

**ID10 Meter Data Management
Consolidation and Replacement
Preliminary Gate 2 Business Case**

**2020-25
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Preliminary Gate 2 Business Case

ID10 MDM Consolidation & Replacement



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Preliminary Gate 2 Business Case

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1 EXECUTIVE SUMMARY

1.1. Background & Business Problem

Energy Queensland operates in the Australian National Energy Market (NEM) through the Energex and Ergon Energy Distribution Network Service Providers (DNSP). In the context of Meter Data Management (MDM) there are two functions that a DNSP market participant needs to undertake:

- Management and processing of Type 6 metering data in the role of Meter Data Provider (MDP).
- Management of interval meter data in the role of Local Network Service Provider (LNSP) to facilitate production of network bills.

The core technology platform supporting the MDM functions of the Energex and Ergon Energy DNSPs consists of the Toht solution supplied by the vendor DXC, the MVRS solution supplied by Itron and the FMC solution supplied by Geomatic Technologies. Toht provides the ability to manage large volumes of meter data received from other market participants (Type 1-4 meters) to support the network billing function. Toht also supports validation, estimation, substitution, aggregation and publication of Type 6 meter data provided by the DNSPs' Type 6 metering functions. The MVRS and FMC solutions are used by Energex and Ergon Energy respectively, to undertake cyclic in-field reads of Type 6 meters.

1.2. Investment Overview

Through this business case proposal, the separate [REDACTED] implementations will be replaced with a consolidated solution platform subject to conformance with security, privacy and ring-fencing obligations. [REDACTED]

This replacement investment will facilitate state-wide business processes and single integrated operating teams. Further, as the energy market continues to evolve, the two Energy Queensland distributors will benefit from associated system changes needing to be undertaken in just a single solution.

1.3. Options Analysis

Three options are considered in this business case:

- Option 1 – Proceed with the MDM Consolidation and Replacement (Preferred Option)
- Option 2 – Upgrade the existing MDM platform and then replace in the FY26-30 regulatory period
- Option 3 – Do Minimal

“Option 1 - Proceed with the MDM Consolidation and Replacement” is the preferred option, as it meets all the business case objectives, it is aligned with Energy Queensland’s strategic objectives and is consistent with Energex and Ergon Energy’s obligations under the National Electricity Rules.

Both Options 2 and 3 each represent material risks to Energex and Ergon Energy’s customer and market operations [REDACTED]. These options also do not support realisation of Energy Queensland’s forecast 10% reduction in indirect costs.

1.4. Financial Summary¹

1.4.1 Energex Option Comparison



1.4.2 Ergon Energy Option Comparison



1.4.3 Energex Expenditure Summary (Option 1 – Preferred)



1.4.4 Ergon Energy Expenditure Summary (Option 1 – Preferred)



¹ Bracketed figures indicate negative values.

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1.5. Investment Benefits

The preferred option delivers the benefit of sustainment of Energy Queensland's market operations for ongoing supportability, serviceability and security.

The investment is also a critical enabler of Energy Queensland's planned productivity improvements which result in a forecast 10% reduction in indirect costs. The consolidation of MDM capability supports this productivity improvement through greater automation and reduced manual effort in validation and correction of meter data.

1.6. Investment Risks

1.7. Customer Focus

Queensland energy consumers expect timely and accurate bills from their respective retailers. Having the core MDM functions of the Energex and Ergon Energy DNSPs operating efficiently and at a high standard of accuracy supports the retail businesses in providing accurate and timely bills to their customers.



2. INVESTMENT OVERVIEW

2.1. Background and History

Energy Queensland operates in the Australian National Energy Market (NEM) through the Energex and Ergon Energy Distribution Network Service Providers (DNSP). In the context of Meter Data Management (MDM) there are two functions that a DNSP market participant needs to undertake:

- Management and processing of Type 6 metering data in the role of Meter Data Provider (MDP)
- Management of interval meter data in the role of Local Network Service Provider (LNSP) to facilitate production of network bills.

The core technology platform supporting the MDM functions of the Energex and Ergon Energy DNSPs consists of the Toht solution supplied by the vendor DXC, the MVRS solution supplied by Itron and the FMC solutions supplied by Geomatic Technologies. Toht provides the ability to manage large volumes of meter data received from other market participants (Type 1-4 meters) to support the network billing function. Toht also supports validation, estimation, substitution, aggregation and publication of Type 6 meter data provided by the DNSPs' Type 6 metering functions. The MVRS and FMC solutions are used by Energex and Ergon Energy respectively, to undertake cyclic in-field reads of Type 6 meters.

Although Toht is a common solution for Energex and Ergon Energy, separate instances exist to cater for variances in business processes between the two DNSPs.

[Redacted]

2.2. Business Problem and Rationale

There are three main business drivers for the replacement investment.

[Redacted]

1. Supportability and maintainability

[Redacted]

2. Vendor Support and Maintenance

[Redacted]

² This business case does not incorporate any MDM investment relating to the non-regulated Yurika business of Energy Queensland

3. Increase in Meter Data Volumes

It is expected that deployment of smart meter technology will continue as Type 6 meters are phased out in coming years. The pace of change is driven by retailers that want to offer more product choices to their customers and this will see the volume of meter data substantially increase. In addition, market regulation changes such as the move to 5-minute interval data will also drive the need to handle much greater volumes of data. [REDACTED]

Through this business case proposal, the separate [REDACTED] implementations will be replaced with a consolidated solution platform subject to conformance with security, privacy and ring-fencing obligations. [REDACTED]

This replacement investment will facilitate state-wide business processes and single integrated operating teams. Further, as the energy market continues to evolve, the two Energy Queensland distributors will benefit from associated system changes needing to be undertaken in just a single solution.

2.3. Investment Objectives

The investment in MDM Consolidation and Replacement will deliver on the following objectives:

- Ensure the ongoing supportability and sustainability of core business processes covering the MDM solution that can cater for regulatory changes in a reliable and cost effective manner.
- Ensure the availability of an MDM solution that can scale to handle data volume growth as more Type 4 meters are deployed to mass market customers.
- Consolidates the MDM systems onto a single platform which supports process alignment and efficiencies across the Energy Queensland business.
- Deliver an MDM solution that is integrated with the broader suite of customer and market solutions and is aligned with the other replacement investments:
 - ID04 Customer Market Systems Consolidation & Replacement, and
 - ID14 Customer Management System Consolidation & Replacement.
- Improve the quality and consistency of meter data processing and reduce the amount of manual effort in the validation and substitution processes.
- Deliver a Type 6 meter reading solution that is efficient to operate and can be rescaled over time as Type 6 meters are phased out of the businesses.
- Provide a consolidated repository of energy data to support other core business functions:
 - Customer segmentation analysis,
 - Tariff analysis and development, and
 - Network forecasting.

2.4. Principles

This initiative will be guided by the following principles.

- MDM solutions enable the core business of Energy Queensland and must remain supportable, sustainable and secure.
- The customer is at the centre of everything that Energy Queensland delivers, therefore efficient, accurate and timely capture and processing of meter data is essential to providing positive outcomes for our customers.
- Energy Queensland should efficiently meet its regulatory obligations in relation to management of metering data.
- Customer service solutions are cost effective to implement and financially sustainable.

3. STRATEGIC ALIGNMENT

3.1. Alignment to Energy Queensland Strategic Objectives

This investment aligns with the Energy Queensland Strategic Objectives in the following ways:

Strategic Objective	How this investment contributes to the Strategic Objective of EQL	Impact
<p>1. Community and customer focused</p> <p>Maintain and deepen our communities' trust by delivering on our promises, keeping the lights on and delivering an exceptional customer experience every time.</p>	<p>Provides a positive customer experience through ensuring timely and accurate provision of meter data into the market to enable retailers to issue bills and the DNSPs to bill retailers. This benefits the customer by reducing the number of estimated bills and also supports the customer to better manage their usage and energy costs.</p>	High
<p>2. Strengthen and grow from our core</p> <p>Leverage our portfolio business, strive for continuous improvement and work together to shape energy use and improve the utilisation of our assets.</p>	<p>Leverages scale across the Energy Queensland business to deliver the most cost-effective MDM operations.</p>	Medium
<p>3. Create value through innovation</p> <p>Be bold and creative, willing to try new ways of working and deliver new energy services that fulfil the unique needs of our communities and customers.</p>	<p>Enables the rescaling of Type 6 meter reading activities in an efficient manner while catering for the growth in volume of smart meter (Type 4) deployments across Queensland.</p>	Medium

3.2. Alignment with National Electricity Rules (NER)

The table below details the alignment of the proposed solution with the NER capital expenditure objectives as regulated by the AER.

NER Objective Alignment	Rationale
<p>6.5.7 (a) (2)</p> <p>The forecast capital expenditure complies with all applicable regulatory obligations or requirements associated with the provision of standard control services</p>	<p>This business case proposes to provide a solution (both business process and technology) that services all distribution customers across Queensland. The solution will ensure compliance with all regulated, legislative and policy obligations to enable efficient delivery of standard control services.</p>
<p>6.5.7 (a) (3)</p> <p>The forecast capital expenditure maintains the quality, reliability and security of supply of standard control services</p>	<p>The provision of meter data into the market is critical to support ongoing operations of the NEM. Failure to meet quality and timeliness standards would result in significant impacts to other market participants and ultimately to customers.</p>

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NER Objective Alignment	Rationale
<p>6.5.7 (c) (1) (i) The forecast capital expenditure reasonably reflects the efficient costs of achieving the capital expenditure objectives</p>	<p>Costs for this investment have been forecast based on knowledge of [REDACTED] enhancements undertaken as part of the NECF and Power of Choice implementations. In addition, other recent procurement activities and general information gathered through market scans and vendor discussions have been incorporated into the forecast.</p> <p>Energy Queensland undertakes competitive market procurement processes to ensure cost efficiency in project cost and operational expenditure.</p> <p>Energy Queensland also has a cloud services strategy which assesses each potential investment to ensure the optimal use of cloud and internal services with considerations of cost, risk, service requirements and other parameters. It is expected that some vendor offering may leverage cloud hosted solutions which may offer potential cost savings.</p>
<p>6.5.7 (c) (1) (ii) The forecast capital expenditure reasonably reflects the costs that a prudent operator would require to achieve the capital expenditure objectives</p>	<p>The requirement for this investment is premised on industry typical ICT Asset Lifecycle Management principles to prudently and efficiently ensure the supportability, serviceability and security of Energy Queensland’s meter data management functions across the two DNSPs.</p> <p>Currently this investment has been analysed to a “Preliminary Gate 2” level.</p> <p>Prior to investment, a Gate 3 business case will be prepared with further detail to be assessed in accordance with the established investment governance processes.</p>
<p>6.5.7 (c) (1) (iii) The forecast capital expenditure reasonably reflects a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objective</p>	<p>Costs for this investment have been forecast based on knowledge of [REDACTED] enhancements undertaken as part of the NECF and PoC implementations. In addition, other recent procurement activities and general information gathered through market scans and vendor discussions have been incorporated into the forecast.</p> <p>Further detailed cost build-up will take place in development of the Gate 3 business case. This detailed cost build up may be subject to further competitive market procurement processes, sourcing analysis and peer consultation.</p>

3.3. Alignment with the Digital Application Asset Management Guidelines

The table below indicates alignment of the solution with the **Digital Application Asset Management Guidelines**:

Digital Application Asset Management Guidelines Assessment	Rationale
<p>The MDM solutions are classified as a System of Record according to the PACE layer categorisation described in Energy Queensland’s Digital Application Asset Management Guidelines.</p> <p>These guidelines describe key defining criteria for Systems of Record including that:</p> <ul style="list-style-type: none"> • They support core business processes – “running the core business” • The business process is understood & stable (either common or subject to regulatory requirements) • They contain information that is core to the business (key information entities – system of record) • They have high data integrity requirements (needs to be auditable) • They are an information source for other systems through exposing business services (SOA) <p>On the above basis, the guidelines forecast that Systems of Record (Foundations) should maintain currency, supportability and effectiveness through the following investment lifecycle.</p> <ul style="list-style-type: none"> • Minor Upgrade – 3 years after implementation • Major Upgrade – 7 years after implementation • Replacement – 12 years after implementation <p>The guidelines further describe that Upgrade and Replacement investments should consider the extent of “obsolescence” of the solution. E.g.</p> <ul style="list-style-type: none"> • Technical Obsolescence – The solution is still functional but not supportable • Financial Obsolescence – The cost of maintaining the solution outweighs the value derived from it. • Asset Obsolescence – The asset has reached the end of its reasonable functional life as indicated through failure rates, inability to meet business requirements etc. 	<p>The MDM solutions proposed for renewal through this investment will meet the criteria for replacement identified in the guidelines.</p> <p>The proposed investment is planned to conclude in FY22.</p>

3.4. Regulatory Implications

The replacement MDM solution must enable the Energex and Ergon Energy DNSPs to achieve the following outcomes as an MDP participant in the NEM:

- Use reasonable endeavours to provide metering data to the Financially Responsible Market Participant (FRMP) within two business days.
- Use reasonable endeavours to provide historical data to the FRMP within two business days and maintain historical data is for a period of up to 12 months or otherwise as defined by the relevant Jurisdiction.
- Use reasonable endeavours to provide metering data to service individual customer data access requests.
- For metering installations that are manually read or have been made capable of remote acquisition in accordance with 7.8.9(b) of the NER, update the Next Scheduled Retail Date (NSRD) within two business days of a meter being read.



4. INVESTMENT SCOPE

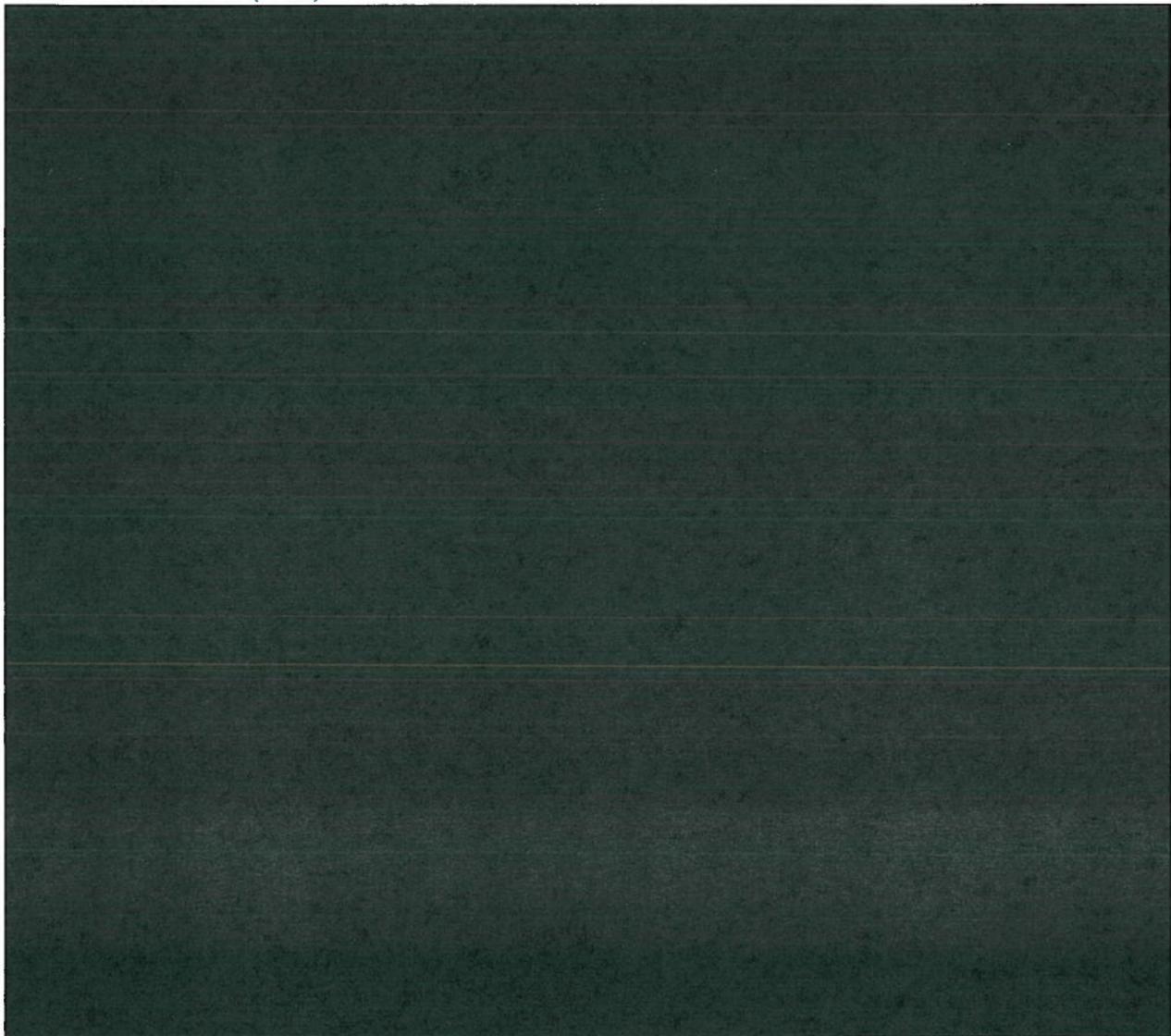
4.1. Functional Scope

Energy Queensland comprises multiple business areas and functions as defined in the organisation's Business Reference Model. The proposed investment in MDM Consolidation and Replacement is essential for the ongoing efficient service delivery to Queensland customers as delivered through the Queensland's business areas and functions listed below.

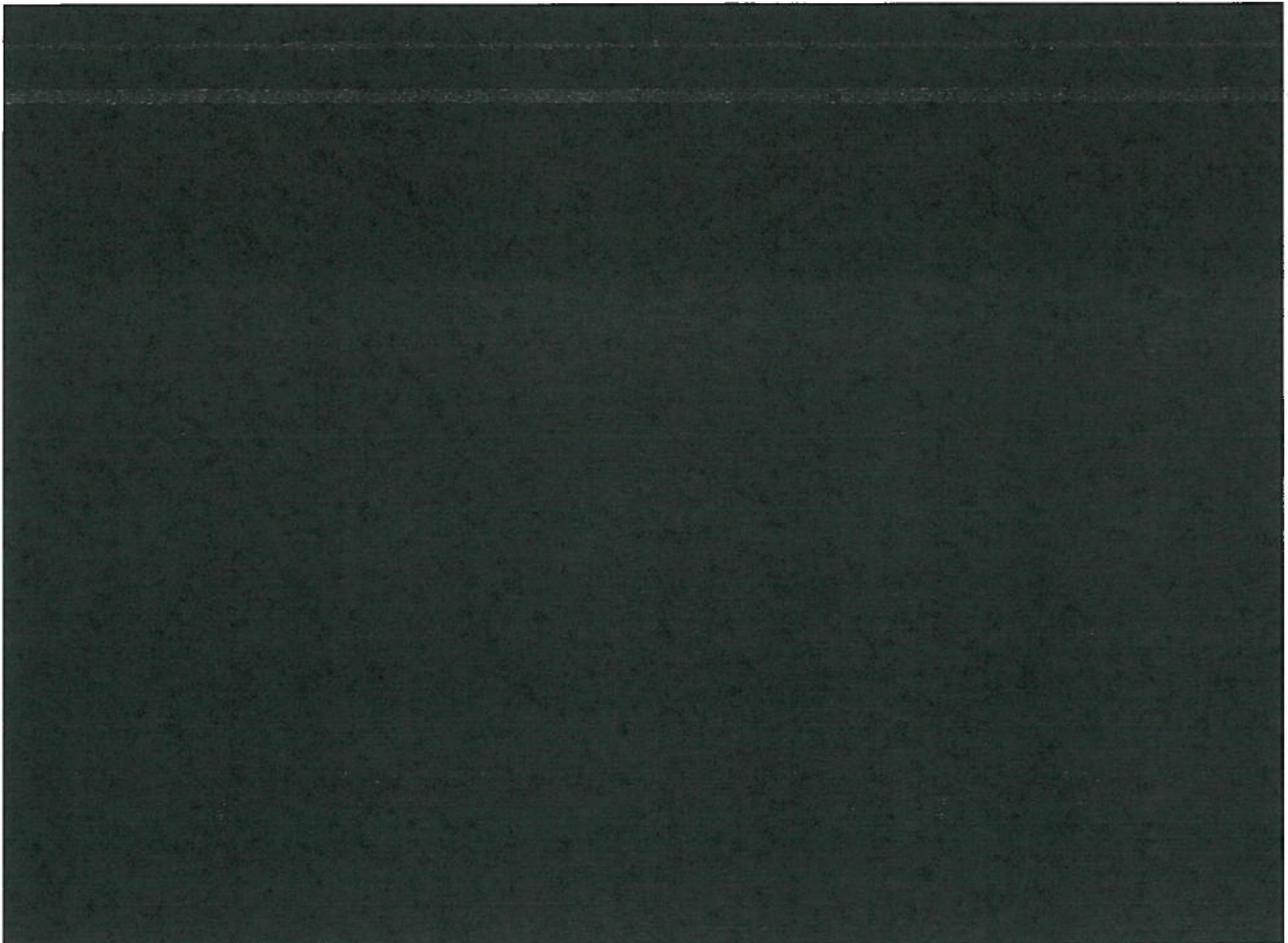
Business Area	Business Function	Business Reference Model Description
Market Management	Energy Data Exchange and Management	A function to provide input for network and market management, including metering data. This function also facilitates the exchange of data between partners in the delivery of products/services.
Works Execution	Meter Readings	A function that executes, monitors and reports on meter readings.

4.2. Solution Overview

4.2.1 Current State (2018)



4.2.2 Target State (end of the proposed investment)



4.3. Assumptions

This business case is based on the following assumptions:

- The number of Type 4 meters deployed across the mass market customer base in Queensland does not grow at a rate which necessitates an earlier replacement of the MDM platform.
- The scope, inclusions, exclusions, costs and impacts of the initiative will be further detailed through the Gate 3 business case prior to investment. This may be subject to competitive procurement processes as appropriate to ensure cost efficiency of delivery.
- The product offerings in the market are sufficiently mature and the product vendor's intellectual property enables effective implementation of best practice business processes and supporting capability.

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4.4. Dependencies

This investment is dependent on the following programs, projects or business activities:

Program/Project	Dependency	Effect
Regulatory Change – 5 minute interval data	The MDM solution must be able to manage 5-minute interval data which will become a market requirement in June 2021.	The introduction of 5-minute interval data will occur during the replacement of the MDM platform and may necessitate acceleration of the replacement timeline to avoid duplicate investment in both the current and replacement MDM platforms.
ERP EAM Program	<p>The initiative will be dependent of a range of outcomes from the ERP EAM Program including:</p> <ul style="list-style-type: none"> • That ERP EAM program delivers to its proposed scope and schedule • Availability of the ERP, Asset and Works Management SMEs and solutions experts to ensure consistency and alignment of the end state business processes and solution. 	The successful completion of the ERP EAM Program will enable the series of proposed investments in Customer and Market capability to proceed in the next regulatory period, leveraging the core ERP/EAM foundation.

Other programs or projects dependent on this investment:

Program/Project	Dependency	Effect
ID04 Customer Market Systems Consolidation & Replacement	The MDM solution will be integrated into the Distribution Customer Market Solution (ID04), in order to facilitate network billing processes.	The MDM implementation overlaps with the Customer Market Systems replacement and any delays with the MDM implementation may impact timeframes and increase costs of the Customer Market Systems replacement.

5. OPTIONS ANALYSIS

This section considers the following options:

- Option 1 – Proceed with the MDM Consolidation and Replacement (Preferred Option)
- Option 2 – Upgrade the existing MDM platform and then replace in the FY26-30 regulatory period
- Option 3 – Do Minimal

5.1. Option 1 – Proceed with the MDM Consolidation and Replacement (Preferred)

The existing MDM solution will be replaced for ongoing sustainability, supportability and security. Further consolidation and alignment of business processes will be implemented to maximise synergies across the Energy Queensland's market operations.

5.2. Option 2 – Upgrade the existing MDM platform and then replace in the FY26-30 regulatory period

The existing MDM solution will be upgraded in the FY21-25 regulatory period and then the solution will be locked down with minimal change until replacement occurs in the FY26-30 regulatory period.

5.3. Option 3 – Do Minimal

The existing MDM solution will be locked down [REDACTED] until replacement occurs in the FY26-30 regulatory period.

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5.4. Option Comparison

Each option has been assessed against the key criteria contained in the table below.

	Option 1 - Proceed with the MDM Consolidation and Replacement (Preferred Option)	Option 2 – Upgrade existing MDM platform and then replace in FY26-30 regulatory period	Option 3 – Do Minimal
Advantages	<p>Consistent with the business case objectives, this option:</p> <ul style="list-style-type: none"> • Ensures the ongoing supportability and sustainability of core business processes with an MDM solution that can cater for regulatory changes in a cost effective manner. • Consolidates the MDM systems onto a single platform which supports process alignment and efficiencies across the Energy Queensland business. • Ensures the availability of an MDM solution that can scale to handle data volume growth as more Type 4 meters are deployed to mass market customers. • Delivers an MDM solution that is integrated to the broader suite of customer and market solutions and is aligned with the other replacement investments: <ul style="list-style-type: none"> ○ ID04 Customer Market Systems Consolidation & Replacement, and ○ ID14 Customer Management System Consolidation & Replacement. • Improves the quality and consistency of meter data processing and reduces the amount of manual effort in the validation and substitution processes. • Delivers a Type 6 meter reading solution that is efficient to operate and can be rescaled over time. 	<p>Partly consistent with the business case objectives, this option:</p> <ul style="list-style-type: none"> • Achieves supportability and sustainability of core business processes for a period of time before transitioning into an end-of-life support state. • Defers replacement investment into FY26-30 period. 	<p>This option does not effectively achieve any of the objectives of the business case.</p> <p>It does however represent the lowest near-term expenditure on the MDM solution by deferring replacement investment into the FY26-30 period.</p>

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Option 1 - Proceed with the MDM Consolidation and Replacement (Preferred Option)

Disadvantages This option meets all the objectives of the business case.

Option 2 – Upgrade existing MDM platform and then replace in FY26-30 regulatory period

This option does not meet the following objectives of the business case:

- Does not consolidate the MDM systems onto a single platform which supports process alignment and efficiencies across the Energy Queensland business. **Therefore, this option does not support the forecast Energy Queensland 10% reduction in indirect costs.**
- Does not ensure the availability of an MDM solution that can scale to handle data volume growth as more Type 4 meters are deployed to mass market customers. (There is a capacity limit of the MDM solution which may result in the inability to handle growth in Type 1-4 meter data).
- Does not deliver an MDM solution that is integrated to the broader suite of customer and market solutions.
- Does not improve the quality and consistency of meter data processing and reduces the amount of manual effort in the validation and substitution processes.
- Does not deliver a Type 6 meter reading solution that is efficient to operate and can be rescaled over time.

Option 3 – Do Minimal

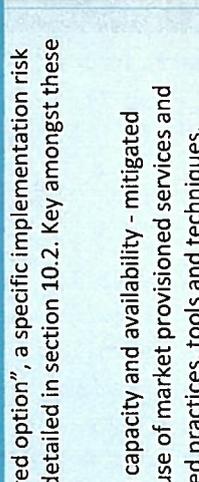
This option does not meet any of the business case objectives and puts the core business operations of Energy Queensland at significant risk. This is therefore an **unacceptable option.**

This option does not support the forecast Energy Queensland 10% reduction in indirect costs. This will impact the companies' FY26-30 revenue requirements, resulting in a negative price outcome for customers.

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	Option 1 - Proceed with the MDM Consolidation and Replacement (Preferred Option)	Option 2 – Upgrade existing MDM platform and then replace in FY26-30 regulatory period	Option 3 – Do Minimal
Key Identified Risks	<p>As the “preferred option”, a specific implementation risk assessment is detailed in section 10.2. Key amongst these risks are:</p> <ul style="list-style-type: none">• Resource capacity and availability - mitigated through use of market provisioned services and established practices, tools and techniques.• Effectiveness of implementation – mitigated by ensuring that functional and non-functional testing is completed with quality assurance reviews pre go-live.		 <p>See the organisational risk assessment in section 10.1 for information.</p>

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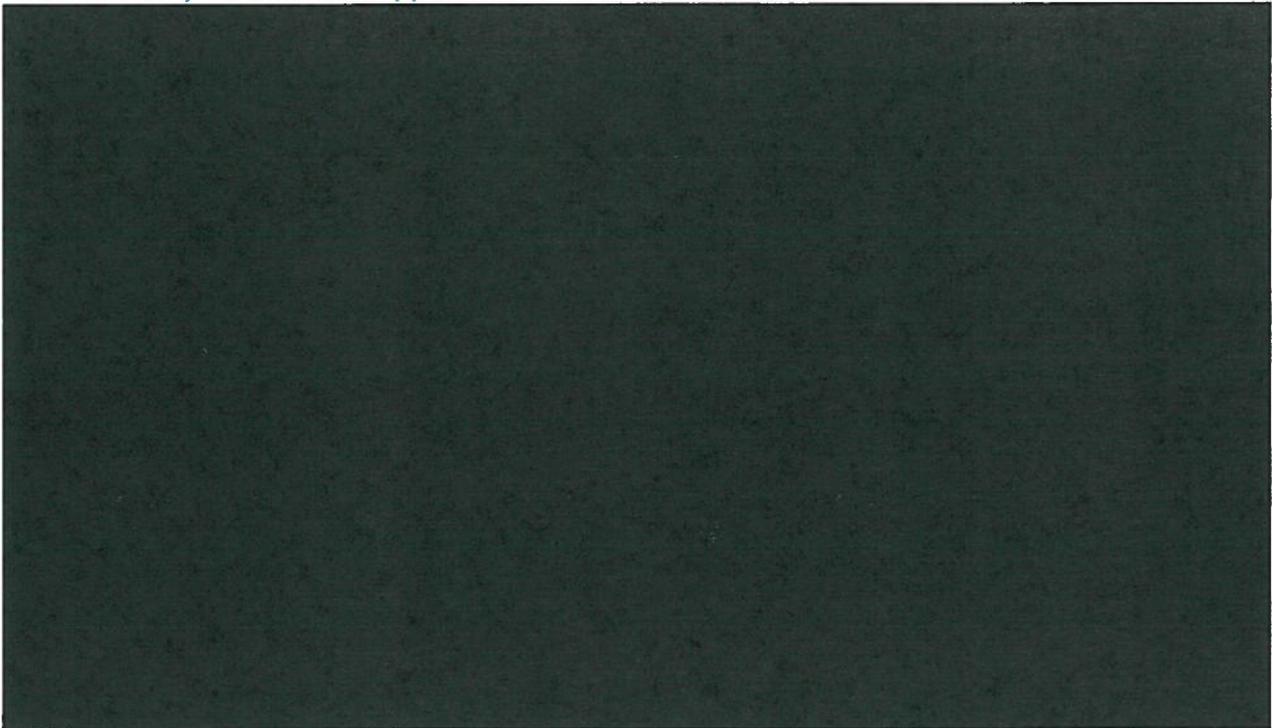


6. PREFERRED OPTION

“Option 1 - Proceed with the MDM Consolidation and Replacement” is the preferred option, as it meets all the business case objectives, it is aligned with Energy Queensland’s strategic objectives and is consistent with Energex and Ergon Energy’s obligations under the National Electricity Rules.

Both Options 2 and 3 each represent material risks to Energex and Ergon Energy’s customer and market operations [REDACTED]. These options also do not support realisation of Energy Queensland’s forecast 10% reduction in indirect costs.

6.1. Delivery Timeline and Approach



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7. INVESTMENT BENEFITS OVERVIEW

This section outlines the benefits associated with the investment. This business case has currently been analysed to a “Preliminary Gate 2” level. As such, the benefits will be further detailed, tested, and verified in preparation of the Gate 3 business case prior to investment.

This initiative is primarily an ICT Asset Replacement of legacy systems, required to ensure the ongoing sustainability, supportability and security of business critical capability. Energy Queensland will leverage the opportunity associated with this ICT replacement to also enable planned productivity improvements, resulting in a forecast 10% reduction in indirect costs. The benefits listed below represent contributions to the overall Energy Queensland productivity improvement targets.

7.1. Financial and Other Benefits

Area	Benefits Identified	Value
Financial Benefits		
Market Operations Productivity	<ul style="list-style-type: none"> Reduced manual intervention in meter data validation, substitution and estimation activities Reduced number of queries from the market in relation to published meter data 	
Distribution Metering Productivity	<ul style="list-style-type: none"> Synergy arising from consolidation of meter data and meter management systems (i.e. Toht and MARS respectively). Efficiency will be achieved through reduced effort in data corrections and a single source of truth for metering data. 	
Other Benefits		
Organisation Reputation	<ul style="list-style-type: none"> Energy Queensland’s reputation is maintained in the NEM through provision of accurate and timely meter data. 	External Stakeholder Satisfaction
Reduced Operational Risk	<ul style="list-style-type: none"> Replacing the aging MDM solution reduces the operational risk of major technology outages that will have significant customer, financial and reputational impacts. 	Risk

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8. FINANCIAL ANALYSIS

8.1. Scope of Costs

The table below summarises the potential cost inclusions to deliver the outcomes described in this business case.

Phase	Description / Rationale
All Phases	Project management
	Project support
	Internal corporate logistics / overheads
	Communications and engagement
	Review and assurance (excluding normal Internal Audit functions)
Planning & Procurement Phase	Tender facilitation, probity management and legals
	Gate 3 business case development
	Development of planning deliverables (e.g. PMP, Stakeholder and Communications Plan etc)
	Software licences, hardware purchases, cloud services procurement
Design Phase	Software, infrastructure and information design
	Data profiling and migration design
	Solution architecture
	Integration design
	Business process design
	Organisational change design and change management planning
Build, Integrate, Test and Deploy Phase	Data migration and ETL (Extract, Transform, Load) build
	Data migration execution (incl. Trial Migrations, Dress Rehearsals, Verification etc)
	Software, infrastructure and environment configuration
	Integration build
	Business process design and organisational change implementation
	Testing (incl. information consistency, capacity, performance and load, security etc)
	Training
	Production deployment
Warranty Phase	Post implementation operational support
	Transition to business-as-usual (BAU) support
	Post implementation review

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8.2. Cost Assumptions

The table below summarises the key cost assumptions for the initiative.

#	Assumption	Description / Rationale
1	Project phasing and deployment	<p>The initiative will be delivered over a 21 month elapsed period with an up-front design phase followed by build and a separate deployment for the [REDACTED] replacement solutions. The deployment plan will be structured with consideration of:</p> <ul style="list-style-type: none"> • Alignment with other dependent initiatives. • Sequencing to maximise business performance benefit while managing risk to core business operations.
2	Use of market services	<p>The initiative will be delivered through a team comprising internal subject matter experts and external solution delivery specialists, to ensure project cost efficiency and mitigation of project risk. It is assumed that the project will be able to procure suitably skilled and experienced resources from the market and that these resources can be retained for the duration of the project.</p>
3	Energex and Ergon Energy costs	<p>The project costs for Energex and Ergon Energy are consistent with the effort and complexity of transitioning each company from their respective current state to the common target state. The respective estimates (CapEx and OpEx) are as described in the following section.</p>
4	Availability of corporate ICT environments	<p>The project costs are based on corporate ICT environments being available to facilitate end-to-end testing across the enterprise.</p>
5	Regulatory environment	<p>The project costs are based on there being no significant changes (up to and during the period of implementation) within the regulatory frameworks that impact the customer and market environment.</p>
6	Addition software licencing	<p>Integration with the core ERP/EAM solution will not require additional third-party licencing costs to be incurred.</p>
7	Option 2 (Upgrade existing MDM platform and then replace in FY26-30 regulatory period)	[REDACTED]
8	Option 3 (Do minimal)	[REDACTED]

8.3. Financial Summary³

8.3.1 Energex Option Comparison



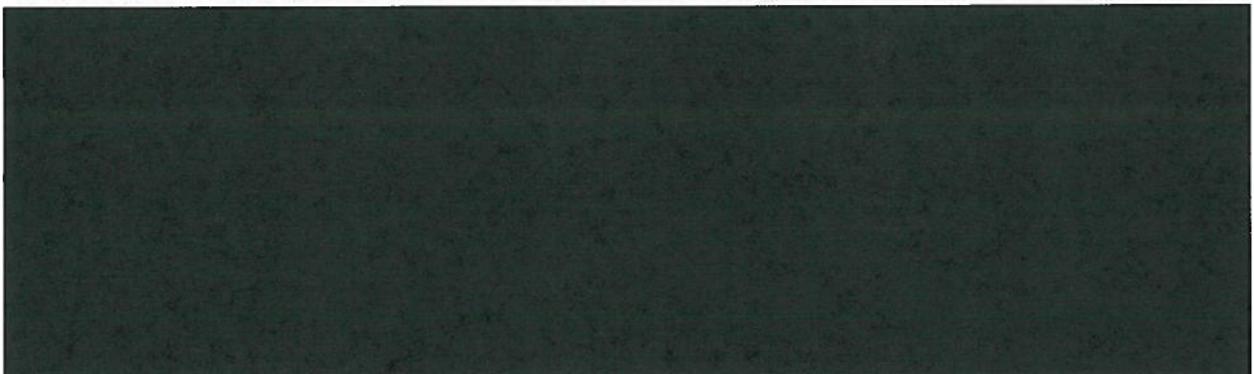
8.3.2 Ergon Energy Option Comparison



8.3.3 Energex Expenditure Summary (Option 1 – Preferred)



8.3.4 Ergon Energy Expenditure Summary (Option 1 – Preferred)



8.4. NPV Calculation Parameters

The above NPV and financial calculations are based on the following parameters.

- The Energy Queensland Net Present Value (NPV) model has been used to calculate the NPV calculations for this business case.
- The financial analysis has been based over a 10 year period after a 21 month phased implementation period.
- 5.40% Regulated Rate of Return/WACC is applied with present values discounted to FY17/18.

³ Bracketed figures indicate negative values.

9. PROGRAM DELIVERY

9.1. Program Governance & Delivery

The governance and delivery model depicted in Figure 3 (below) is planned to be used for delivery of the initiative.

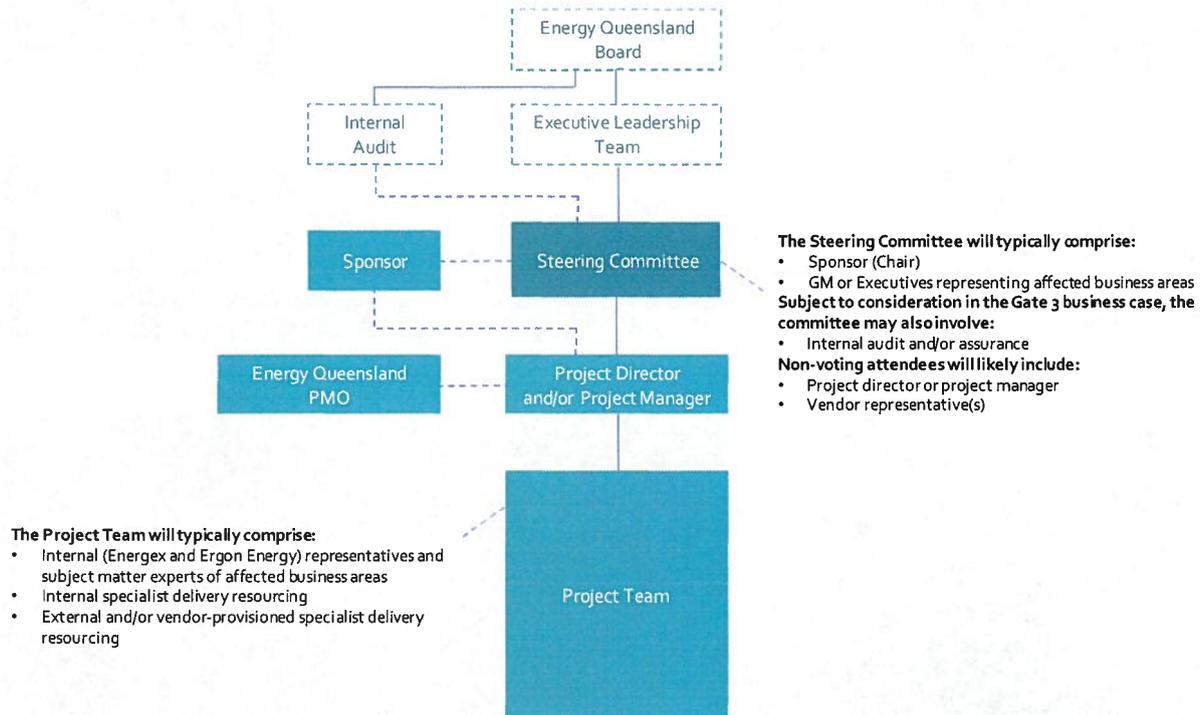


Figure 3 Governance and delivery model

Role	Key Accountabilities
Steering Committee	<p>Provides a single point of accountability for delivery of the initiative in accordance with the business case, as well as decision making aligned with strategic directions of the company. The committee governs the initiative with appropriate balance between delivered outcomes (time, fitness for purpose, cost), risk, business impact and enabled business value.</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Attend and be an active participant in committee meetings • Foster positive communications outside of the committee regarding the initiative • Be the voice of the initiative, including communications where appropriate to the Group Executive, Energy Queensland Board and other key stakeholders • Review and approve/reject any request for change (change requests) to the agreed scope, budget, schedule or deliverables. • Ensure all approved change requests align with the program objectives • Ensure program quality outcomes are balanced with other competing priorities • Review each completed phase (or defined stages or gates) and provide go/no-go direction after consideration of quality, risk, cost and schedule • Undertake a Post Implementation Review (PIR) • Ensure the appropriate independent auditing and review of the program is undertaken at the logical stage gates of the program

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Role	Key Accountabilities
Sponsor	<p>The Sponsor is accountable for delivering the business value enabled by the initiative and meeting the objectives set through the business case.</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Oversee development of the business case • Oversee development of the project management plan (PMP) working closely with the Project Director • Monitor and advise on delivery outcomes working closely with the Project Director and/or Project Manager • Ensure that any proposed changes of scope, cost or delivery timeline are checked against possible impacts to program benefits • Approve Change Requests within delegated authority levels • Ensure Change Requests have been endorsed by all impacted parties (Business Change, Design, Delivery, Finance, BAU) • Brief Executives and Board on program progress • Ensure that the benefits realisation plan is realistic and achievable
Project Director and/or Project Manager	<p>The Project Director and/or Project Manager has responsibility for the delivery of the overall initiative while maintaining the balance of competing priorities and alignment with initiative objectives as specified in the business case and as directed by the Steering Committee.</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Deliver the overall initiative outcomes • Agree delivery strategies with the Sponsor and the Steering Committee • Develop the PMP and oversee specification of all initiative deliverables including assessment of interdependencies and appropriate sequencing across the initiative • Manage development of the communications plan and ongoing communications with guidance and feedback from key stakeholders • Manage mobilisation of the initiative, including resource provision and procurement • Oversee technical delivery of solution design, development, implementation, integration, testing and data conversion • Oversee the delivery of training, deployment, organisational change management and business process re-engineering • Resolve all issues concerning project plans, schedules, budgets, risks and issues as they relate to the initiative • Manage cross-project dependencies, scope and resourcing issues • Ensures audit feedback is actioned in a timely, verifiable manner and validated
Program Management Office	<p>The Program Management Office is a centralised Energy Queensland business function which provides coordination, standards, administrative support and end-to-end reporting for Energex and Ergon Energy's business transformational and ICT initiatives.</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Provide a central repository and framework for all program and project issues and risks • Co-ordinate and manage all project plans under guidance from the Project Managers and/or Project Directors • Overall program / project risk mitigation management • Overall program / project issue management • Program financial tracking and reporting • Deliverables monitoring • Program key performance monitoring and reporting

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Role	Key Accountabilities
Project Team Members	<p>The Project Team undertakes the core delivery of the project under direction of the Project Director and/or Project Manager. The team typically comprises internal representatives and subject matter experts of affected business areas as well as internal and vendor-provisioned delivery resourcing.</p> <p>Responsibilities</p> <ul style="list-style-type: none"> • Develop and deliver assigned project deliverables • Identify issues and record, monitor and report status • Manage issues with appropriate actions • Escalate issues as required • Attend reference groups and other forums as required

9.2. Stakeholder Management

The following tables summarise the key internal and external stakeholders for the investment. A detailed stakeholder management plan will be developed as part of delivery planning for the initiative.

9.2.1 Key Internal Stakeholders

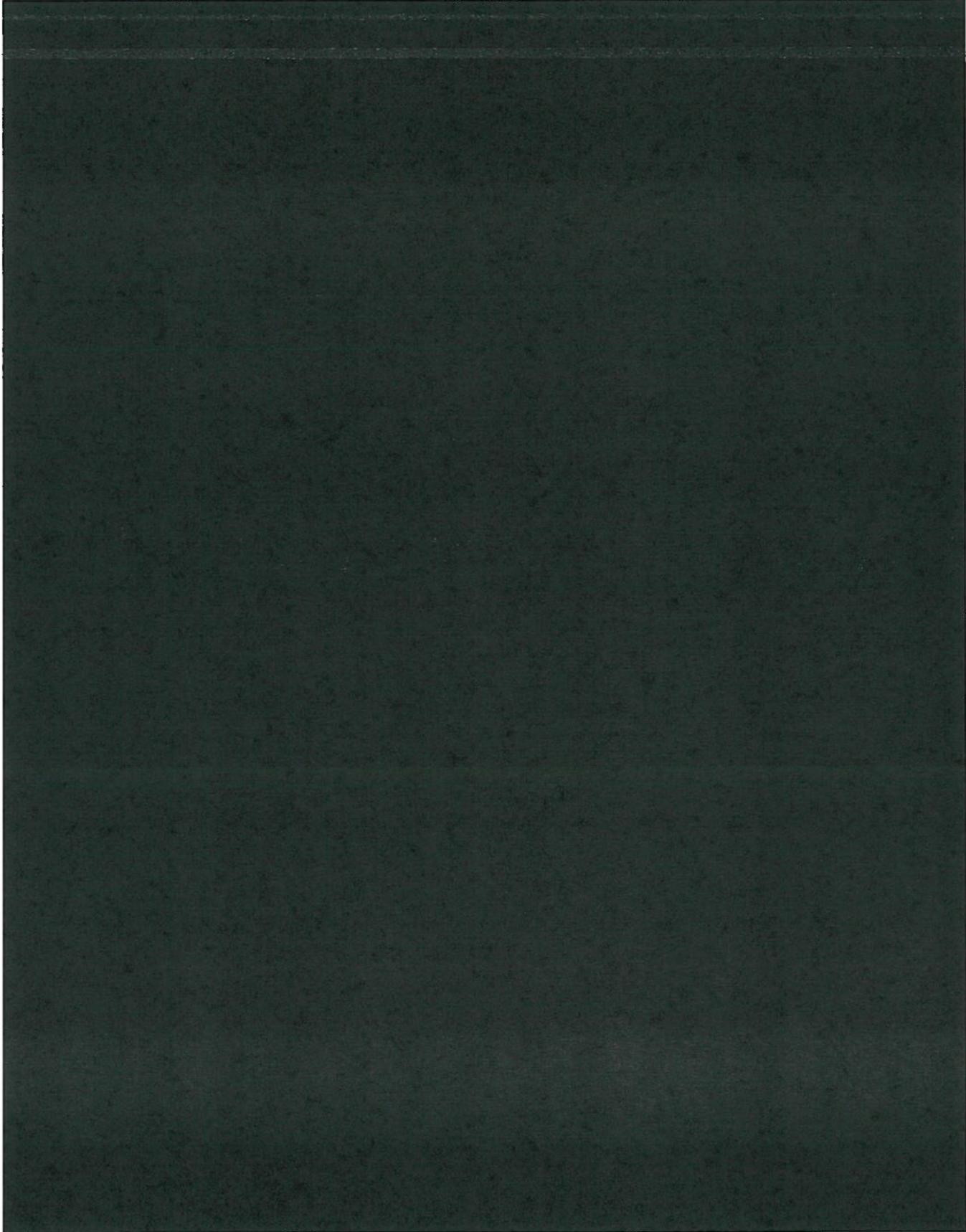
Stakeholder	Interest
Energy Queensland Executive Leadership Team (ELT) and Board	Operational performance outcomes across Market Operations.
Energex & Ergon Energy Customer and Market Operations Business Unit leaders	Availability, reliability and serviceability of the MDM platform. Consistency of MDM tooling, configuration and business processes, to enable operational productivity improvement.
Market Operations staff	Effectiveness of the MDM solution to deliver the capability required for core business operations.

9.2.2 Key External Stakeholders

Stakeholder	Interest
Shareholder	Performance effectiveness of Market Operations in terms of being able to publish meter data to support Retailer billing, and the ability to issue network bills for settlement by Retailers.
Customers	Queensland retail customers will rely on the MDM solution to provide accurate and timely Type 6 meter data.
Retailers	Retailers will rely on the MDM solution to provide accurate and timely Type 6 meter data.
Meter Reading Contractors	Reliable performance of the hand-held devices and back end meter data repository will be critical in the efficient operation of the Type 6 meter reading function.

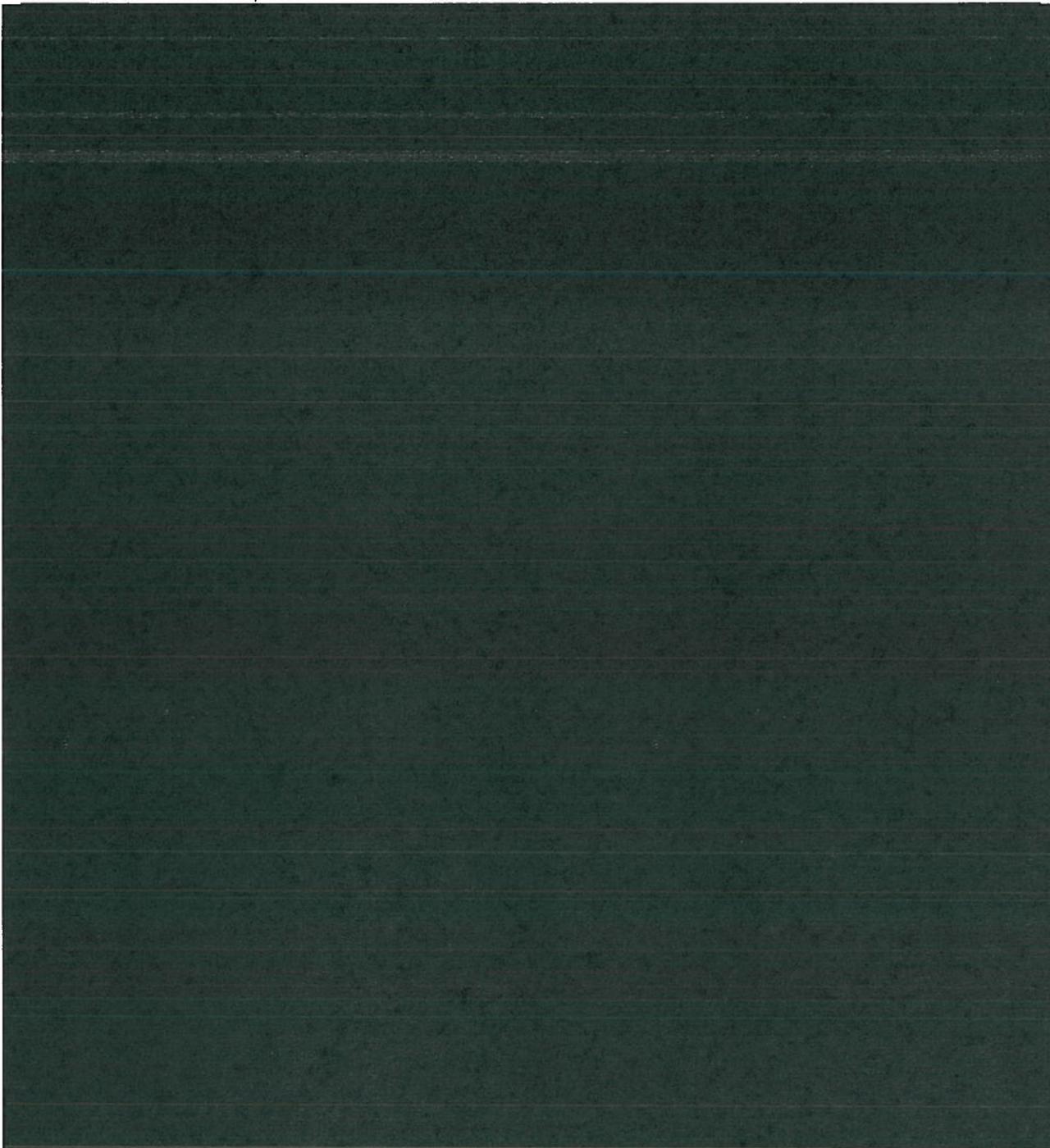
10. RISK ASSESSMENT

10.1. Organisational Risk Assessment



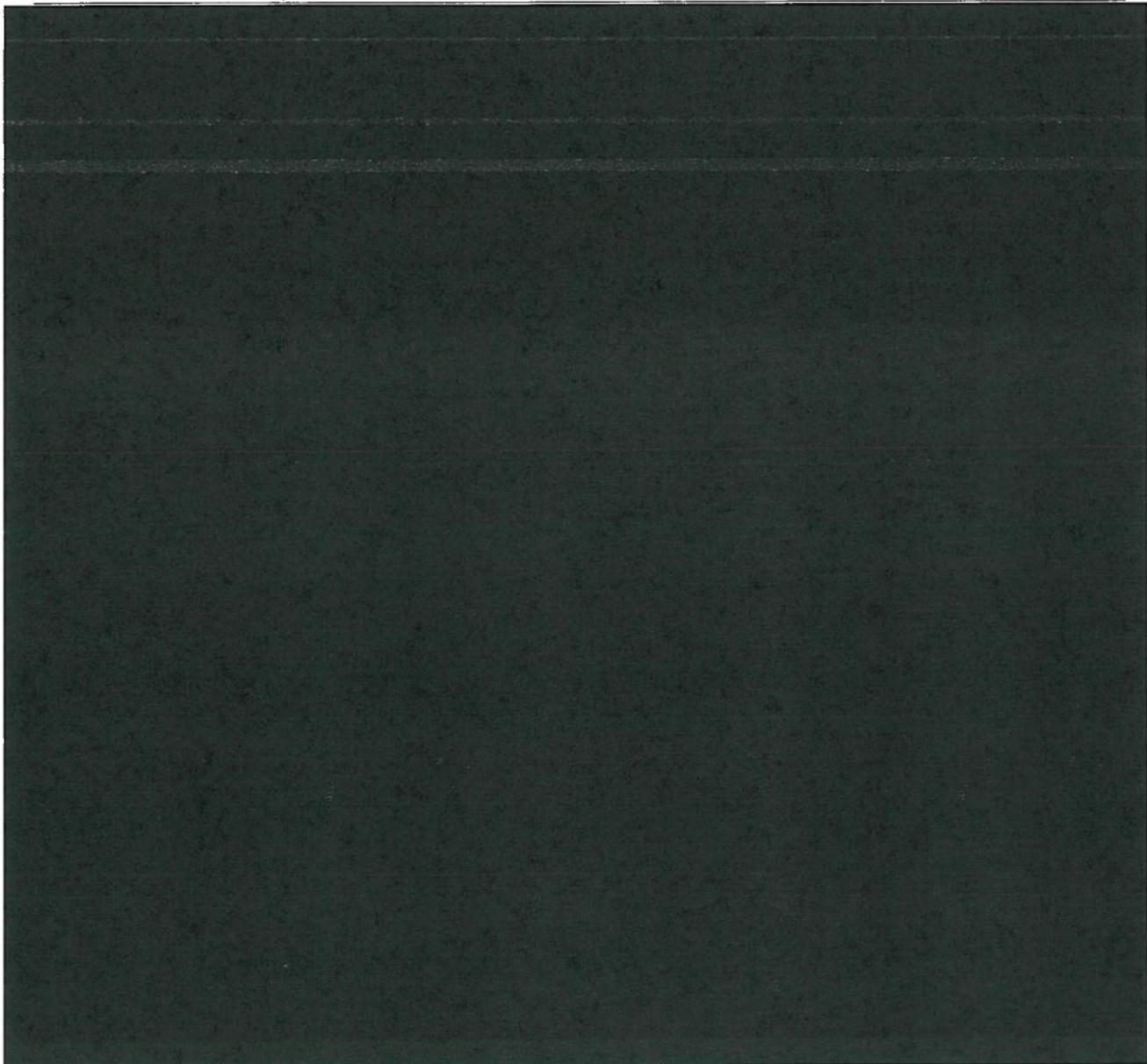
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10.2. Preliminary Implementation Risk Assessment

This section provides a preliminary assessment of the key implementation risks of the preferred investment option.

Risk Description	Inherent Risk	Planned Mitigation	Residual Risk
<p>Risk 1. Resource capacity and availability</p> <p>The initiative requires mobilisation of a skilled delivery team comprising internal subject matter experts and external solution delivery specialists.</p> <p>The required internal subject matter experts may be limited in capacity due to other initiatives and organisational change.</p> <p>Availability of required external solution delivery specialists is dependent on the capacity of the market.</p>	<p>Moderate</p>	<p>Continue to perform prudent program management planning to minimise internal resourcing conflicts, ensuring adequate capacity is committed to each initiative prior to delivery.</p> <p>Also prior to delivery, verify the availability of external solution delivery expertise through market procurement processes.</p>	<p>Low</p>
<p>Risk 2. Effectiveness of implementation</p> <p>The new MDM platform needs to meet stringent performance standards and be highly available and reliable post implementation.</p> <p>Failure to do so may result in significant operational impacts and inability to transact in the market in relation to sending and receiving of meter data files.</p>	<p>Moderate</p>	<p>Ensure that functional and non-functional testing is completed with quality assurance reviews pre go-live to ensure operational impacts of the implementation are minimised.</p>	<p>Low</p>

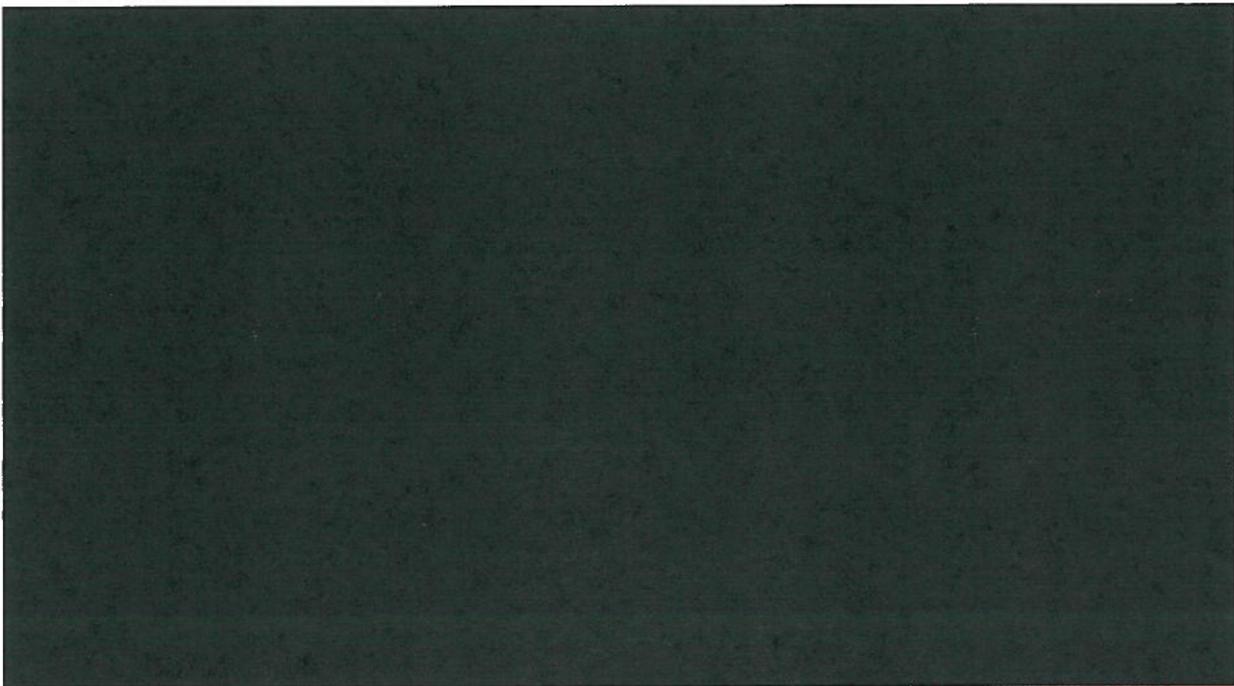
11. CHANGE IMPACTS

The below section details the potential impacts to occur across the Energy Queensland environment during and after the implementation of this investment.

11.1. System Impacts



11.2. People & Process Impacts



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APPENDIX A - Glossary

This section describes key terms and acronyms used in this document.

Source: Energy Queensland internal sourcing

AEMO Retail Electricity Market Procedures – Glossary and Framework v2.1 December 2017

Term	Definition
ACS	Alternative Control Services
AEMO	Australian Electricity Market Operator
B2B	Business-to-Business: A generic term used to refer to certain business-to-business interactions between Participants through the B2B e-hub
BAU	Business as Usual
CapEx	Capital Expenditure
CATS	Consumer Administration and Transfer Solution, a part of MSATS
CATS Procedures	The AEMO document entitled: MSATS Procedures: CATS Procedure Principles and Obligations
CATS Standing Data	The data held in the following database tables: <ul style="list-style-type: none"> • CATS_NMI_Data_Stream • CATS_NMI_Data • CATS_Meter_Register • CATS_NMI_Participants_Relationships • CATS_Register_Identifier NMI Standing Data is a sub-set of the CATS Standing Data.
CCT	The Energy Queensland Contact Centre Technology solution comprising IVR and telephony
CIS	Customer Information System
DNSP	Distribution Network Service Provider (i.e. the Energex and Ergon Energy distribution businesses)
DUOS	Distribution Use of Service charges
EAM	Enterprise Asset Management system supporting functions including Asset and Works Management
EENSP	Exempt Embedded Network Service Provider. Referred to as an Embedded Network Operator by the AER. For the purposes of the Retail Electricity Market Procedures, references to an EENSP can be taken to mean the Embedded Network Operator.
ELT	Energy Queensland's Executive Leadership Team
ERP	Enterprise Resource Planning system supporting functions including Finance, Human Resource Management, Payroll and Procurement
ETL	Extract Transform Load (data migration and integration technology)
FFA	The Energy Queensland Field Force Automation solution(s). Includes work schedule/despatch and mobile information management
FRC	Full Retail Contestability

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Term	Definition
FRMP	Financially Responsible Market Participant, usually a Retailer, Generator, Market Customer or an MSGA, identified as such in respect of a connection point in MSATS
GIS	The Energy Queensland Geographic Information and Network Model Management Systems
GSL	Guaranteed Service Levels
ICT	Information Communication Technology
IVR	Interactive Voice Response
Life Support	A situation where an End User relies on electricity for the operation of 'life support equipment'
LNSP	In the context of a Network Service Provider's distribution network: Local Network Service Provider In relation to a child connection point: EENSP. For the purposes of the Metrology Procedure: If there is more than one Local Network Service Provider for a local area, a reference to the LNSP in respect of a metering installation or connection point is a reference to the LNSP that holds a licence in respect of the network to which that metering installation or connection point is connected
MARS	Energy Queensland's Meter Asset Registry Systems
MDM	The part of MSATS called 'Metering Data Management'.
MDM System(s)	Energy Queensland Meter Data Management System(s)
MDP	Meter Data Provider
MP	Metering Provider. In MSATS, it is referred to as an MPB
MSATS	Market Settlements and Transfer Solution
MSATS Procedures	The following procedures, collectively: <ul style="list-style-type: none"> • CATS Procedures, • WIGS Procedures, • MDM Procedures, • NMI Standing Data Schedule, • NMI Procedure, and • Part A of the NEM RoLR Processes.
NBM	Network Billing Management
NECF	National Electricity Customer Framework
NEM	National Electricity Market
NER	The National Electricity Rules made under Part 7 of the National Electricity Law
NMI	National Metering Identifier
NMI Address	The physical location of the connection point
NPV	Net Present Value
NSRD	Next Scheduled Read Date
OpEx	Operating Expenditure

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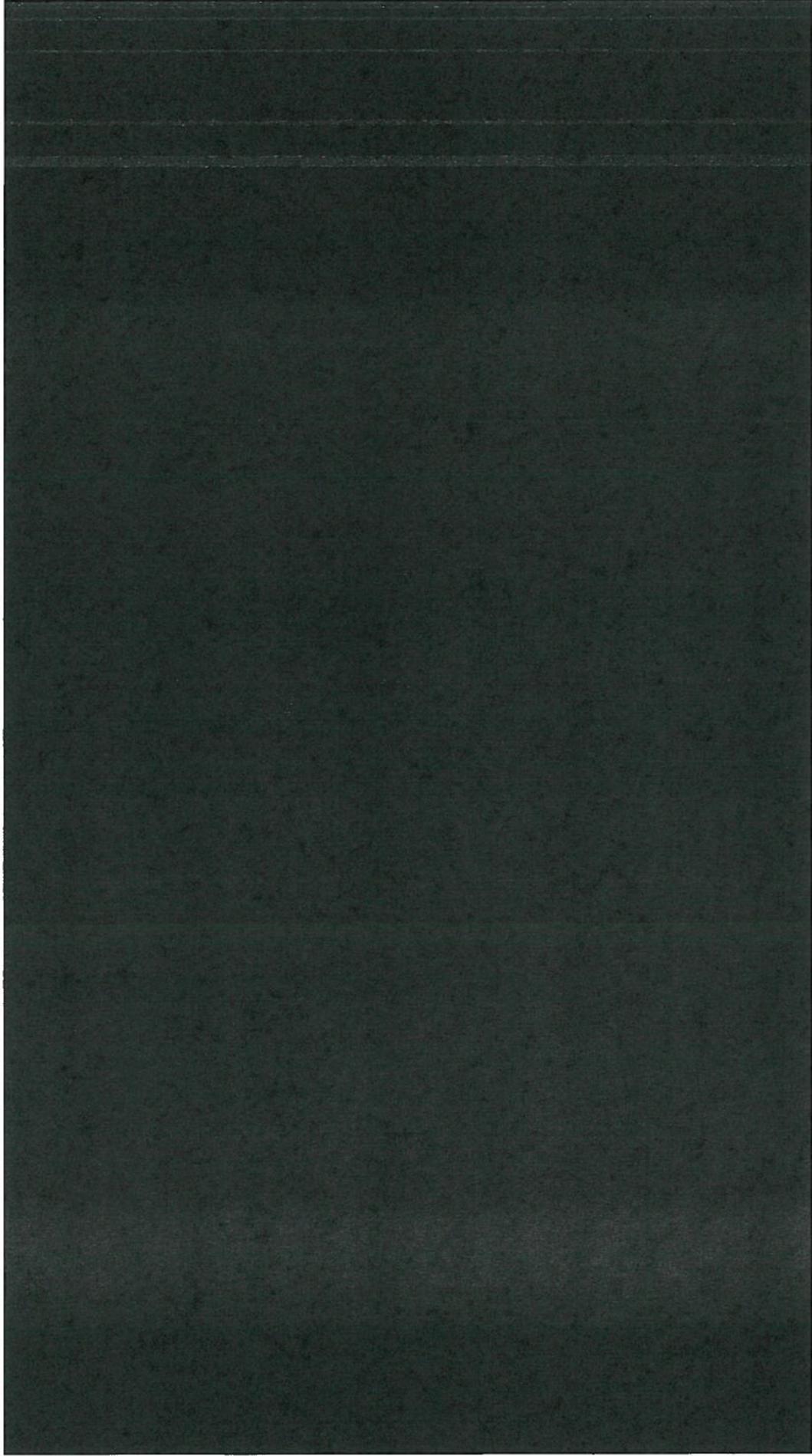
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Term	Definition
Participant	An organisation with a Participant ID to sign into MSATS
PEACE	The Hansen PEACE Customer Information System
RoLR	Retailer of Last Resort
SCS	Standard Control Services
Service Order	A B2B request to perform specified work
Service Order Process	The process of requesting the performance of specified work through a ServiceOrderRequest and receiving notification of the outcome of the request through a ServiceOrderResponse
Special Meter Reading	An Actual Meter Reading taken on a date other than a Scheduled Reading Date
WACC	Weighted Average Cost of Capital

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