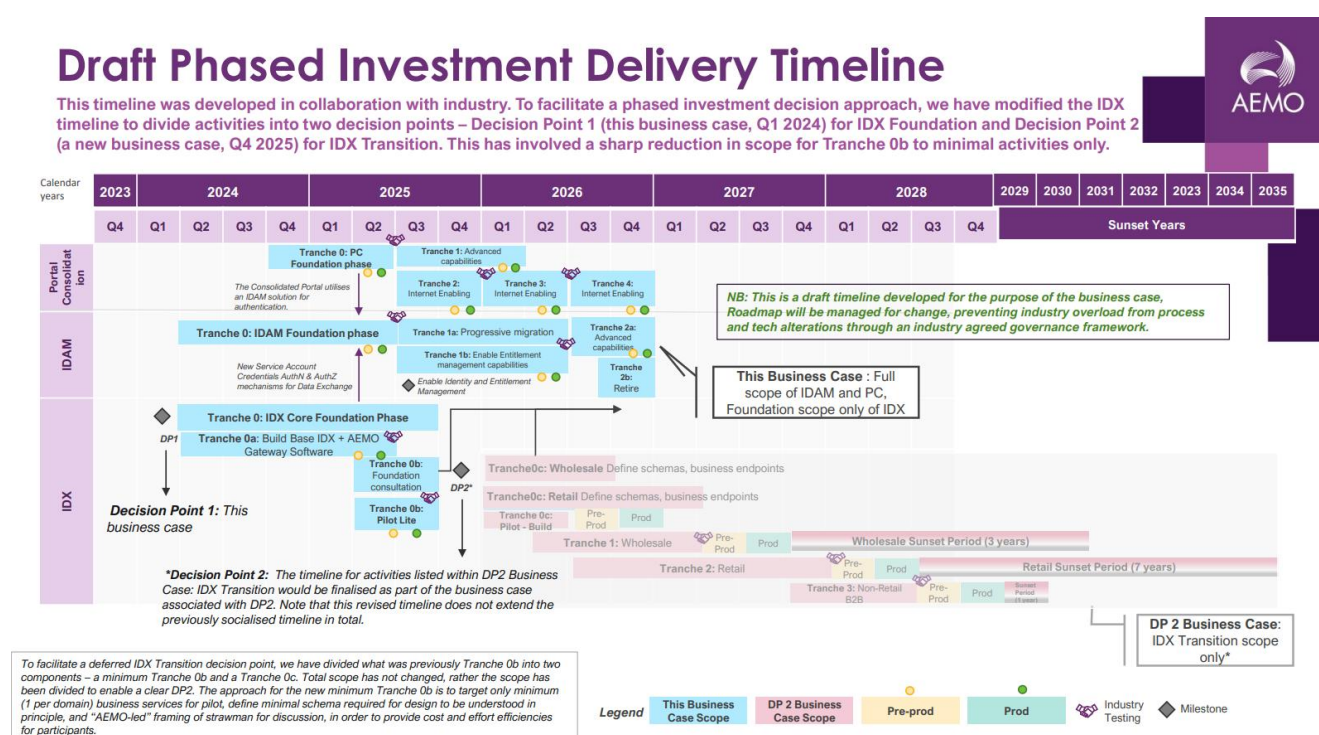
¹² Payload formats define the structure, encoding, and content type of data transmitted between systems or services. These formats ensure that the receiving system can correctly interpret and process the information contained within the message payload.

¹³ AEMO, [MITE initiatives final business case](#), July 2024.

In recognition of the industry cost and associated work for the IDX initiative, AEMO decided on a phased investment approach wherein the scope of works related to the IDX initiative is divided into two stages (Figure 2–2):

- 1) **IDX Foundation** – Establishment of the foundational technical capabilities of the target state IDX that will be suitable for data exchange between AEMO and industry participants, providing unified standardised channels and protocols following cybersecurity best practices and compliance. This will support the introduction of new services under upcoming reforms in a secure and extensible manner.
- 2) **IDX Transition** – While the foundation capabilities for new reform initiatives would be available (thereby reducing time to market), existing services would continue to rely on existing interfaces and legacy payloads such as aseXML until they are migrated to the new standards and payload formats progressively. The scope of this work is subject to a new standalone AEMO Business Case (DP2). AEMO expected that the bulk of industry costs would apply to the IDX transition.

Figure 2–2: Phased Investment Delivery Timeline of MITE initiatives as of July 2024



Source: AEMO, MITE initiatives final business case

The IDAM and PC initiatives were expected to be implemented by the end of 2026, according to the AEMO's business case in July 2024. However, recent communications from AEMO indicate timeline slippages across IDX, IDAM, and PC implementation, but the exact dates are not yet shared by AEMO.

2.3 The interdependencies between the MITE initiatives and upcoming NEM reforms

Many of the NEM reform initiatives require the collection and exchange of data about flexible energy resources in the power system. Without a fit-for-purpose ICT infrastructure, AEMO and industry participants, including JEN, would struggle or not be able to deliver the NEM reform initiatives. In particular, two upcoming reforms that will leverage AEMO's MITE initiatives are discussed below.¹⁴

¹⁴ The NEM reforms are not included in this application.

2.3.1 Accelerating smart meter deployment

The ‘Accelerating smart meter deployment’ rule change aims to accelerate the deployment of smart meters to consumers, enabling them to access the benefits that smart meters can provide sooner. The rollout of smart meters is to start in mid-2025 and end in 2030.¹⁵

This rule will also enable Distribution Network Service Providers (**DNSPs**) to access basic power quality data (**PQD**) recorded by smart meters, allowing them to manage their networks better and reduce network costs for customers. Basic PQD refers to measurements of voltage, current, and phase angle. The proposed basic PQD access and exchange arrangements under this rule (**the basic PQD arrangements**) aim to promote better outcomes for consumers and the broader energy system by:

- Improving standardisation in the structure, types, sequencing, and frequency of basic PQD provided across market participants
- Reducing differences in exchange architectures or methods for basic PQD access
- Addressing a potential lack of competitive pricing where basic PQD is required from a high percentage of sites.

The basic PQD arrangements will apply to all small customer meters from 1 July 2026.

This rule introduces a new obligation on Metering Coordinators (**MCs**) or Metering Providers (**MPs**) to collect and deliver basic PQD to DNSPs, and where relevant, AEMO and the AER. This represents significant volumes of data. The AEMO is required to create basic PQD procedures and standardise the exchange architecture for MCs to deliver basic PQD service to DNSPs.

The IDX platform, developed under the MITE initiatives, will enable relevant participants to provide basic PQD services using a standardised exchange architecture. Basic PQD will be delivered through the IDX platform, as confirmed by AEMO on 14 August 2025.¹⁶ Market participants will need to manage the transfer of basic PQD and support a new payload format and interface in AEMO’s IDX platform.¹⁷

2.3.2 The CER Data Exchange

In partnership with AusNet Services, AEMO has conducted a collaborative co-design process for the first stage of developing a national consumer energy resources data exchange (**CER Data Exchange**).

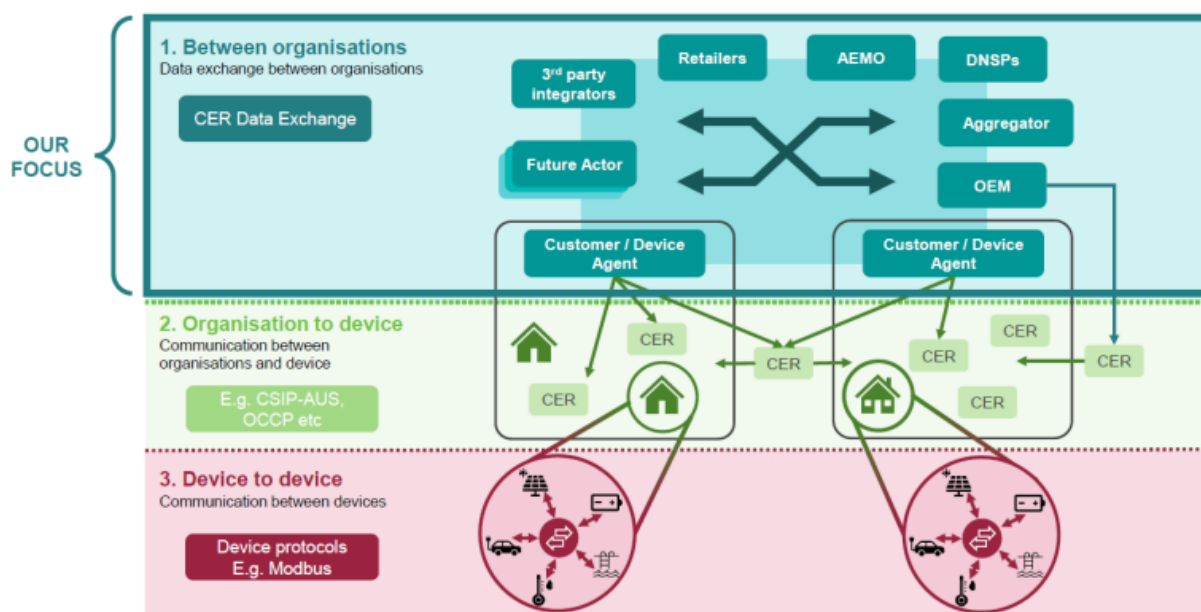
Currently, CER data is maintained and exchanged through a growing number of fragmented, often proprietary point-to-point connections, making the process complicated and inefficient. Australian CER trials have shown that a streamlined and secure data exchange between organisations is a much needed and critical enabler of CER integration and coordination. A CER Data Exchange supports more efficient data exchange between organisations, separate to other protocols, trials, and initiatives underway to facilitate ‘Organisation to Device’ and ‘Device to Device’ communications (see Figure 2–3).

¹⁵ AEMC, [Accelerating smart meter deployment rule determination](#), November 2024.

¹⁶ On 14 August 2025, AEMO confirmed its decision to use the IDX platform for the implementation of PQD via email to NEM Reform Program participants.

¹⁷ AEMO, [Metering services review-final high level implementation assessment](#), December 2024, pp.36-37.

Figure 2–3: Digital enablement of CER coordination



Source: AEMO, CER Data Exchange industry codesign project summary.

The CER Data Exchange Industry Co-Design Project completed the co-design phase on 30 April 2025. Stakeholders expressed a clear preference for AEMO to own and operate the CER Data Exchange, leveraging its existing expertise in operating industry-wide systems and interfaces. AEMO aims to deliver priority use cases of the CER Data Exchange, including broader access to CER standing data and efficient sharing of network limits, by May 2027.

The CER Data Exchange will leverage the IDX and IDAM capabilities being built under the MITE initiatives. The CER Data Exchange will share the same foundational capabilities such as authentication, role-based access, security controls, and structured data exchange mechanisms, which are essential for the transmission of data between many organisations. As the MITE initiatives focus on improving the interface of existing market systems (IDAM and IDX), there is still a requirement to develop and build capabilities that are specific to the exchange of CER data.¹⁸

2.4 Structure of this application

The remainder of this application is structured to address the NER clause 6.6.1 requirements:

- Section 3 details the incremental costs that JEN is incurring as a result of the MITE initiatives
- Section 4 details the positive pass through event and the eligible pass through amount

This application is supported by the following appendices:

- Appendix A provides a compliance checklist
- Appendix B provides the expenditure build-up model for JEN's MITE project
- Appendix C provides our approach to calculating the revenue impact of the cost past through amount
- Appendix D provides descriptions of job roles required to deliver JEN's MITE project
- Appendix E provides the evaluation criteria for Business Process Automation tools

¹⁸ AEMO, [CER Data Exchange Industry Co-Design Summary](#), April 2025, pp.9-10.

- Appendix F provides our claims for confidentiality over this submission.

3. Impact of MITE initiatives on JEN

This section explains the actions that JEN must undertake (i.e. JEN's MITE project) and the costs it must incur to accommodate the changes contemplated under the MITE initiatives.

3.1 What JEN needs to do

Our ICT systems enable connectivity and data sharing essential for participation in the NEM. These capabilities include:

- **Business-to-Business (B2B) communications:** Facilitating information exchange with other market participants, including customer and site details (e.g., life support status), meter data, one-way notifications (e.g., meter faults, planned interruptions), service orders (requests and responses), and network billing invoice data.
- **Business-to-Market (B2M) connectivity:** Ensuring configuration data remains aligned with AEMO's Market Settlement and Transfer Solution (**MSATS**) for customer administration, transfers, and meter data management.

Maintaining compatible data-sharing capabilities with AEMO's systems is critical to delivering a range of services, such as:

- Processing high-priority service orders (e.g., meter reads, connections, disconnections, special reads)
- Providing meter data to customers
- Supplying customer information to call centres
- Sending SMS notifications to customers about power outages
- Supporting GIS (Geographic Information System) mapping services for asset management
- Enabling customer-facing website applications and information access.

Currently, JEN must interact with AEMO's systems through different access points and applications. This will make it increasingly difficult to keep up with the suite of new services and data requirements to be introduced under the NEM reform initiatives, while managing cyber security risks. For example, AEMO's current IDAM services are disparate, requiring JEN users to retain multiple sets of credentials, and AEMO's existing data exchange mechanisms use inconsistent standards, protocols and formats. The MITE initiatives aim to address these issues.

We have evaluated the ICT changes and activities JEN must undertake in response to the MITE initiatives. Table 3–1 describes these activities at a high level.

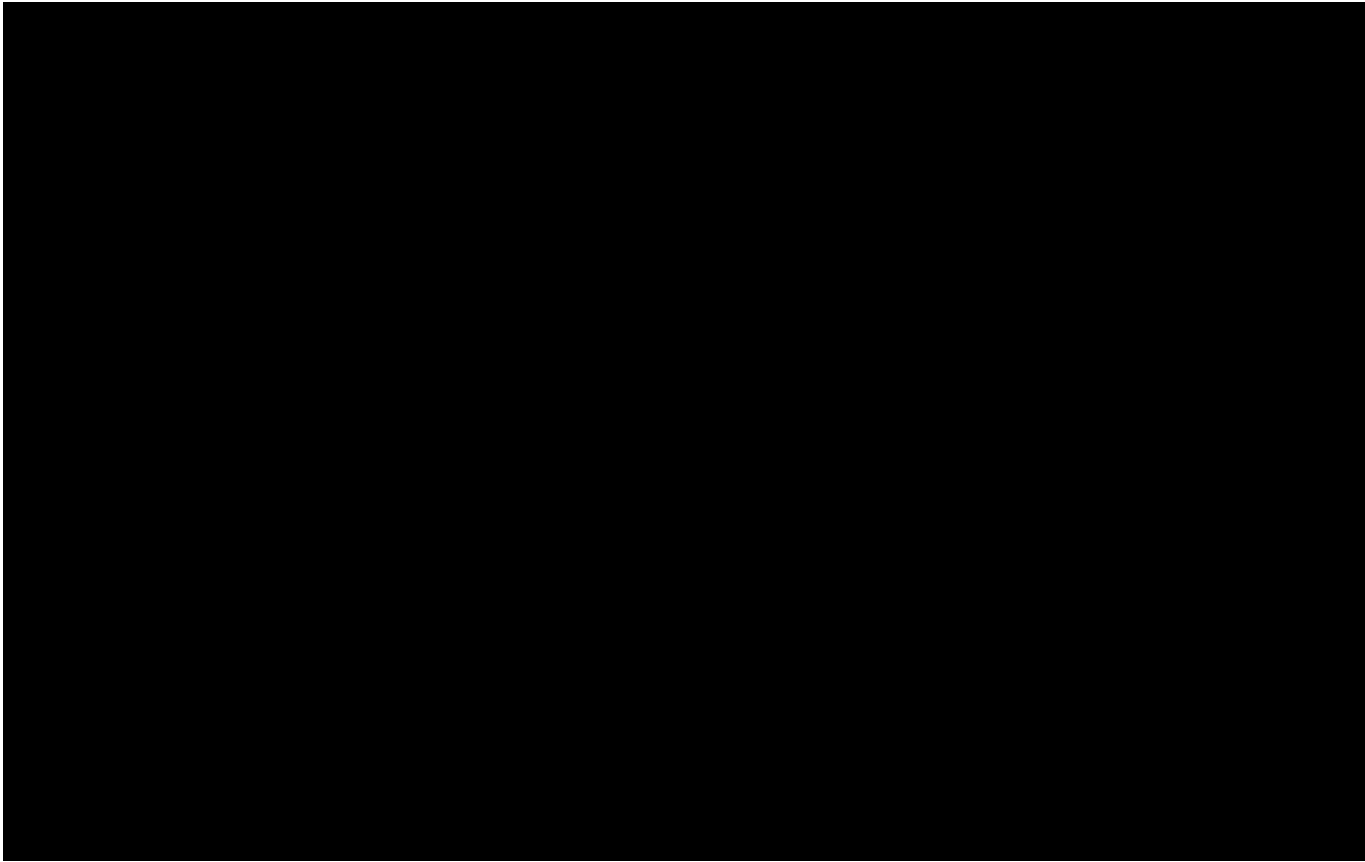
Table 3–1: Impact of MITE initiatives on JEN

Initiative	What JEN needs to do
Identity and Access Management	To support AEMO's IDAM model, JEN needs to: • enable Single Sign-On (SSO) into AEMO's digital assets once Jemena's IDAM is federated with AEMO's IDAM • eliminate the need for multiple sets of credentials to login to AEMO's services • implement best practices in cyber security control e.g., multi-factor authentication • automate role-based access to AEMO services, including access to pre-production environments • establish a role catalogue with pre-defined roles • resolve inability to identify inactive, unused and suspicious accounts • create audit trails to monitor significant identity and access management services

Initiative	What JEN needs to do
	- enable automated offboarding for users who no longer require access to AEMO’s portal services - develop training material to support the user management landscape
Industry Data Exchange	JEN’s ICT architecture, which interfaces with AEMO’s data exchange, will need to be redesigned and rebuilt to support a more efficient, secure and unified data exchange within the NEM, which includes JEN’s:
Portal Consolidation	JEN will need to roll-out training to adapt to AEMO’s new consolidated portal.

Figure 3-1 provides an overview of the areas within JEN’s ICT systems that are impacted, highlighted with an orange or red border. These changes are further explained in sections 3.1.1 and 3.1.2.

Figure 3–1: Impact areas in JEN’s ICT systems



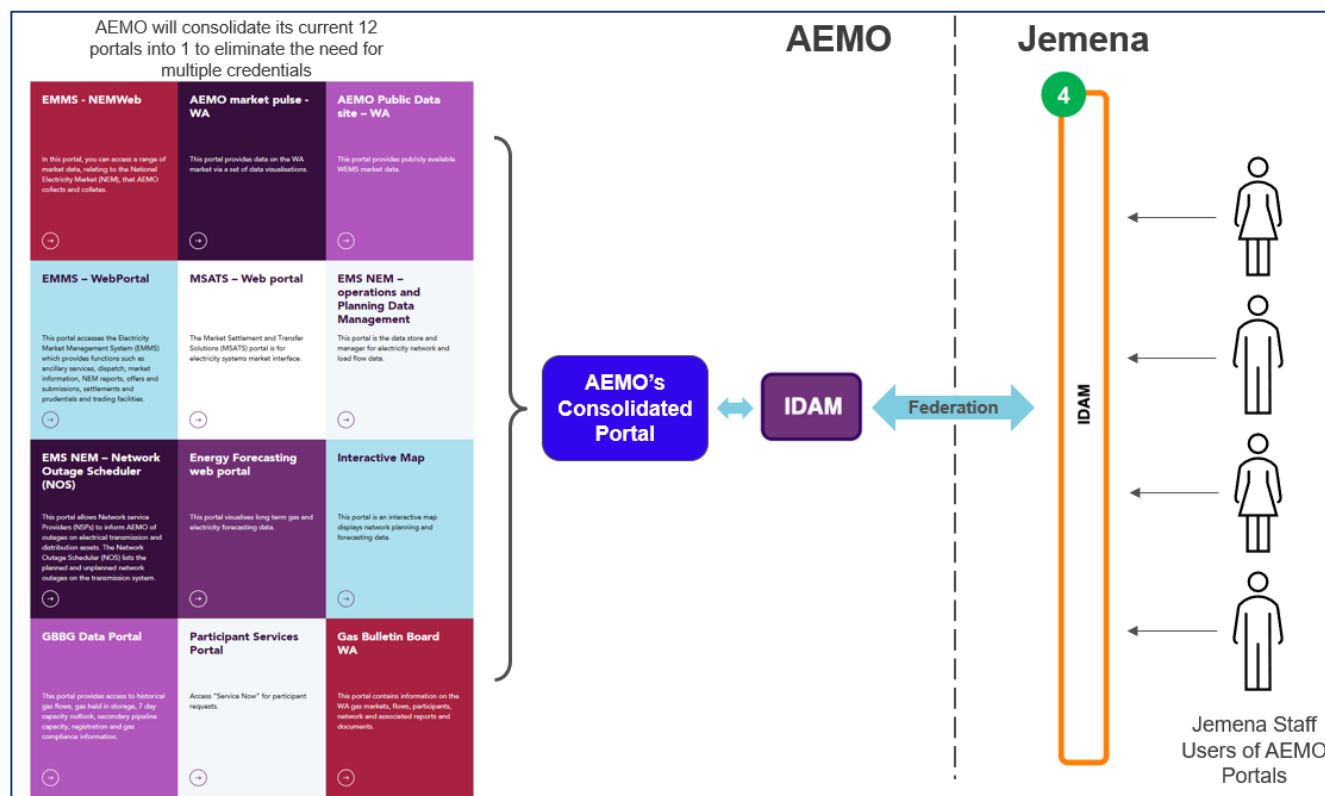
3.1.1 Changes relating to IDAM

Currently, JEN’s IDAM platform does not, nor is it required to, interact with AEMO’s IDAM platform. Under the MITE initiatives, JEN’s IDAM platform will need to be upgraded to have the identity federation capability, allowing it to share authentication information with AEMO’s IDAM platform. Identity federation is a system that allows users

to access multiple applications or systems using a single set of credentials, typically managed by a trusted identity provider. It is a key concept in single sign-on (**SSO**) and cross-domain authentication.

Identity federation would enable AEMO to consolidate its 12 portals into one and offer services to users via SSO process, with more streamlined, secured management of user and system accounts, and access controls. Figure 3–2 illustrates the target state involving AEMO’s IDAM platform and JEN’s IDAM platform under the MITE initiatives.

Figure 3–2: Target state of AEMO’s and JEN’s IDAM platform under MITE initiatives



As a trusted identity provider, JEN must upgrade or create specific capabilities in its IDAM platform to integrate with AEMO’s IDAM platform, such as multi-factor authentication, automated offboarding procedures for departing users and audit trail for monitoring users’ access.

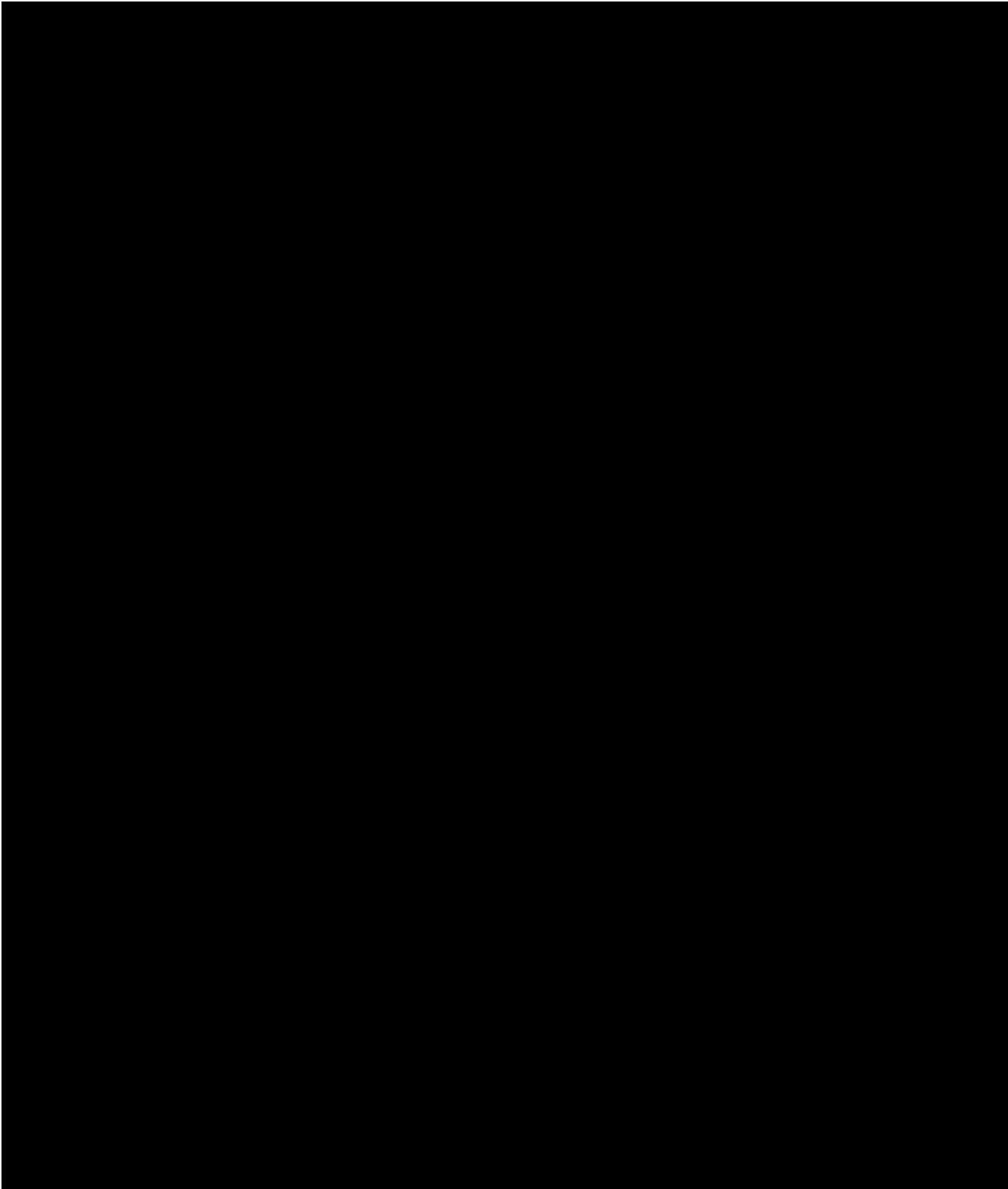
3.1.2 Changes relating to IDX

The integration of CERs into the power system represents a step increase in the volume and complexity of data that needs to be collected, processed and exchanged between industry participants’ systems and AEMO’s industry data exchange (**IDX**) platform. The uplift in AEMO’s IDX platform involves the following key changes:

- switching payload format from aseXML to JSON,
- adopting a standardised channel and pattern for a given market message,
- providing a gateway software to act as a bridge between AEMO and market participants, and for schema validation, and
- developing APIs for each pattern, for example, inquiry, file-based and event-based.

Of particular note is AEMO’s decision to switch from the aseXML payload format to JSON in its IDX platform. This fundamental change of payload format will require corresponding changes in all relevant applications and interfaces within JEN’s ICT architecture that are involved in the reading, storing, processing, validation and transfer of data – to make them capable of using JSON in addition to, and eventually in place of, aseXML. These relevant applications are depicted in Figure 3–1 and the changes are summarised in Table 3–2.

Table 3–2: Description of the changes related to IDX



One of the most significant cost components of this project, to be incurred within the current regulatory control period, will be the replacement of JEN's MSI application to be able to process JSON message formats and new security protocols to meet AEMO MITE IDX standards. JEN's current MSI application cannot be easily modified to support JSON messages and the newer security protocols. Therefore it must be replaced with a new MSI solution that can support all future AEMO standards to remain compliant. The cost of replacing the MSI application is discussed at section 3.2.2.

For clarity, JEN's MSI application and ESB are distinct from the MSI application and ESB used by Jemena Gas Networks for exchanging gas market transactions with AEMO.

3.1.3 Changes relating to PC

Currently, JEN users must access one of AEMO's 12 portals supported by AEMO's IDAM platform, each requiring different credentials, to use a particular AEMO service. This is a pain point and a key security risk identified by AEMO and industry participants. The consolidation of AEMO's portals is likely to improve the efficiency of AEMO's systems and operations, but has little impact on industry participants' costs.

With the changes to AEMO's portals, JEN will need to amend its business processes and roll out staff training to adopt new ways of accessing AEMO's services through a single authentication and access process. These costs¹⁹ will be absorbed within JEN's business-as-usual operating expenditure. These costs are therefore excluded from the cost build-up of JEN's MITE project.

3.2 The options considered

The exchange of data with AEMO is integral to a DNSP's operations in the NEM. Therefore, failing to align JEN's systems with AEMO's systems would prevent JEN from discharging its regulatory obligations and participating in the NEM once AEMO's current IDAM and IDX platforms are decommissioned. JEN must incur the costs necessary to uplift its IDAM and IDX capabilities to meet AEMO's requirements.

Other than the replacement of the MSI application, many of the modifications to JEN's system software and components can be implemented through existing software engineers who understand JEN's system, provided that they are supported by backfilling and contractors. This approach ensures the retention of corporate knowledge and the availability of staff support for these ICT applications. JEN considers this to be the most prudent and efficient approach to deliver large parts of the MITE project.

As outlined in section 3.1.2, the MSI application requires substantial re-writing or replacement, given the fundamental nature of the change in payload formats. The MSI application manages and automates business rules, validations and acknowledgements for JEN's market transactions. It supports approximately [REDACTED] transactions a day. Many aspects of the MSI application are [REDACTED]

The option of upgrading the MSI application [REDACTED] was considered in the business case for replacing the MSI application, submitted to the AER as part of JEN's initial regulatory proposal 2026-31.²⁰ This business case demonstrates that doing nothing/ maintaining the status quo is not recommended, [REDACTED]

The business case also explains that rebuilding the MSI application is not recommended due to the expected costs and its inability to provide new features and functionalities. The disadvantages of custom building an MSI application are further explained in section 3.2.1.

The replacement of the MSI application was proposed independently of JEN's MITE project in JEN's initial regulatory proposal because of insufficient information about the implementation timing and technical

¹⁹ These costs will occur after the FY25 operating expenditure base year.

²⁰ JEN, [IT investment brief - MSI platform replacement](#), 31 January 2025.

requirements of the MITE initiatives. At the time of its initial regulatory proposal, JEN had not yet had the opportunity to fully analyse the interdependencies within its system or the changes needed to adapt to AEMO's MITE initiatives. This gap is reflected in the absence of solution mapping in the MITE business case submitted with that proposal.

However, as planning progressed and more technical details of the MITE initiatives became available, it was clear that the required IDX capabilities are not achievable without the MSI application. Furthermore, JEN's planning and market scanning activities (outlined in section 3.2.2) have revealed that the scope of work involved in replacing and re-platforming the MSI application is significantly greater than originally anticipated. As a result, the updated cost estimate for the replacement of the MSI application differs from JEN's initial proposal, which was based on proxy ICT projects that have since proven to be not comparable to the replacement of the MSI application.

The MSI application is integral to JEN's transition to the future state required by the MITE initiatives, and replacing the MSI application within the current regulatory period is necessary to:

- mitigate costs by removing costly workarounds associated with the MSI application,
- avoid duplicative investment by preventing the need to plan for or implement the integration of the MSI application with the new IDX platform, only to decommission it within the next two years.
- manage resource workloads, given the complexity and duration of JEN's MITE project, alongside resource constraints driven by the need for specialised skills to modify JEN's IDX platform
- improve efficiency and reduce delivery risks of JEN's MITE project. As the MSI application underpins many of JEN's market transactions, the earlier it is replaced with a more fit-for-purpose solution, the easier it will be to upgrade JEN's IDX platform, such as developing business rules and interfaces using modern application architecture and technologies.

Realistically, JEN has two options - rebuilding its MSI application or replacing it with a commercial product. JEN considers that opting for a commercial, vendor-supported product represents the best approach for an efficient and prudent DNSP in JEN's circumstances. The reasons why and the explanation of the two options are discussed below.

3.2.1 Option 1 - Custom building an MSI application

While it is technically feasible to rebuild the MSI application, using the latest licensed [REDACTED] platform, JEN considers that a custom-built solution would require substantially more time, effort, and specialised resources than procuring a commercial product.

The current MSI application was progressively custom-built on an open-source [REDACTED] platform to meet evolving business needs. Over time, it was incrementally modified to accommodate ad hoc changes in business processes. However, the cumulative complexity of these processes, combined with significantly more stringent cybersecurity requirements, has made rebuilding the MSI application now a far more challenging and costly undertaking. Furthermore, in the current environment, it is no longer prudent to rely on an open-source platform [REDACTED]

To "upgrade" the MSI application to the latest supported [REDACTED] platform is equivalent to rewriting the entire MSI application. There is no "automatic" upgrade path where the current source code can be easily converted to the supported version. JEN will not derive any scale efficiencies in custom-building an MSI application as the coding effort is entirely manual and resource-intensive and will require a higher degree of upfront design and development costs than procuring a commercial product from a software vendor. Furthermore, design will not incorporate learnings from other businesses and best practices that have been incorporated in the commercially developed product.

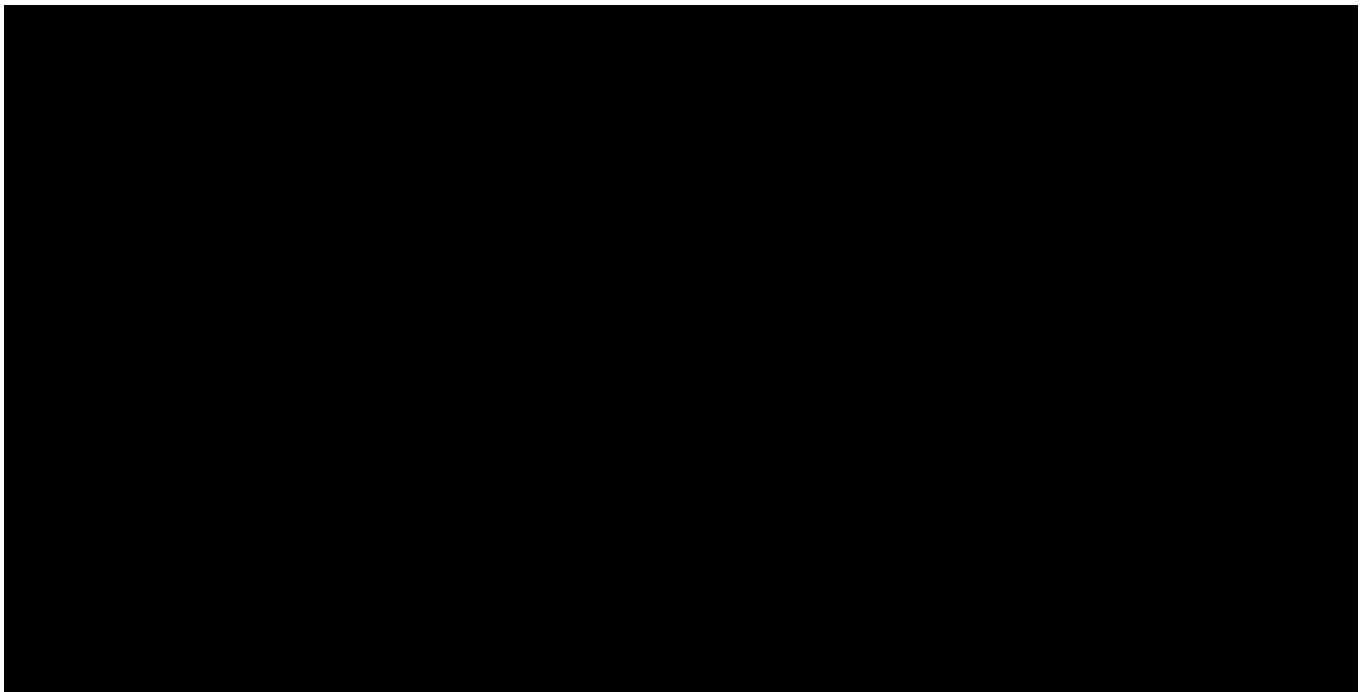
Although JEN does not have a precise estimate of the costs associated with a custom-built solution, its software architect estimates that the costs of rebuilding the MSI application could be up to three times higher than procuring a commercial product and integrating it with JEN's IDX platform (Option 2, discussed below).

One key concern is the reliance on individual developers to build and maintain custom solutions. When these key personnel leave, the knowledge to maintain the software is lost, leaving the remaining staff with a system that is difficult to support. Knowledge retention in software development is best left to software developers, not DNSPs. This is the challenge JEN is currently facing with the existing MSI application and has recognised the risks of custom-developing major systems.

3.2.2 Option 2 - Procuring a commercial product to replace MSI application

There are several products in the software marketplace that are capable of performing the function of the MSI application. JEN initially reviewed three products that are designed specifically for the utilities industry. None of these were found to be sufficiently adequate as they are all would require significant and costly configuration and customisation to meet JEN's requirements. JEN's review is summarised in Figure 3–3.

Figure 3–3: Outcomes of review of products developed for the utilities industry

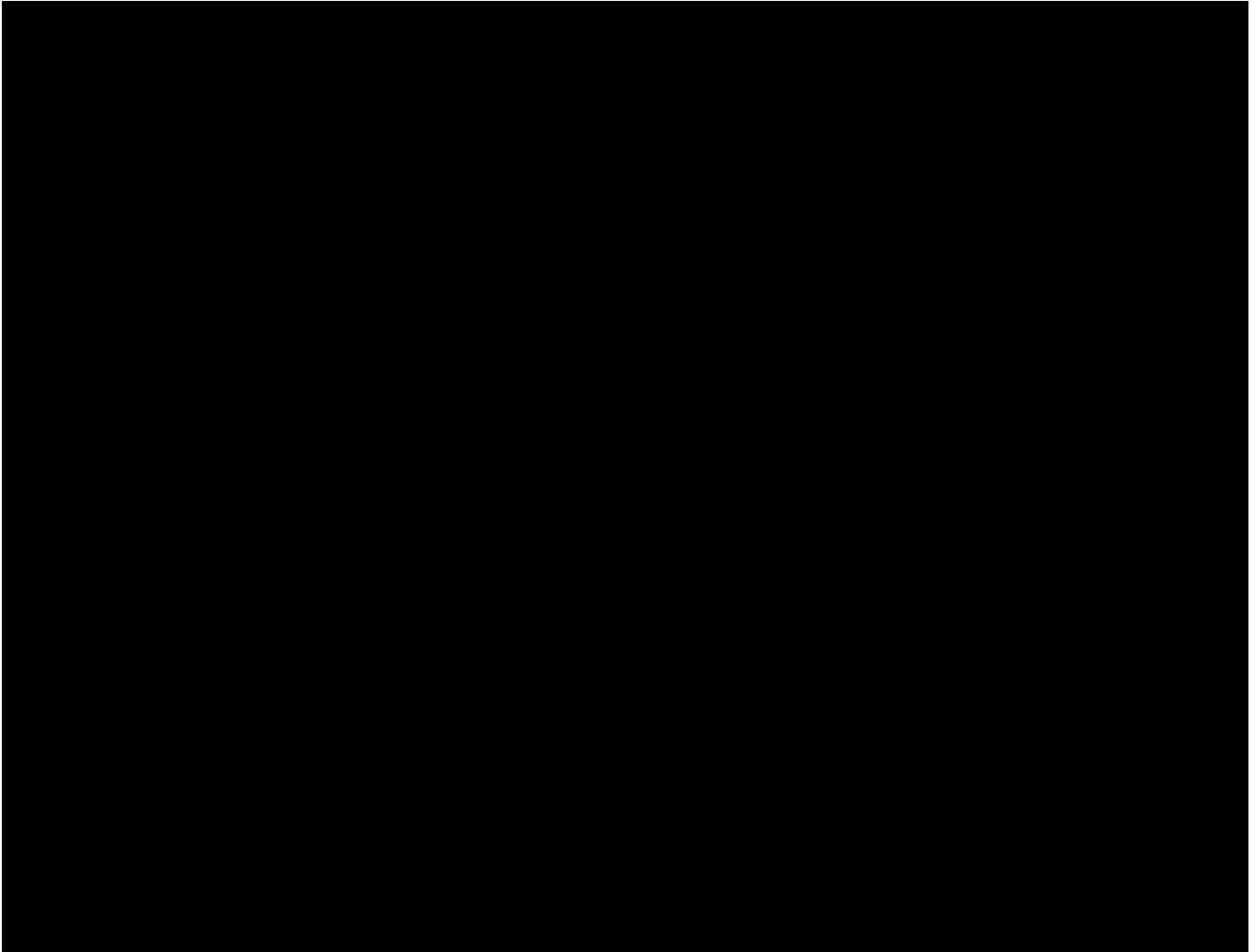


Another option JEN has considered is Integration Platform as a Service (**iPaaS**), which is a cloud-based suite of services designed to connect disparate applications, data sources, systems, and processes, enabling seamless integration. While iPaaS can effectively address a specific set of business problems, it is not ideal when it comes to implementing business rules and logic. Significant customisation would be required, making it an impractical choice for Jemena.

The next set of products JEN explored is Business Process Automation (**BPA**) tools. BPA tools are used extensively in several industries, including utilities. BPA tools offer built-in visual modelling capabilities that allow business processes to be viewed, designed, adjusted, and modified. This level of flexibility and transparency is not achievable with the existing MSI app, which lacks the intuitive interface and adaptability provided by modern BPA tools. Most of the functionality required in JEN's future MSI solution can be delivered with the right BPA tool.

The JEN project team have reviewed BPA tools from [REDACTED] vendors against a set of JEN-specific requirements rated as [REDACTED] (set out in Appendix E). In particular, [REDACTED] BPA tools were found to be suitable when evaluated against the requirements rated as [REDACTED], as depicted in Figure 3–4.

Figure 3–4: Evaluation of BPA tools against JEN's requirements



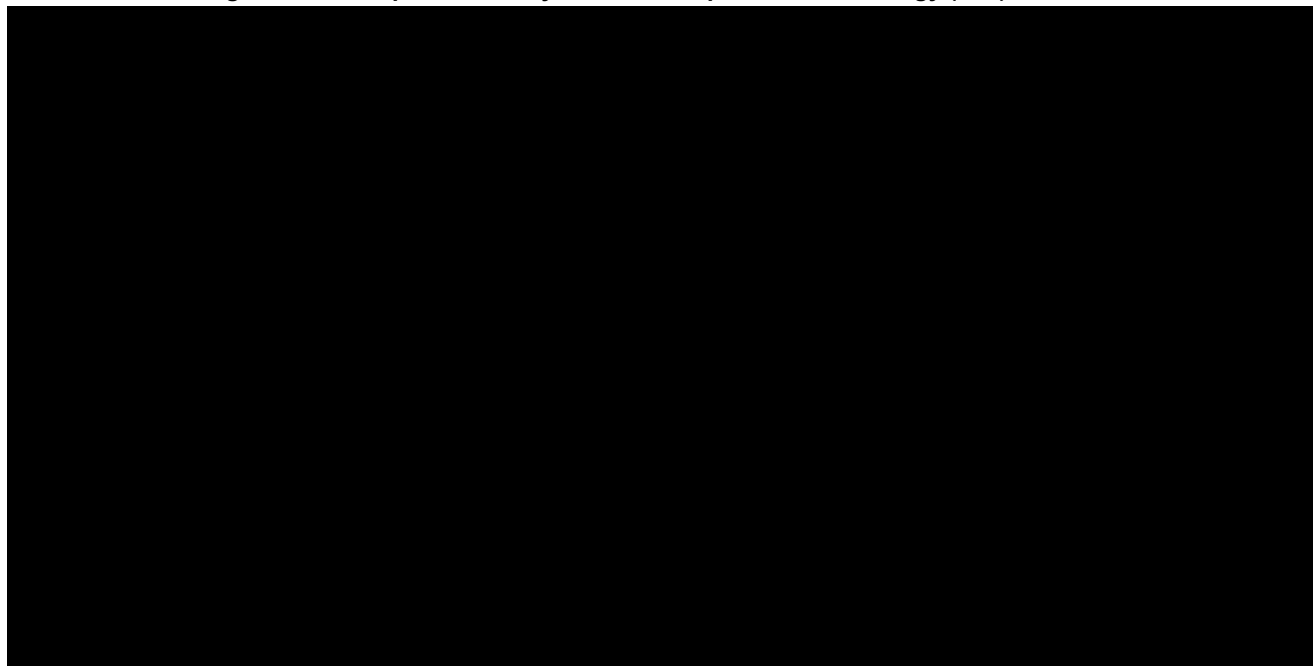
In addition to procuring the BPA tool, JEN will also need to invest time and effort to configure and customise BPA workflows to perform both the functions of the existing MSI application and any additional requirements anticipated under the NEM reforms. For ease of distinction, we refer this end-product as the “**new MSI solution**” in this cost pass through application. At a high level, JEN needs to:

- Install the BPA tool in a production and non-production environment,
- Deploy an implementation team with all of the required skills and knowledge (i.e., BPA engineers, Business SMEs, Integration Engineer, Business Analysts, Testers and Change Analysts),
- Design, build, test and implement business processes that exist in the MSI application in the non-production instance, and
- Deploy the business processes into the BPA production instance, re-point existing ESB interfaces to the new MSI solution and decommission the “old” business processes in the MSI application.

This is a highly complex, resource-intensive exercise, and it is critical to get it right from the outset to minimise operational disruptions and ensure long-term efficiency. The estimated costs of re-platforming and integrating the new MSI solution are about \$7.32 million.

Compared to Option 1, procuring a BPA tool to develop a new MSI solution is assessed as the more cost-effective and advantageous approach. It offers a solution that is more fit-for-purpose to meet JEN's current and future needs, considering the increase in data exchange volume and complexity associated with new and existing market transactions. Additionally, this option provides enhanced cyber security, greater scalability, and improved flexibility for ongoing support, upgrade and maintenance. A BPA-based approach leverages vendor-supported platforms that are typically easier to maintain, update, and scale without requiring deep internal technical expertise. This not only reduces long-term operational overheads but also allows JEN to focus its resources on core business activities rather than software upkeep. Option 2, therefore, represents the more efficient and prudent investment over the long term.

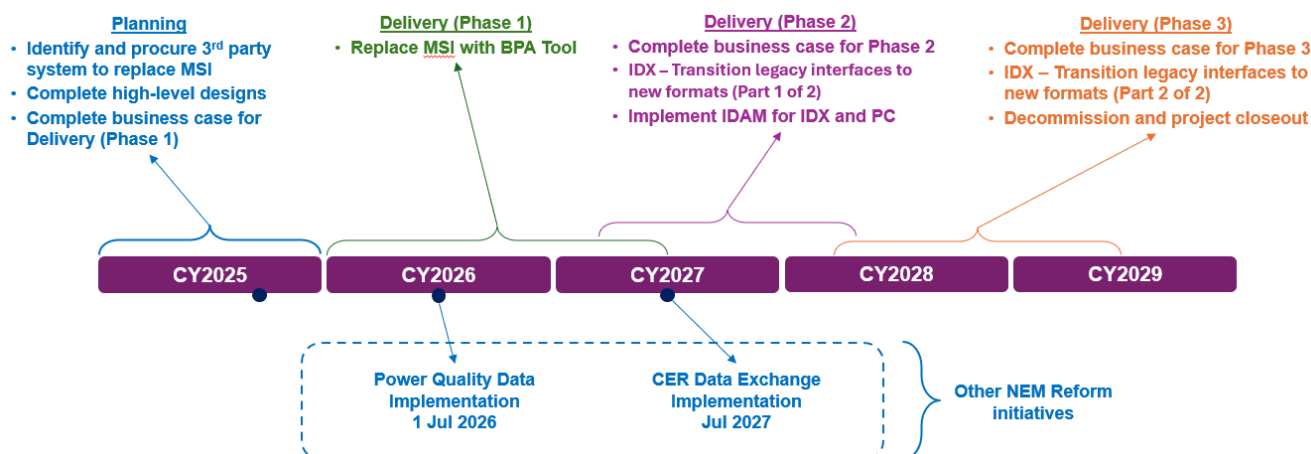
Figure 3–5: Comparison of key attributes of potential technology (MSI) solutions



3.3 Implementation timing

AEMO initially planned to have its IDAM platform ready for industry testing by late 2026 and develop the IDX foundation capabilities to support new services by mid-2027. However, AEMO's ongoing industry engagement indicates that this initial implementation plan is challenging to achieve, underscoring the complexity of the technology changes under the MITE initiatives. Drawing on AEMO's recent communications and JEN's assessment of the optimal sequencing of work required to deliver its MITE project, JEN has adopted the following high-level implementation timeline:

Figure 3–5: JEN's MITE project implementation timeline



JEN's MITE project can be broken into several phases:

- Planning phase
- Phase 1: MSI application replacement
- Phase 2: Developing new IDAM and IDX capabilities and transitioning the first tranche of market transactions
- Phase 3: Transitioning the remainder of market transactions and decommissioning legacy infrastructure

3.3.1 Planning phase

From around September 2024, after AEMO announced its decision to implement the MITE initiatives, JEN has been undertaking planning works to:

- assess the business impact of the MITE initiatives on JEN,
- form project teams to plan and design the necessary ICT changes required under the MITE initiatives,
- develop the business requirements and conceptual architecture,
- evaluate technical specifications for IDAM and IDX platform requirements and develop detailed designs of the technical changes required, and
- determine and procure suitable software replacement solutions for the MSI application.

3.3.2 Phase 1: Procuring and customising the MSI application replacement

Between December 2025 and mid-2027, JEN will focus on acquiring a new commercial product, most likely a BPA tool at this stage (as explained in section 3.2.2), to replace the existing MSI application. The new solution will be designed to replicate current MSI functionalities and support JEN's transition to its new IDX platform, including integration with AEMO's IDX platform. At a high level, the scope of work includes:

- Cataloguing all functions the existing MSI application performs, along with associated business processes, workflows and system interfaces
- Engaging with vendors through market scanning and formal tender processes to identify and select a BPA tool that meets JEN's business requirements—namely, replicating existing MSI application capabilities and enabling new functionalities required for IDX
- Configuring BPA workflows to perform both the functions of the existing MSI application, and any additional tasks anticipated under NEM reforms (referred to as 'the new MSI solution')
- Operating the new MSI solution alongside the existing MSI application to validate outputs and resolve any discrepancies
- Integrating the new MSI solution with other components of JEN's technology ecosystem, such as the ESB
- Developing risk mitigation strategies to manage risks associated with the transition, including data integrity, compliance and operational continuity
- Conducting user acceptance testing with business and technical teams to ensure the solution meets functional and usability expectations
- Collecting feedback and refining workflows within the BPA tool to improve performance and alignment with business needs
- Decommissioning the existing MSI application.

These tasks are expected to be highly resource-intensive. The existing MSI application contains roughly 300 business rules and more than 100 technical processes and sub-processes, and replicating these within a BPA

tool will require significant investment of time and effort from ICT specialists with expertise in automation, integration, and energy market systems.

3.3.3 Phases 2 and 3: Developing IDAM and IDX capabilities and transitioning market transactions

From around January 2027 to mid-2029, JEN will:

- Implement federation of JEN's IDAM with AEMO's IDAM (as outlined in Table 3–1), pending more details from AEMO on how the federation should be configured.
- Develop and implement IDX capabilities by:
 - building new APIs on the existing API Gateway and integrating this with the existing Jemena Gateway software,
 - uplifting the Jemena Gateway software to support the new patterns and channels,
 - refactoring approximately 70 integrations between the Jemena Gateway and ESB over a two-year period,
 - uplifting interfaces between Itron systems and the Jemena Gateway to the new patterns to be compatible with the new data exchange platform, and
 - decommissioning legacy integrations once the new integrations have been deployed into production.

3.4 Actual and likely increase in costs

JEN's actual and likely increase in costs in the provision of direct control services as a result of the MITE initiatives across the current regulatory period and next regulatory period is \$21.36 million (\$2025). JEN's whole-of-life cost estimate for the MITE project, split across two regulatory control periods, is outlined in the table below.

Table 3–3: JEN's incremental costs in implementing the MITE project

	Current Regulatory Period		Next Regulatory Period				
Real \$2025	RY25	RY26	RY27	RY28	RY29	RY30	RY31
Total Capex	\$0.41M	\$4.62M	\$7.88M	\$3.23M	\$1.92M		
Non-recurrent Opex	\$0.36M	\$0.14M	\$0.13M	\$0.06M	\$0.02M		
Recurrent-step Opex			\$0.05M	\$0.55M	\$0.60M	\$0.66M	\$0.72M
Total Opex	\$0.36M	\$0.14M	\$0.18M	\$0.62M	\$0.63M	\$0.66M	\$0.72M
Totex	\$0.77M	\$4.76M	\$8.06M	\$3.85M	\$2.54M	\$0.66M	\$0.72M

Note: Numbers may not add up due to rounding.

The costs that JEN has incurred and is likely to incur **within the current regulatory period** for its MITE project is \$5.53 million (\$2025), which constitutes a material increase in cost to JEN of providing direct control services and forms the basis of this cost pass through application. The remaining cost of JEN's MITE project (\$15.83 million, \$2025), to be incurred in the next regulatory period, will be included in JEN's upcoming 2026-31 revised regulatory proposal.

3.5 How the costs are estimated

JEN has estimated the costs of developing its IDAM and IDX capabilities, including the replacement of its MSI application, using a bottom-up cost forecast.

JEN first determines the necessary technical changes required for each relevant application or software (outlined in section 3.1), namely, the scope of JEN's MITE project. Then, JEN estimates the number of full-time equivalent (FTE) resources with the necessary skillset, and the time effort required to perform each identified task in accordance with good industry practice. The estimates were made by JEN's solution architect and relevant subject matter expert based on their professional judgement and experience in the ICT field.

Given the scope of the MITE project and the niche technical skills it demands, it is not feasible to rely solely on existing internal resources to deliver the IDAM and IDX changes without impacting business-as-usual (BAU) operations. Therefore, backfilling existing roles and/or engaging external contractors will be necessary to ensure both project delivery and continuity of core business functions.

In addition to the technical specialists required to modify JEN's systems, further resources are needed to coordinate and oversee the MITE project, alongside other interdependent projects. A dedicated group within JEN, known as the *Reform and Future Networks Program Leadership* (RAFN), is responsible for managing key initiatives related to NEM reforms, such as the MITE project, the Flexible Trading Arrangements rule, the Accelerated Smart Meter Deployment rule etc. A description of the relevant RAFN resources and what they do are set out in Appendix D. Approximately 30% of this group's resources are allocated to supporting JEN's MITE project.

Finally, JEN derives cost estimates by applying daily labour rates to the projected resource requirements. The daily labour rates are market-tested, reviewed regularly, and reflect the typical costs of hiring staff with the required skill sets. These labour rates are consistent with the approach adopted in JEN's Victorian Emergency Backstop Mechanism cost pass through application, lodged on 7 June 2024, which the AER had reviewed and accepted as efficient and prudent.²¹

For the IDAM capabilities uplift, JEN expects to incur license costs for the use of identity federation services

[REDACTED]

For the replacement of the MSI application, the estimate of the commercial product (BPA tool) licensing fee is informed

[REDACTED]

[REDACTED]

[REDACTED] JEN's current estimate of the BPA tool licensing fee is

[REDACTED]

The costs associated with the integration of the new MSI solution within JEN's system are estimated based on a bottom-up cost forecast using labour rates and estimated FTEs, because these are all manual tasks to code and configure software. JEN has also compared its estimate with

[REDACTED]

[REDACTED] This confirms the reasonableness of JEN's estimates.

Appendix B contains the expenditure forecast model for the costs associated with the replacement of the MSI application, the development of IDAM and IDX capabilities within JEN's systems. The expenditure forecast represents JEN's best estimates of the MITE project based on the available information and planning to date. Appendix D contains a role description of each resource that is forecast to be required in delivering JEN's MITE project.

3.5.1 Why the AER's cost benchmarking is inappropriate

We note that EMCa, engaged by the AER to support its assessment of Victorian DNSPs' distribution price reviews, attempted to assess the efficiency of DNSPs' MITE-related expenditure using benchmarking based on customer numbers.²² The AER subsequently relied on EMCa's benchmarking analysis in its draft decision for JEN's

²¹ See [AER, Determination—Jemena VEBM cost pass through, 20 September 2024](#).

²² EMCa, *Report to AER on Jemena ICT and CER 2026–31 RP*, August 2025, pp 42–44..

distribution price review.²³ This is an erroneous approach to evaluate ICT expenditure and should not be relied upon.

Firstly, it is not appropriate to compare DNSPs' ICT expenditure on a like-for-like basis in this context, as their ICT environments may differ significantly in terms of system maturity, automation, and adaptability – stemming from different investment decisions and levels of expenditure in the past. Each DNSP's approach to meeting the technical requirements of the MITE initiatives will vary depending on their existing system configurations and applications. Benchmarking MITE-related expenditure assumes uniformity in these approaches, which is inaccurate and unrealistic.

In particular, DNSPs may have varying levels of legacy system entrenchment. Some may require significant investment to modernise outdated infrastructure, while others may already have more adaptable platforms. These differences can substantially affect cost and implementation complexity. For example, JEN's MSI application—custom-built and now obsolete in the context of the MITE initiatives—is unique to JEN and is the most significant cost driver for JEN's MITE project. As outlined in section 3.2.2, alternative solutions for the MSI application exist that other DNSPs may already have in place, which may require minimal changes. Therefore, it is not reasonable to assume that all DNSPs would need to incur similar costs or at the same scale. Unless the AER has evidence that DNSPs' ICT architectures and their technology solutions are materially the same, benchmarking their costs without taking into account those differences in system configuration and legacy platforms would yield inaccurate conclusions.

Secondly, as shown in JEN's expenditure forecast model (Appendix B), the cost estimate for the MITE project is not driven by customer numbers, which is what EMCa relied on in its benchmarking analysis. Instead, the costs for the MITE project are influenced by factors including the technical complexity of AEMO's requirements, the number of system interfaces that must be reconfigured, the volume and diversity of market transactions requiring transition, and the extent of software components that need to be upgraded or replaced. These factors directly influence the scope of system integration, the level of customisation required, and the type and duration of specialised resources needed to implement the technology solution. Therefore, using customer numbers to benchmark MITE-related ICT expenditure is clearly flawed and unreasonable.

In the case of JEN's proposed ICT solution for the MITE initiatives—which includes the potential procurement of a BPA tool—the influence of customer numbers on overall project cost is negligible. Customer numbers may have a modest correlation with transaction volumes, which in turn can affect the variable licensing fee of the BPA tool, but it represents a very small fraction of JEN's total MITE project costs. Customer numbers have no direct correlation with the cost of delivering the MITE project. Cost drivers are primarily linked to system architecture, legacy platform constraints, and the complexity of required modifications—not the size of the customer base.

The AER, in its draft decision, compared JEN's proposed expenditure with Citipower's on the basis of their sizes (i.e. customer numbers), while acknowledging that CitiPower benefits from synergies with United Energy and Powercor. As demonstrated by the reasons above, provided that Citipower, Powercor and United Energy utilise the same ICT systems for their market functions, the economies of scale and cost efficiency shared by these three entities are significantly greater than assumed by the AER. Therefore, the AER should not use CitiPower's ICT expenditure estimate as a benchmark for assessing the efficiency of JEN's proposed expenditure without considering the actual differences in system architecture, legacy constraints, and synergies.

Thirdly, the availability and capability of internal ICT teams or access to specialised contractors can influence project delivery costs. DNSPs with more advanced in-house technological capabilities or greater bargaining power due to scale may incur lower external costs, but this doesn't necessarily indicate inefficiency in others. In JEN's case, the MITE project requires substantial engagement of specialised external contractors or targeted investment to upskill internal teams, given the complexity of the system changes needed to meet AEMO's technical requirements. JEN's current ICT capability profile shapes these resourcing needs and are not directly comparable to those of other DNSPs. Benchmarking expenditure without accounting for these differences may misconstrue the efficiency and prudence of a DNSP's investment decisions.

Lastly, each DNSP operates within a distinct strategic environment, with differing business priorities, risk profiles, and compliance approaches. These factors shape ICT investment decisions in ways that make direct expenditure comparisons unreasonable. For instance, each DNSP may pursue different digital transformation goals, risk

²³ AER, Draft decision – Jemena distribution determination 2026–31, Attachment 2 – Capital expenditure, September 2025, p.46.

management approaches, and investment horizons. Consequently, benchmarking ICT expenditure without accounting for these contextual factors risks oversimplifying complex investment decisions and drawing misleading conclusions about efficiency or prudence.

3.6 How we have minimised our costs

3.6.1 Careful evaluation of available options

JEN has invested considerable time and resources in conducting thorough due diligence, including market research and product scanning, to identify the most suitable replacement solutions for its MSI application and the timing for the replacement. This helps minimise investment and maintenance costs in the long run while ensuring the selected solution delivers appropriate functionality and aligns with project delivery and compliance requirements. Through careful assessments of the available options, JEN seeks to mitigate key risks and unforeseen costs associated with the implementation and operational performance of the MSI replacement solution.

3.6.2 Costs that JEN has avoided or absorbed

To mitigate our costs, we have chosen not to participate in the industry pilot testing to test the interoperability of JEN's and AEMO's new IDAM and IDX platforms, which is optional. Whilst participating in the pilot testing will minimise the technical issues JEN may face when AEMO's IDAM and IDX platforms are formally initiated, JEN anticipates that it may be possible to leverage the learnings derived from the pilot testing of other bigger industry participants. AEMO will likely share with the industry its learnings in its pilot testing and any proposed change in technical requirements. JEN may be able to mitigate some costs by opting out of the pilot testing.

Any costs associated with the changes in business processes as a result of the streamlining of AEMO's portals are excluded from JEN's MITE project cost estimates and are absorbed by JEN.

4. Pass through application

This section demonstrates that AEMO's decision to implement the MITE initiatives qualifies as a positive change event and that our expenditures associated with this positive change event satisfy the requirements for an approval of a positive pass through amount under NER clause 6.6.1(a).

4.1 Positive change event

A positive change event is a pass through event that entails a DNSP incurring materially higher costs in providing direct control services than it would have incurred but for that event but does not include a contingent project or an associated trigger event.

Section 4.2 explains why AEMO's decision to implement the MITE initiatives constitutes a pass through event.

Sections 3 and 4.3 demonstrate that JEN incurs materially higher costs in providing direct control services as a result of the event.

4.2 Eligible pass through event

A pass through event for a distribution determination must be one of the pass through events specified under the NER clause 6.6.1(a1), and it must satisfy the materiality threshold, addressed in section 4.3.

We submit that AEMO's decision to implement the MITE initiatives constitutes a **service standard event** as defined in the NER and provided for in clause 6.6.1(a1)(2) because it is an administrative act or decision that has the effect of:

- substantially varying, during the course of a regulatory control period, the manner in which JEN is required to provide a direct control service, or
- altering, during the course of a regulatory control period, the nature or scope of the direct control services provided by JEN, and
- materially increases the costs to JEN of providing direct control services.

AEMO's statutory functions under section 49 of the National Electricity Law (**NEL**) include responsibilities such as operating and administering the wholesale electricity market, maintaining and improving power system security, and facilitating metering and retail competition. These functions inherently require the use of ICT systems to process and transfer the vast amount of information relating to energy market transactions. Many of the NEM reforms must also leverage the use and exchange of data to facilitate the energy transition, including the integration of more flexible energy resources, efficiently and securely. Section 49A of the NEL allows AEMO to do all things necessary or convenient for or in connection with its statutory functions, which include the development and maintenance of fit-for-purpose ICT systems necessary to fulfil its obligations, such as operating the wholesale electricity market, maintaining and improving power system security, and facilitating retail customer transfer, metering and retail competition.

AEMO's administrative decision to implement the MITE initiatives (i.e., to invest and make fundamental changes in its interface systems and applications) has the effect of substantially varying the manner in which JEN exchanges data with AEMO and other market participants, which is integral to its provision of direct control services. This requires substantial investments in JEN's ICT systems to ensure they are compatible with AEMO's. As a result, AEMO's decision materially increases the costs JEN incurs.

In circumstances where the AER does not consider AEMO's decision to implement the MITE initiatives would qualify as a service standard event, we submit that it constitutes a **regulatory change event** as defined in the NER and provided for in clause 6.6.1(a1)(1).

As a DNSP, JEN is subject to ongoing regulatory obligations to exchange data with AEMO or other market participants to facilitate market processes. A substantial change in the configuration and access of AEMO's interface systems represents a material change to JEN's ongoing regulatory obligations to:

- provide a National Meter Identifier (**NMI**) for new connections under the NER clause 7.8.2(d)(2)
- provide NMI and NMI checksum requested by retailer under the NER clause 7.13.2
- provide metering data files to AEMO for market settlements under the NER clauses 7.3.1(a)(2) and 7.3.1(b)
- exhibit specific capabilities as a metering data provider to the reasonable satisfaction of AEMO under the NER clause S7.3.3
- comply with AEMO's Market Settlement and Transfer Solution Procedures under the NER clause 7.16.2(c)
- comply with the forthcoming changes to AEMO's B2B Procedures under the NER clause 7.17(d).

Therefore, AEMO's decision to implement the MITE initiatives can be regarded as a regulatory change event (if it does not qualify as a service standard event), being a change in JEN's regulatory obligation or requirement that:

- occurs during the course of a regulatory control period; and
- substantially affects the manner in which JEN provides direct control services; and
- materially increases the costs to JEN of providing direct control services.

The AER has accepted in its draft decision for JEN's distribution determination 2026–31 that the MITE initiatives represent a new regulatory obligation that JEN must comply with and that JEN has provided sufficient evidence to demonstrate prudence.²⁴

4.3 Materiality threshold

For the purpose of a positive passthrough event under NER clause 6.6.1, the NER defines a cost variation as being materially higher if the change in costs (as opposed to the revenue impact) that a DNSP has incurred and is likely to incur, in any year of a regulatory control period, as a result of the event, exceeds 1% of the annual revenue requirement (**ARR**) for the DNSP for that regulatory year.

As detailed in section 3.4, the total costs JEN is likely to incur in 2025-26 as a result of the event are \$4.76 million (\$2025) or \$4.88 million (nominal). This represents 1.59 % of JEN's ARR for that year. Therefore, the materiality threshold is satisfied.

Table 4–1: Total incremental expenditure up to 30 June 2026 (\$m, Nominal)

	2024-25	2025-26
Expenditure incurred within the current regulatory period	\$0.77	\$4.88
Annual revenue requirement	\$278.39	\$306.08
Materiality	0.28%	1.59%

4.4 Date of the positive change event

For the purpose of NER clause 6.6.1(c)(2), we submit that the positive change event occurred on 11 July 2024 when AEMO announced publicly the approval of its final business case for the MITE initiatives. This announcement represented AEMO's decision to implement the MITE initiatives. It provided certainty on the need for industry participants to implement changes to their IT systems to be compatible with AEMO's new systems.

²⁴ AER, Draft decision – Jemena distribution determination 2026–31, Attachment 2 – Capital expenditure, September 2025, p.46.

4.5 Extension of time limit for positive pass through application

Clause 6.6.1(c) of the NER requires that a positive pass through application be submitted within 90 business days of the relevant positive change event occurring. Based on AEMO's 11 July 2024 announcement being the positive change event date, the time limit for the positive pass through application would have been 15 November 2024.

On 23 September 2024, JEN requested an extension of time for lodging a positive cost pass through application in response to AEMO's decision to implement the MITE initiatives, citing reasons why it would be difficult to assess or quantify the effect of the relevant pass through event before 15 November 2024.

In response, the AER extended the time limit for JEN to lodge its positive pass through application until 15 November 2025 pursuant to clause 6.6.1(k) of the NER. In its letter dated 15 November 2024, the AER was satisfied that the complex and multi-stage nature of the MITE initiatives necessitates sufficient time to generate a robust and comprehensive cost estimate that best serves the long-term interest of consumers.²⁵

4.6 Eligible pass through amount

The eligible pass through amount refers to the increase in costs in the provision of direct control services that, as a result of the positive change event, JEN has incurred and is likely to incur until the end of the current regulatory period; or if the distribution determination for the next regulatory period does not make any allowance for the recovery of that increase in costs, the end of that regulatory control period.

As outlined in section 3.4, the increase in costs that JEN has incurred and is likely to incur as a result of implementing its entire MITE project totals \$21.36 million (\$2025). The costs JEN has incurred and is likely to incur until 30 June 2026 is \$5.53 million (\$2025). JEN has proposed to recover the remainder of the MITE project costs (\$15.83 million, \$2025) under its regulatory proposal for the next regulatory period.

For the purposes of this application, we submit that the eligible pass through amount in respect of the positive change event in this application is \$5.53 million (\$2025) under clause 6.6.1(c)(3) of the NER.

4.7 Positive pass through amount proposed

Pursuant to clause 6.6.1(c)(3) of the NER, JEN proposes a positive pass through amount that equates to the change in our required revenues for the current regulatory period to account for the incremental costs associated with JEN's MITE project, totalling \$0.57 million (\$nominal). The incremental revenue reflects the changes in operating expenditure, return on capital, return of capital, tax allowance for the current regulatory period after factoring in the eligible pass through amount.

We used the Standard Control Services (**SCS**) post-tax revenue models (**PTRM**) used for the 2025-26 pricing year to determine what the smoothed ARR for 2024-25 and 2025-26 would be, with and without the incremental operating expenditure and capital expenditure associated with JEN's MITE project. The differences in the smoothed ARR derived in the two PTRMs represent the required adjustments to our ARR in 2024-25 and 2025-26 (see Table 4–2). The two PTRMs are provided in Appendix C with this application.

Table 4–2: Change in ARR (\$m, Nominal)

Smoothed Revenue (\$m, Nominal)	2022-23	2023-24	2024-25	2025-26
Without cost pass through	264.63	269.66	278.39	306.08
With cost pass through	264.63	269.66	278.39	306.64
Change in ARR	0	0	0	0.57

²⁵ AER letter to Jemena, Request for extension of time – cost pass through applications- AEMO's Foundational & Strategic Initiatives and AEMC's rule change, Unlocking CER benefits through flexible trading, 15 November 2025, p.2.

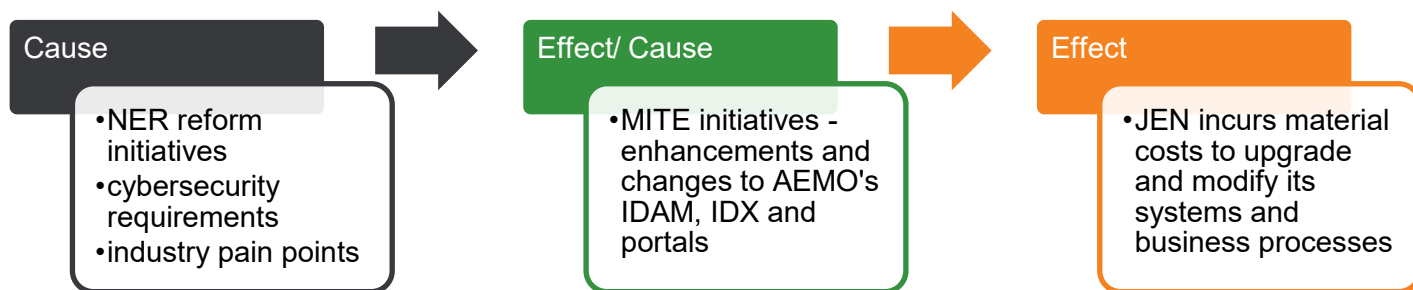
As prices have already been set for 2025-26, we propose to recover this positive pass through amount in 2026-27 by including an amount in the C factor in our revenue cap formulae for standard control services. We note that the AER has not made its final decision or set the price path for the next regulatory period. Accordingly, we are willing to work with the AER to determine which year works best to recover the positive pass through amount.

4.8 Evidence of costs

Section 3 of this application demonstrates that the costs are incurred solely as a consequence of AEMO's administrative decision to change the technical capabilities of its systems, notwithstanding that part of the investments also serve to support NEM reform initiatives in a broader context.

The MITE initiatives are designed to enable AEMO to implement a suite of NER reform initiatives. The onus is on JEN to upgrade its ICT systems to align with AEMO's interface systems associated with the MITE initiatives. The cause and effect relationship of the NER reform initiatives, the pass through event and the costs are depicted in Figure 4-1.

Figure 4-1: The causal relationship between the pass through event and the costs JEN incurs



Section 3 of this application also outlines the methodology, consideration, and the quantum of the cost estimates that JEN has derived for the purpose of this cost pass through application. Appendix B sets out the bottom-up cost forecast for the MITE project.

JEN's MITE project is predominantly classified as a non-recurrent non-network ICT capital expenditure, as the expenditure is incurred for the primary purpose of complying with altered regulatory obligations to exchange data with AEMO using its new data exchange protocols and architecture, and it is not the type that would typically occur at least once every five years.

Consistent with the AER's *Non-network ICT Capex Assessment Approach* guidance note, which documents the AER's assessment approach in the context of a regulatory determination process, JEN has adopted the least cost option to comply with the new technical requirements associated with the MITE initiatives. The primary cost driver of JEN's investments is the need to comply with the technical requirements specified by AEMO as it upgrades its IDAM and IDX platforms. Without the new IDAM and IDX capabilities outlined in section 3.1, JEN will not be able to participate in the NEM and comply with its regulatory obligations.

Appendix A

Compliance checklist

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A1. Compliance checklist

This appendix provides summary information outlining how this pass through application submission and supporting materials comply with the NER pass through provisions (as set out in CI 6.6.1). It references where the relevant information can be found.

Table A1–1: Pass through application compliance checklist

NER clause	Requirement	Compliance demonstration
6.6.1(a1)	(a1) Any of the following is a pass through event for a distribution determination: 1) a regulatory change event; 2) a service standard event; 3) a tax change event; 4) a retailer insolvency event; and 5) any other event specified in a distribution determination as a pass through event for the determination.	This application seeks approval of incremental cost recovery for a service standard event or, in the alternative, a regulatory change event. See section 4.1.
6.6.1 (a)	If a positive change event occurs, a Distribution Network Service Provider may seek the approval of the AER to pass through to Distribution Network Users a positive pass through amount.	This whole application, including supporting materials, constitutes JEN's application for the AER's approval of a positive pass through amount. It demonstrates how JEN is incurring materially higher costs to comply with a positive change event.
6.6.1 (c)	To seek the approval of the AER to pass through a positive pass through amount, a Distribution Network Service Provider must submit to the AER, within 90 business days of the relevant positive change event occurring, a written statement.	With the time extension granted by the AER, this application was submitted within the timeframe specified by the AER. See sections 4.4 and 4.5.
6.6.1(c)(1)	A written statement must specify the details of the positive change event.	The details of AEMO's decision to implement the MITE initiatives are outlined in section 2.2. In particular, the changes to AEMO's IDAM and IDX platform under the MITE initiatives are the key driver of the material costs incurred, or likely to be incurred, by JEN. Sections 4.1 and 4.2 of this application explain why AEMO's decision constitutes a positive change event.
6.6.1(c)(2)	A written statement must specify the date on which the positive change event occurred.	The event occurred on 11 July 2024, when AEMO publicly announced its intention, plan, and investment commitment to implement the MITE initiatives. See section 4.4.
6.6.1(c)(3)	A written statement must specify the eligible pass through amount in respect of that positive change event	The incremental costs to the end of the current regulatory control period are the eligible pass through amount. See section 4.6.
6.6.1(c)(4)	A written statement must specify the positive pass through amount the Distribution Network Service Provider proposes in relation to the positive change event.	The requested positive pass through amount and the resulting revenue adjustment for the pass through amount are provided in the application. See section 4.7.

Appendix B Expenditure Model

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B1. Expenditure Model

Refer to Attachment A - JEN Pass-Through Expenditure Model – MITE [Confidential].

Appendix C

Calculating the revenue impact of the cost pass through

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C1. Calculating the revenue impact of the cost pass through

JEN has undertaken the following steps to calculate the change in required revenues to account for the positive pass through amount:

1. Determine the incremental operating expenditure and capital expenditure for the current regulatory period necessary to comply with the new requirements under the MITE initiatives (the positive pass through amount).
2. Add the positive pass through amount —by year—to JEN's 2021-26 Post-tax Revenue Model (**PTRM**) update. This update was based on the approved version of our PTRM model, which incorporates the 2025-26 return on debt update.
3. Recalculate the smoothed annual revenue requirement based on the new costs.
4. Subtract the updated smoothed annual revenue requirement from the original version of the PTRM to determine the eligible pass through amount.

The models used to undertake this exercise are:

- Attachment B - AER - JEN 2021-26 Final Decision SCS PTRM - 2025-26 RoD update (inc VEBM CPT).xlsm
- Attachment C - AER - JEN 2021-26 Final Decision SCS PTRM - 2025-26 RoD update (inc VEBM CPT) – MITE update.xlsm

The difference in the smoothed revenue requirement between these two PTRMs is provided in section 4.7.

Appendix D

Role descriptions

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D1. Role descriptions

Table D1–1 provides a brief description of the roles required for delivering JEN’s MITE project (excluding staff roles involved in the planning phase).

Table D1–1: Role descriptions of resources required for implementation of JEN’s MITE project

Role Title	Description
RAFN (Reform and Future Networks) Program Leadership	
Program Director	Provides overall leadership and delivery of RAFN Program regulatory and strategic outcomes. Approves key MITE project planning and delivery artefacts on behalf of the Program to ensure project timelines are met and risks managed.
Program Delivery Lead	Manages progression of projects within the RAFN Program, ensuring robust governance and a program-wide integrated view of delivery assurance. Ensures compliance with internal processes and ensures projects remain on track to deliver, supporting the MITE (and other) project managers in execution and escalation as required.
Program Coordinator	Provides operational support, administration and coordination across the RAFN Program, ensuring visibility of cross-project activities.
Business Owner	Overall accountability for the definition and achievement of business outcomes across the RAFN Program; ensures MITE project alignment in the context of other RAFN projects.
Implementation Manager	Oversees technical delivery, integration, and implementation activities across all RAFN projects. Accountable for dependency management across the RAFN program.
Program Change Manager	Leads change management and business readiness across the program, managing multiple changes that impact JEN across multiple RAFN projects.
Industry Engagement Lead	Provides regulatory, market and industry context, interpretation and requirements to project teams. Ensures continuous alignment is reflected in project scope, planning and delivery.
MITE project delivery team	
Project manager	Responsible for ensuring that the project is delivered on time, within budget and to the required standards, including communicating effectively with stakeholders
Business analyst	Responsible for collaborating with digital and business stakeholders in identifying and documenting the requirements clearly and accurately, which should support the development of an effective solution.
Solution architect	Designs and oversees the implementation of technical solutions to address business needs.
Iteration Manager	Leader to ensure that the agile team continuously deliver high-value / high-quality business outcomes via each two-week sprint, manages the delivery backlog and collaborates with various stakeholders to ensure successful delivery.
New MSI lead	Technical expert on the new MSI solution who advises the team on how the solution can best solve a business requirement
New MSI Engineer	Technical MSI engineer that will configure functionality within the new MSI solution to meet a business requirement, including migration of functionality from the old MSI application to this new MSI solution - this engineer will collaborate with project business analysts and business stakeholders in delivering the most effective solution.
New MSI architect	Designs the technical implementation of the new MSI solution within Jemena's IDX platform, including best-practice integrations with downstream and upstream systems, and configures to meet security and performance standards.
Integration engineer	An engineer from the IDX team will help ensure that the functionality of the MSI application is accurately described for purposes of migration to the new MSI solution.
Business SME (subject matter expert)	Business representative to help define requirements for the new MSI solution and validate the effectiveness of the new solution.
Change analyst	Help define the process, impact changes, and develop artefacts and training solutions to ensure that process changes are implemented effectively.
Tester (System integration testing)	Develop test cases to validate that the solution has sufficiently met the pre-defined business requirements, conduct those tests (system integration) and document test results.

Role Title	Description
Tester (user acceptance testing)	Develop user acceptance test cases to validate that the solution has sufficiently met the pre-defined business requirements, conduct those users acceptance tests and document test results.
Integration Engineer (for MSI Adaptor)	Develop a technical solution that will enable the legacy interfaces originating from the Enterprise Service Bus system to work effectively with the new MSI solution.
Tester for MSI Adaptor	Develop test cases to validate that the adaptor solution has accurately met its purposes, conduct those tests (system integration) and document test results.
Integration Engineer (Decommissioning of old MSI)	An integration engineer who assists with decommissioning the existing MSI application once all its functionality is migrated to the new MSI solution.
KONG Engineer	An engineer with KONG expertise to support the development of new API solutions based on AEMO's technical specifications under the MITE initiatives, including hypercare support. A smaller effort is required prior to the commencement of each phase.
Tester - KONG	Develop test cases to validate that the KONG solution has sufficiently met the pre-defined business requirements, conduct those tests (system integration) and document test results. A smaller effort is required prior to the commencement of each phase.
CTRL M Engineer	Engineer with CTRL M expertise to prepare the systems to support file-based integrations and comply with the required formats / channels specified by AEMO. A smaller effort is required prior to the commencement of each phase.
ESB Engineer	Integration engineer to prepare the integration platform (other than KONG and CTRL M) to comply with the required formats / channels specified by AEMO.
Tester - ESB Changes	Test analyst to develop the test cases based on changes to ESB and conduct those tests.
ESB Engineer for Migration	Integration engineer to refactor interfaces to the required formats / channels specified by AEMO.
KONG / CTRL M engineer for migration	Engineer with KONG / CTRL M expertise to refactor interfaces to the required formats / channels specified by AEMO.
Tester for Migration	Test analyst to update the SIT regression suite to support validation of changes to legacy interfaces and execute those tests.
UAT for Migration	Test analyst to develop user acceptance test cases to support validation of changes to legacy interfaces and execute those tests.
IDAM Engineer	IDAM engineer to configure Jemena's IDAM system to "federate" with AEMO's IDAM for person and non-person (i.e., service) accounts.
Tester - IDAM	Test analyst to develop test cases based on the federated IDAM model, executing those tests and recording the outcomes.
Business SME - IDAM	Business representative(s) to support the migration of access to AEMO portals from "unfederated" to "federated" model.

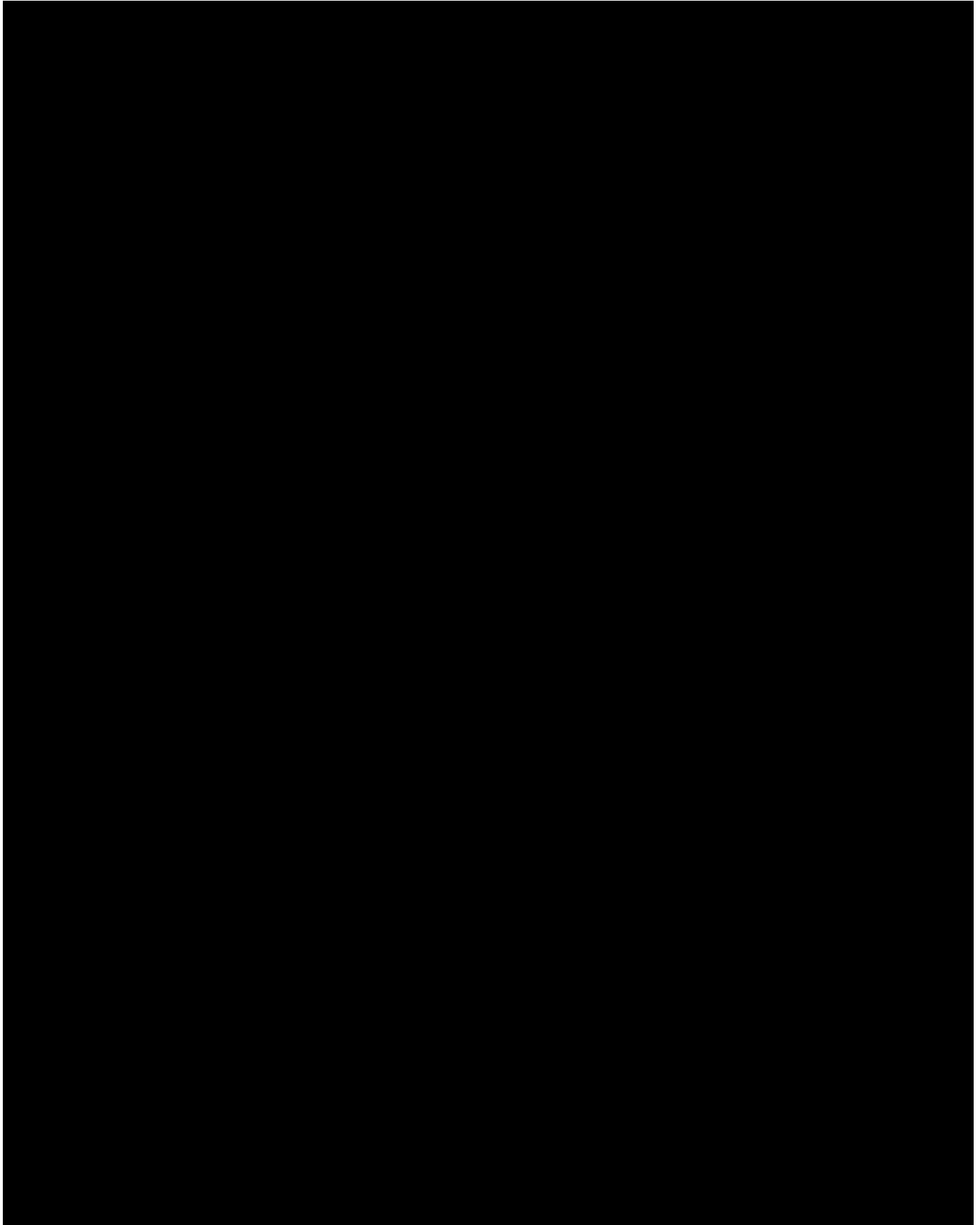
Appendix E

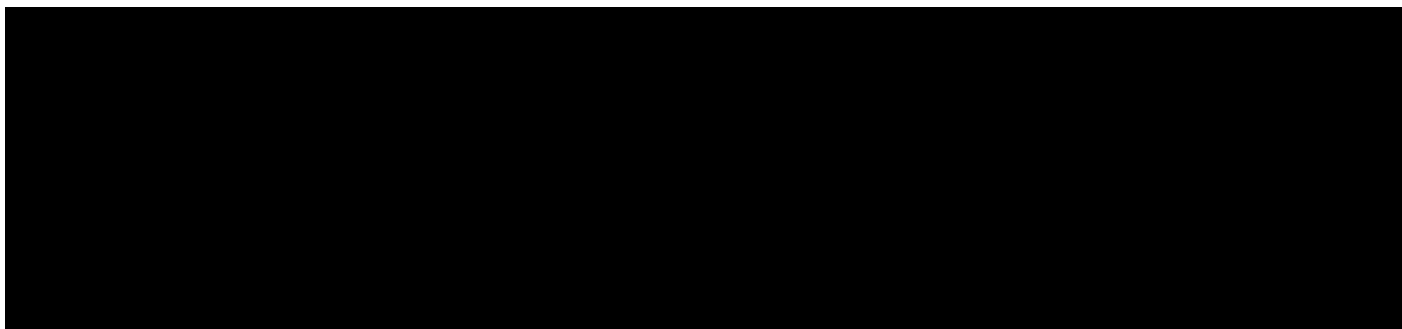
Evaluation criteria for BPA tools

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E1. Evaluation criteria for BPA tools

Table E1–1: JEN’s evaluation criteria for BPA tools to replace MSI application





Appendix F

Claims for confidentiality

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F1. Claims for confidentiality

The following table identifies specific sections of this passthrough submission that JEN claims to be commercial-in-confidence and the basis of the claim. These claims are consistent with the requirements set out in the AER's Confidentiality Guideline (August 2017).

JEN has provided reasons detailing how and why disclosure of the information would cause detriment to the business. JEN understands that this confidential information being available to the AER to perform its functions under the rules provides a public benefit, and has assessed that, in all identified cases, JEN's confidentiality reasons, together with the benefits already realised through the AER's confidential use of this data, are not outweighed by any additional public benefit to disclosure of the information.

Table F1–1: Claims for confidentiality

Document title	Title, page and paragraph number	Description of the confidential information	Topic the confidential information relates to	Confidentiality category	Why the confidential information falls into the selected category	How and why detriment would be caused from disclosing the confidential information	Reasons supporting why the identified detriment is not outweighed by the public benefit
Jemena Electricity Networks (Vic) Ltd Pass Through Application – Market Interface Technology Enhancements (Cost pass through application)	Page 11: Table 3-1 Impact of MITE initiatives on JEN, and Figure 3-1 Impact areas in JEN's ICT systems	Information about JEN's system architecture and the changes required for specific system components	ICT system architecture	Information affecting the security of the network	Information about JEN's systems and changes to specific system components is highly sensitive and may reveal vulnerabilities of JEN's ICT system	Public disclosure could increase JEN's risk of cyber-attacks, compromising JEN's ability to maintain its system securely, therefore potentially leading to higher costs in the future.	While the potential detriment of publication is evident, JEN considers there to be no clear public benefit in disclosing the information.
Cost pass through application	Pages 13: Table 3-2 Description of the	As above	As above	As above	As above	As above	As above

Document title	Title, page and paragraph number	Description of the confidential information	Topic the confidential information relates to	Confidentiality category	Why the confidential information falls into the selected category	How and why detriment would be caused from disclosing the confidential information	Reasons supporting why the identified detriment is not outweighed by the public benefit
	changes related to IDX						
Cost pass through application	Page 14-15, sections 3.2 and 3.2.1.	Information about the limitations of the MSI application	ICT system component	Information affecting the security of the network	Information about JEN's MSI application is highly sensitive and may reveal vulnerabilities of JEN's ICT system	Public disclosure could increase JEN's risk of cyber-attacks, compromising JEN's ability to maintain its system securely, therefore potentially leading to higher costs in the future.	While the potential detriment of publication is evident, JEN considers there to be no clear public benefit in disclosing the information.
Cost pass through application	Page 16-18, section 3.2.2, including: Figure 3-3 Outcomes of review of products developed for the utilities industry Figure 3-4 Evaluation of BPA tools against	Information about the commercial products evaluated by JEN, and associated costs Information about the costs of re-platforming JEN's new MSI solution	Vendor and product assessment, indicative quotes provided by vendor, JEN's costs of re-platforming the new MSI solution	Market-sensitive information	Details of JEN's vendor and product assessments, as well as the cost to re-platform JEN's MSI solution, are commercially sensitive and the disclosure of which may disadvantage JEN in future negotiations.	Public disclosure could impact JEN's ability to procure resources in the future, meaning customers may be more exposed to higher costs in the future.	While the potential detriment of publication is evident, JEN considers there to be no clear public benefit in disclosing the information.

Document title	Title, page and paragraph number	Description of the confidential information	Topic the confidential information relates to	Confidentiality category	Why the confidential information falls into the selected category	How and why detriment would be caused from disclosing the confidential information	Reasons supporting why the identified detriment is not outweighed by the public benefit
	JEN's requirements Figure 3-5 Comparison of key attributes of potential technology solutions						
Cost pass through application	Page 21, section 3.5	Cost estimates about BPA tool licence fees, and re-platforming the new MSI solution	Indicative quotes provided by vendors	Market-sensitive information	BPA tool cost information and the resource costs required for re-platforming the new MSI solution is commercially sensitive and the disclosure of which may disadvantage JEN in future negotiations.	Public disclosure could impact JEN's ability to procure resources in the future, meaning customers may be more exposed to higher costs in the future.	While the potential detriment of publication is evident, JEN considers there to be no clear public benefit in disclosing the information.
Appendix B/ Attachment A of the Cost pass through application, Expenditure Model	Whole model	Information about daily rates of resources, quotes provided by vendors, JEN's estimates of	Cost estimates of JEN's MITE project	Market-sensitive information	JEN's labour rates and vendors' quotes are commercial in confidence and maintaining	Public disclosure could impact Jemena's ability to procure resources in the future, meaning	While the potential detriment of publication is evident, JEN considers there to be no clear public

Document title	Title, page and paragraph number	Description of the confidential information	Topic the confidential information relates to	Confidentiality category	Why the confidential information falls into the selected category	How and why detriment would be caused from disclosing the confidential information	Reasons supporting why the identified detriment is not outweighed by the public benefit
		resource efforts for specific work tasks.			confidentiality ensures rigour to commercial negotiations.	customers may be more exposed to higher costs in the future.	benefit in disclosing the information.
Appendix E of the Cost pass through application, Evaluation criteria for BPA tools	Table F1-1 JEN's evaluation criteria for BPA tools to replace MSI application	JEN's evaluation criteria for BPA tools	JEN's evaluation criteria for BPA tools	Market-sensitive information	JEN-specific requirements and their weightings are commercially sensitive, which can affect commercial negotiations with potential vendors.	Public disclosure could impact Jemena's ability to procure resources in the future, meaning customers may be more exposed to higher costs in the future.	While the potential detriment of publication is evident, JEN considers there to be no clear public benefit in disclosing the information.

Table F1–2: Proportion of confidential material

Submission Title	Number of pages of submission that include information subject to claim of confidentiality	Number of pages of submission that do not include information subject to claim of confidentiality	Total number of pages of submission	Percentage of pages of submission that include information subject to claim of confidentiality	Percentage of pages of submission that do not include information subject to claim of confidentiality
Cost pass through application	10	50	60	17%	83%
Attachment A of the Cost pass through application, Expenditure Model	12	0	12	100%	0%

For the purpose of claiming confidentiality, we interpret each worksheet in the Expenditure Model to represent one page.