

**PRELIMINARY BUSINESS CASE
MOBILE WORKFORCE MANAGEMENT SYSTEMS UPGRADE**

FOR INFORMATION

Date Prepared: 16 December 2022

Recommendation

That Essential Energy endorses this preliminary business case for investment in upgrading Mobile Workforce Management systems.

As a preliminary business case, this paper analyses the drivers for investment and the options to address those drivers. It identifies the likely costs, benefits, risks and impacts of the proposed investment in order to inform organisational planning and forecasting.

Consistent with Essential Energy's investment governance processes, prior to proceeding with the proposed investment a detailed delivery business case will be developed and evaluated.

Executive Summary

This business case proposes investment to upgrade Essential Energy's Mobile Workforce Management systems.

In the current Regulatory Control Period (RCP), the company is making investments enabling significant Workforce Management process and systems improvement. Notably, this includes:

- Integration of the Field Portal mobile solution with the Enterprise Asset Management (EAM) system, Geographic Information system (GIS) and the Market Customer Information System (CIS), together with cyber security and other technology upgrades;
- Transition away from paper-based field data capture for asset information, inspection details and work task instructions;
- Digitisation of Customer and Premise Task Work Instructions (including B2B);
- Digitisation of field Hazard Identification, Risk Assessment and Control (HIRAC) work practices;
- Digitisation of customer electrical test recording; and
- Enhancements to existing Schedule and Dispatch work practices, including implementation of the "Depot Queue" solution for improved work packaging, allocation and progress tracking.

These current RCP investments are delivering process improvement in the company's key work management processes, as recognised through a recent commendation by SafeWork NSW in recognition of excellence in workplace health and safety.

For prudent ICT asset lifecycle management purposes, it is forecast that in the second half of the coming-RCP (i.e. around FY28), a "mid-life upgrade" investment will be required to ensure the ongoing sustainability of the Mobile Workforce Management systems into the 2030s. By that point in time, the Oracle Cloud EAM (WACS) implementation and Depot Queue solutions will be well embedded, meaning substantial opportunity will exist to enable greater works optimisation efficiency leveraging these key systems.

The proposed investment is required to address the following drivers:

- **Resilience:** This is primarily a risk mitigation and sustainability investment, to ensure the ongoing operability, security and supportability of Essential Energy's primarily mobile field work management platform.
- **Business Improvement:** There is an opportunity to improve works delivery processes and delivery efficiency with upgrade of the platform, following embedding of the new Oracle Cloud EAM system and Depot Queue.

This business case considers two options, contrasted with the counterfactual base case:

- **Base Case:**
Continue to operate the existing systems, with minimal incremental investment.
- **Option 1: Mobile Workforce Management mid-life systems upgrade (Recommended)**
Undertake an upgrade the Mobile Workforce Management systems for supportability and sustainability. Leverage the upgrade for business improvement and works program optimisation.
- **Option 2: Mobile Workforce Management systems replacement**
Perform a market procurement process, to replace the existing Mobile Workforce Management systems, processes and capabilities with next generation products.

Option 1 is recommended, with investment beginning in FY28. Total project expenditure is ██████████ (FY24 Real Terms) with an NPV of ██████████.

This investment will support the customer and community through:

- Continued provision of timely and efficient electricity network field works, ensuring the ongoing safe provision of standard control services (SCS); and
- Continuous improvement in safety performance, through the proactive management of network and community hazards and risks.

PRELIMINARY BUSINESS CASE – Mobile Workforce Management Upgrade

Program/Project Summary

Preliminary Business Case – Mobile Workforce Management Upgrade		
Investment Value	Expenditure (Recommended Option)	
	Seed funding (actual)	\$M FY24 Real Terms ¹
	This approval:	
	Project Capex – Mobile Workforce Management Upgrade	
	Project Opex – Mobile Workforce Management Upgrade	
	Total program/project expenditure	
	<i>Ongoing Opex p.a.</i>	
Benefits	Financial Benefits p.a. (Recommended Option)	
	Risk Mitigation and contributor to Productivity Improvement.	\$M FY24 Real Terms
	Ongoing Benefit Value (p.a.)	Non-incremental
Corporate Strategy	<ul style="list-style-type: none"> Resilience and Reliability Other Essential Services 	
Business Drivers	<ul style="list-style-type: none"> Compliance and Risk Business Improvement 	
Date Needed	June 28	

¹ All figures presented in this document are provided in middle of the year 2023/24 real dollar terms and represent whole-of-business values prior to application of the Cost Allocation Model (CAM).

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PRELIMINARY BUSINESS CASE – Mobile Workforce Management Upgrade

1. Business Drivers

Field work scheduling, dispatch and management are critical business functions, enabling Essential Energy’s safe and efficient operation of the electricity network.

In the current RCP, the company is making investments in workforce management process and systems improvement. For prudent ICT asset lifecycle management purposes, it is forecast that in the second half of the coming-RCP (i.e. around FY28), a “mid-life upgrade” investment will be required to ensure the ongoing sustainability of these workforce management systems into the 2030s. By that point in time, the Oracle Cloud EAM implementation and Depot Queue solutions will be well embedded, meaning substantial opportunity will exist to enable greater works optimisation efficiency leveraging these key systems.

1.1. Compliance Obligations

Through this investment, Essential Energy will ensure compliance with legislation, regulations, codes and standards as summarised below.

Instrument	Obligations	Investment relationship to obligation
Electricity Supply Act National Electricity Rules (NER) clause 7.17.4(g)	Obligations for National Electricity Market (NEM) B2B transaction processing, as enabled through the NER, including Customer Service Orders administered through the Market CIS and the Mobile Workforce Management tools.	The proposed investment will ensure the Mobile Workforce Management capability is positioned for long-term supportability, enabling compliance with all legislative and other Distribution Network Service Provider (DNSP) related obligations for the safe, efficient and sustainable operation of the network.
Gas and Electricity (Consumer Safety) Act Work Health and Safety Act (section 274)	Safe operation of the distribution network as specified in the Gas and Electricity (Consumer Safety) Act and the Work Health and Safety Act.	
Security Of Critical Infrastructure Act	Obligations as specified in the Security of Critical Infrastructure Act, with strong security and controls over data regarding the configuration and operation of the distribution network.	
Essential Energy NSW Distributor Licence Conditions	Obligations as specified through Essential Energy’s Distributor Licence Conditions, including obligations for management of Critical Infrastructure systems and processes as overseen by IPART (the NSW Independent Pricing and Regulatory Tribunal)	

The proposed investment is aligned with the National Electricity Rules “capital expenditure objectives” (NER 6.5.7(a)) as described below.

NER Capital Expenditure Objectives	Alignment
6.5.7(a)(2) <i>the forecast capital expenditure complies with all applicable regulatory obligations or requirements associated with the provision of standard control services</i>	Mobile Workforce Management capabilities enable Essential Energy to operate and control the electricity distribution network safely and efficiently, consistent with the role of a DNSP.
6.5.7(a)(3) <i>the forecast capital expenditure maintains the quality, reliability and security of supply of standard control services</i>	This proposed investment will ensure sustainability of those Mobile Workforce Management capabilities, thereby enabling Essential Energy to maintain the quality, security, reliability and efficiency of its supply of standard control services.

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The proposed investment addresses the NER “capital expenditure criteria” (NER 6.5.7(c)) as described below.

NER Capital Expenditure Criteria	Alignment
<p>6.5.7(c)(1) (i) <i>the forecast capital expenditure reasonably reflects the efficient costs of achieving the capital expenditure objectives</i> (ii) <i>the forecast capital expenditure reasonably reflects the costs that a prudent operator would require to achieve the capital expenditure objectives</i> (iii) <i>the forecast capital expenditure reasonably reflects a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objective</i></p>	<p>Investment costs have been forecast with reasonable estimates derived from industry analysis, historical expenditure, and cost planning using standard labour rates.</p> <p>Currently this document is a preliminary business case for investment planning purposes. Prior to investment, the costs will be further validated in preparation of the final business case, informed through competitive market tender processes.</p> <p>Essential Energy is focussed on the use of as-a-service market provisioned solutions. This includes software-as-a-service (SaaS) public and private cloud software, platform-as-a-service (PaaS) hosted operating systems and databases, and infrastructure-as-a-service (IaaS) server hosting.</p>

1.2. Corporate Strategy Alignment

The table below describes how the proposed investment supports Essential Energy’s business strategies.

Essential Energy strategic themes	Investment relationship to strategic themes
<p>Resilience and Reliability shaping our investment decisions consistent with a prudent risk appetite</p>	<p>Sustainable Mobile Workforce Management capability will ensure resilience and reliability of Essential Energy’s electricity network services.</p>
<p>Other Essential Services customer service and more</p>	<p>Maintaining currency of the Mobile Workforce Management capability will enable improved system functionality and support productivity improvements in the organisation.</p>

1.3. Current RCP Capabilities

In the current RCP, Essential Energy is continuing to deliver substantial improvements in mobile workforce management and related processing, including:

- **Integration of the Field Portal mobile solution with the EAM, GIS and the Market CIS, together with cyber security and other technology upgrades**

The Field Portal mobile solution has become the primary field mobile tool, supporting works schedule and dispatch, data capture and safety practices.

- **Transition away from paper-based field data capture for asset information, inspection details and work task instructions**

In the past, data resulting from actioned field tasks was captured manually using paper data capture forms. These “actioned task forms” were manually collated and sorted for validation, follow-up and long term archival storage.

Now, through the capabilities of the Field Portal, key tasks are “signed off” directly in the field using mobile devices, with corresponding electronic data capture forms used on-site to gather and validate the field work outcomes at source.

This “Field Task Sign Off” capability went live in the Field Portal one week prior to COVID-19 restrictions coming into force. This fortunate timing was critical in enabling efficient field work assignment and task completion to continue despite in-person paper-based administration becoming problematic.

Electronic field data capture has improved works operation in many ways, including:

- There is now instant visibility of field task status and completion. This improved visibility has also reduced instances of duplicate task recording.
- Data is validated at source, reducing the need for subsequent follow-up and correction. With the previous paper forms, the error and follow-up rate was approximately 15%. However, with the new

process, the error rate is approximately 0.03%.

- Cases of ‘lost’ paperwork have effectively been eliminated.
- There is now improved auditability of actioned tasks and data analytics.
- **Digitisation of field Hazard Identification, Risk Assessment and Control (HIRAC) work practices**

The initiative to digitise Essential Energy’s HIRAC processes using the Field Portal was undertaken with an objective to shift field risk assessment activities from “compliance based thinking” to “risk based thinking”. The resultant solution promotes a “humanised” perspective, complemented by an inviting user experience. The effectiveness of the system and processes is reflected through the open and inclusive conversations of our frontline teams, supported by the digital risk assessment.

Through the Digital HIRAC initiative, Essential Energy has delivered:

- A user-friendly product that streamlines manual risk assessment processes.
- Transition away from the use of 12 paper-based “HIRAC books” comprising 200+ check boxes (the complexity of which could result in a “tick and flick” mindset in some circumstances) to an intuitive, simple and meaningful digital solution.
- A reporting suite that captures real time risk assessment information, providing the opportunity to leverage this data to identify lead and lag safety indicators.
- An adaptable product that can proactively address emerging safety, regulatory or policy compliance requirements. This adaptability also supports and facilitates workplace change, training and transition to new ways of working.

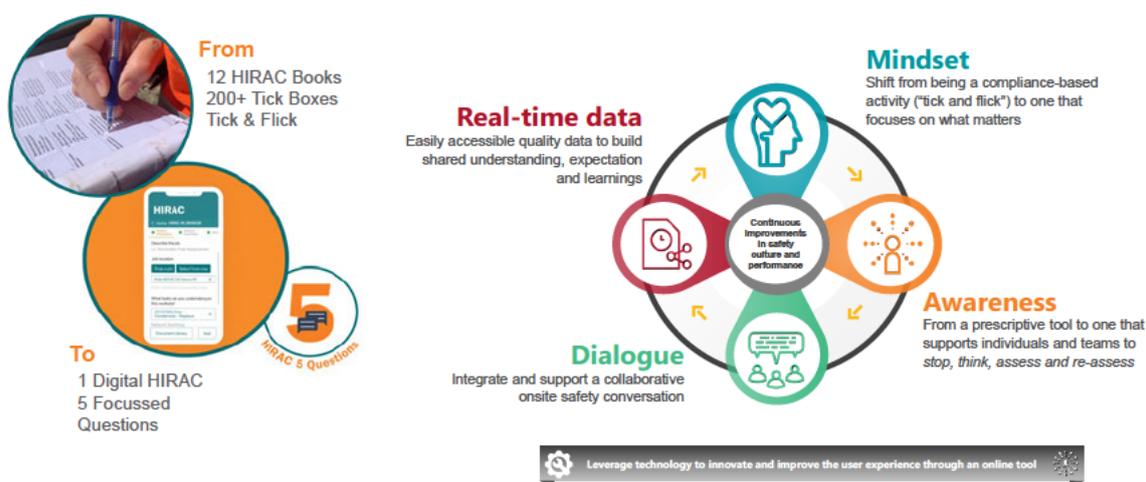


Figure 1: Field Portal Digital HIRAC Achievement

- **Digital customer electrical test recording**

The Field Portal is now the primary tool used in the field to support staff competent in polarity and neutral identification in conducting electrical testing at customer premises. Using the tool, staff capture test data including switchboard photos, voltage readings and phase rotations directly within the Field Portal to assist in the efficient and safe restoration of customer supply. The tool is spatially enabled, with customer premise and testing information visible in map-views both in the field and across mobile devices.

- **Enhancements to existing Schedule and Dispatch work practices, including implementation of the Depot Queue solution for improved work packaging, allocation and progress tracking**

The current Depot Queue initiative is working to further improve the efficiency and effectiveness of field work schedule and dispatch, complementing the digital “Field Task Sign Off” capabilities described above.

The “Queue” is becoming the “depot inbox” where all work is visible and can be managed electronically. It will enable the timely and accurate electronic scheduling (short-term) and distribution of work to the Field Portal for our frontline teams to action. The initiative includes the digitisation of premise related tasks created through the Market CIS (currently Hansen Peace) and CallTaker (PowerOn Fusion DMS) utilising the Field Portal “Task Sign Off” capability. The initiative is also enabling “life support field validation capability using electronic devices” in line with NECF compliance obligations.

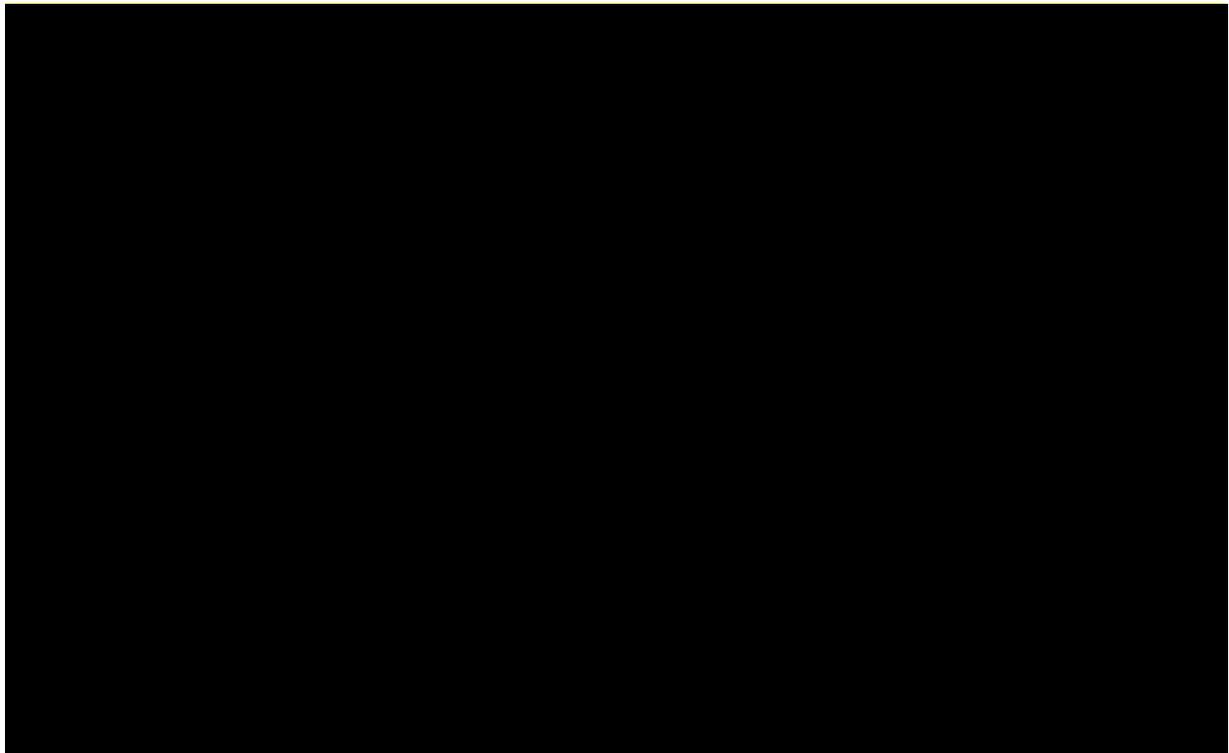
These current-RCP investments are delivering process improvement in the company’s key work management practices. The business systems and work practices also recently received commendation by SafeWork NSW in recognition of excellence in workplace health and safety (Figure 2) as well as being a finalist for the 2022 ITNews “Best Industrial Project”.

As mission critical operational capabilities for business efficiency, risk management and safety, it is imperative that our Mobile Workforce Management systems and processes continue to be maintained and “kept current” to ensure ongoing supportability, sustainability and security.

The Mobile Workforce Management systems configuration (forecast as at end-FY24) is depicted in Figure 3 below.



Figure 2: Commendation for excellence in work health and safety, October 2021



1.4. Coming RCP Issues

Long term system supportability and sustainability

Ensuring our Mobile Workforce Management capability remains supported will mitigate the risk of operational system failure, major outage or security breach.

The field of mobile technology is evolving very rapidly. Therefore, while significant steps have been taken in the current RCP to improve our Mobile Workforce Management systems technology and capability, for prudent ICT asset lifecycle management purposes it is forecast that in the second half of the coming-RCP (i.e. around FY28) a “mid-life upgrade” investment will be required to ensure the ongoing sustainability into the 2030s.

Process Improvement Opportunities

By the time of planned upgrade (i.e. around FY28), the Oracle Cloud EAM (WACS) implementation and Depot Queue solutions will be well embedded, meaning substantial opportunity will exist to enable greater works delivery efficiency utilising these key systems.

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The planned upgrade will therefore be leveraged to also enable productivity, performance and capability improvements prioritised during the coming years of operational use. These improvements are anticipated to potentially include:

- Works program planning, scheduling and allocation optimisation;
- Refinement of job workplans and standard job costings;
- Move to device agnostic technology;
- Introduction of further work classes, including zone substation and other network inspections works; and
- Enhanced integration with customer systems, to provide our customers with accurate and timely information regarding planned and reactive works, estimated Times of Recovery (ToRs) and customer service orders – consistent with the related investment in Customer Relationship Management (CRM) and Online Portal improvements.

1.5. Inherent Risks

The table below summarises the inherent risks requiring mitigation through this investment, with likelihoods forecast as at the end of the coming RCP (i.e. 30 June 2029) if no remedial actions are taken.

Inherent Risk	Likelihood	Consequence	Risk Rating	Risk Impacts
<p>Risk R1 Solution supportability risk and/or operational failure</p> <p>Without investments to maintain currency of the Mobile Workforce Management software and platforms, there is a risk the underlying technologies, integrations and tools will become unsupported, leading to potential operational failure.</p>	<p>Possible</p> <p>By the end of the coming RCP, the underlying Field Portal technology will be over 10 years old and the recent Field Portal enhancements (including task signoff, digital HIRAC and customer safety testing) will be 7+ years old.</p> <p>The add-on Depot Queue capability will also be over 5 years old.</p> <p>Given the rapid pace of change in mobile technologies, unsupportability is therefore possible without a further mid-life upgrade.</p>	<p>Moderate</p> <p>Service disruption through inability to undertake timely field works to address network issues, outages or customer service orders.</p> <p>Reversion to pre-digital HIRAC and electrical safety testing processes may further disrupt field delivery effectiveness and outage restorations.</p> <p>Delays may occur across various asset management processes including network upgrade projects, maintenance projects and new connections.</p>	<p> Medium</p>	<p>Societal impacts associated with inability to efficiently manage the electricity network.</p> <p>Costs of potential interim manual processing.</p> <p>System outage leads to impacts on network reliability, delayed customer service order processing, outage restoration and/or network projects and maintenance.</p> <p>Costs associated with asset management and network project delays.</p>
<p>Risk R2 Cyber security risk</p> <p>Software managing critical infrastructure is a key target for cyber security attacks. A successful cyber security attack could result in impacts to field service delivery affecting Essential Energy customers.</p>	<p>Possible</p> <p>Possible the risk may occur due to the ageing Field Portal platform technologies and the attractiveness of critical infrastructure operational systems for cyber security disruption.</p>	<p>Moderate</p> <p>Service disruption through inability to undertake timely field works to address network issues, outages or customer service orders.</p> <p>Reversion to pre-digital HIRAC and electrical safety testing processes may further disrupt</p>	<p> Medium</p>	<p>Societal impacts associated with inability to efficiently manage the electricity network.</p> <p>Costs of potential interim manual processing.</p> <p>System outage leads to impacts on network reliability, delayed customer service order processing, outage restoration and/or network projects and</p>

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Inherent Risk	Likelihood	Consequence	Risk Rating	Risk Impacts
		field delivery effectiveness and outage restorations.		maintenance. Costs associated with asset management and network project delays.
Risk R3 Market and industry change risk Inability to implement and support new works classes, as may be required for future market changes (e.g. new service order types etc).	Unlikely Given the flexible and adaptable design of the existing capability, it is unlikely (though still possible) that the risk will occur within 3 years of the end of the coming RCP.	Moderate Impact to customer service through the inability to meet expectations of a modern electricity distribution network. Compliance with new or changed DNSP obligations. Potential for non-compliance penalties.	 Medium	Societal impacts through failure to meet customer service expectations or requirements. Costs of potential interim manual processing. Potential non-compliance penalties and corresponding reputational impacts.

Table 1: Inherent Risks

Figure 4 (below) depicts the above inherent risks requiring mitigation through this investment.

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Almost Certain > 5 times within a year	Low	Medium	High	Extreme	Extreme
	Likely 1-5 times within a year	Low	Medium	High	High	Extreme
	Possible Once within 1-3 years	Low	Medium	Medium 	High	High
	Unlikely Once within 3-10 years	Low	Low	Medium 	Medium	High
	Rare Once within 10-100 years	Low	Low	Low	Medium	Medium
	Very Rare < Once within 100 years	Low	Low	Low	Low	Low

 Inherent Risks R1 to R3, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework

Figure 4: Inherent Risks

2. Options Analysis

The following options have been considered to address the investment drivers.

Options Considered:	Assessment
Base Case	Continue to operate the existing systems, with minimal incremental investment to meet business and legislative obligations.
1. Mobile Workforce Management mid-life systems upgrade (Recommended)	Undertake an upgrade the Mobile Workforce Management systems for supportability and sustainability. Leverage the upgrade for business improvement and works program optimisation.
2. Mobile Workforce Management systems replacement	Perform a market procurement process, to replace the existing Mobile Workforce Management systems, processes and capabilities with next generation products.

Table 2: Business Case Options

Each of these options is evaluated in the sections which follow.

2.1. Base Case: Continue to operate the existing systems, with minimal incremental investment

The base case represents a “counterfactual” assessment of Essential Energy’s likely expenditure if none of the proposed options proceed.

Without investment in Mobile Workforce Management, the drivers and risks identified in section 1 will not be addressed.

2.1.1 Assumptions – Base Case Option

The following assumptions apply for this option:

- Interim “work-arounds” are implemented to address capability shortfalls, new market obligations, technology failures in or around FY28 (i.e. at the time of the upgrade planned in Option 1). These “work-around” solutions are estimated [REDACTED]
- To maintain support of the ageing software and technology platforms, an additional part time technology support resource is required from FY28, estimated at a cost of [REDACTED]
- This Base Case option does not include an upgrade of existing Mobile Workforce Management capability in the coming RCP (FY25-29). However, the existing systems will not operate indefinitely into the future. Therefore the upgrade investment would be deferred to instead occur five years later. I.e. In the following RCP, with assumed costs equivalent to those in Option 1 (in real terms).

2.1.2 Residual Risks – Base Case Option

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.5		Mitigated Risk for this Option I.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
Risk R1 Solution supportability risk and/or operational failure Without investments to maintain currency of the Mobile Workforce Management software and platforms, there is a risk the underlying technologies, integrations and tools will become unsupported, leading to potential operational failure.	 Medium	No mitigation through the Base Case option.	Possible	Moderate	 Medium

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Inherent Risk at end-RCP (FY29) from business drivers - see section 1.5		Mitigated Risk for this Option I.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
Risk R2 Cyber security risk Software managing critical infrastructure is a key target for cyber security attacks. A successful cyber security attack could result in impacts to field service delivery affecting Essential Energy customers.	Medium	No mitigation through the Base Case option.	Possible	Moderate	Medium
Risk R3 Market and industry change risk Inability to implement and support new works classes, as may be required for future market changes (e.g. new service order types etc).	Medium	Workarounds will be applied which may include the development of new functionality or implementation of disparate systems. Potential for further staffing to address and manage new requirements.	Rare	Moderate	Low

Table 3: Residual Risks - Base Case

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Almost Certain > 5 times within a year	Low	Medium	High	Extreme	Extreme
	Likely 1-5 times within a year	Low	Medium	High	High	Extreme
	Possible Once within 1-3 years	Low	Medium	Medium 	High	High
	Unlikely Once within 3-10 years	Low	Low	Medium 	Medium	High
	Rare Once within 10-100 years	Low	Low	Low 	Medium	Medium
	Very Rare < Once within 100 years	Low	Low	Low	Low	Low

- Inherent Risks R1 to R3, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework**
- Residual Risks R1 to R3 only shown if different to the Inherent Risk**

Figure 5: Residual Risks - Base Case

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2.2. Option 1: Mobile Workforce Management mid-life systems upgrade (Recommended)

Through this option, Essential Energy will undertake a mid-life upgrade of the existing Mobile Workforce Management systems including the Field Portal and Depot Queue. Through this upgrade, the capability will remain supported, sustainable and secure into the 2030s.

The upgrade will also be leveraged to enable business improvement, potentially including:

- Further works program planning, scheduling and allocation optimisation;
- Refinement of job workplans and standard job costings;
- Introduction of further work classes, include zone substation and other network inspections works; and
- Enhanced integration with customer systems, to provide our customers with accurate and timely information regarding planned and reactive works, estimated ToRs, and customer service orders, consistent with the related investment in CRM and Online Portal improvements.

2.2.1 Assumptions – Option 1

The following assumptions apply for this option:

- The existing Mobile Workforce Management capability will continue operating with current business processes until upgraded in FY28 (other than minor changes in response to compliance requirements or for health, safety or other related business process continuous improvement).
- Due to the use of existing platforms, no significant procurement exercise is required prior to implementation of the upgrade.

Mobile Workforce Management mid-life systems upgrade				
Duration	Plan	2	Months	
	Design	2	Months	
	Construct / Test	6	Months	
	Deploy / Hypercare	2	Months	
	Total	12	Months	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)			
	Vendor Services			
	Software & Hardware			
	Total			
Support Costs	\$M FY24 Real Terms		Opex p.a.	
	No net change			-
	Total			-

2.2.2 Benefits – Option 1

The table below summarises the benefits which will be enabled through selection of this option. Financial benefits are provided as “ongoing per annum (p.a.)” amounts which will be achieved following implementation of the investment.

Benefit	Type and Value
Risk mitigation benefits (see section 2.2.3 below)	Non-Financial
Increased business process productivity through leveraging the upgrade to also enable potential improvements in: <ul style="list-style-type: none"> • Further works program planning, scheduling and allocation optimisation; • Refinement of job workplans and standard job costings; • Introduction of further work classes, include zone substation and other network inspections works 	Contributor to Productivity Improvement Target

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Increased customer service through leveraging the upgrade to enable improved integration with customer systems, the CRM and Online Portal.	Customer Service Improvements
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2.2.3 *Residual Risks – Option 1*

The table below summarises the risk position at the end of the coming RCP (FY29) in the event that this option is selected. Note that the risks included within this table, and the Inherent Risk ratings are as identified in section 1.5 (Page 9).

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.5		Mitigated Risk for this Option I.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
Risk R1 Solution supportability risk and/or operational failure Without investments to maintain currency of the Mobile Workforce Management software and platforms, there is a risk the underlying technologies, integrations and tools will become unsupported, leading to potential operational failure.	 Medium	Upgrading the Mobile Workforce Management capability reduces the likelihood of this risk. Should an issue occur, operating on up-to-date software would enable faster recovery and reduce its potential impact.	Unlikely	Minor	 Low
Risk R2 Cyber security risk Software managing critical infrastructure is a key target for cyber security attacks. A successful cyber security attack could result in impacts to field service delivery affecting Essential Energy customers.	 Medium	Upgrading the Mobile Workforce Management capability reduces the likelihood of this risk. Should an issue occur, operating on up-to-date software would enable faster recovery and reduce its potential impact.	Unlikely	Minor	 Low
Risk R3 Market and industry change risk Inability to implement and support new works classes, as may be required for future market changes (e.g. new service order types etc).	 Medium	Upgrading the Mobile Workforce Management capability ensures the platform remains flexible and agile to support market and industry change.	Rare	Moderate	 Low

Table 4: Residual Risks - Option 1

See the graphical summary of Option 1 residual risks over page (Figure 6).

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		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Severe
LIKELIHOOD	Almost Certain > 5 times within a year	Low	Medium	High	Extreme	Extreme
	Likely 1-5 times within a year	Low	Medium	High	High	Extreme
	Possible Once within 1-3 years	Low	Medium	Medium R1 R2	High	High
	Unlikely Once within 3-10 years	Low	Low R1 R2	Medium R3	Medium	High
	Rare Once within 10-100 years	Low	Low	Low R3	Medium	Medium
	Very Rare < Once within 100 years	Low	Low	Low	Low	Low

- Inherent Risks R1 to R3, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework
- Rn Residual Risks R1 to R3 only shown if different to the Inherent Risk

Figure 6: Residual Risks - Option 1

2.2.4 Project Delivery Risks – Option 1

The table below summarises the project delivery risks associated with implementation of this option.

Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
<p>Project Risk 1 Project Delivery Complexity</p> <p>The technical design of the existing Mobile Workforce Management capabilities are well understood within Essential Energy. The company also has a strong track record in delivering improvement projects using the platform (e.g. Digital HIRAC etc). Therefore the project delivery risk for the upgrade is inherently low.</p>	<p>● Low</p>	<p>The existing project and technical processes will be followed to again deliver the necessary upgrade and process improvements in the coming RCP.</p>	<p>● Low</p>
<p>Project Risk 2 Solution Viability</p> <p>Upgrade and continued use of the systems proves unviable due to the rapidly changing mobile and cyber security technology environment.</p>	<p>● Low</p>	<p>The underlying technologies underpinning the Field Portal and Depot Queue reflect contemporary practice and design in most regards. However, Essential Energy will continue to monitor the suitability and technical viability over the coming years prior to investment in a direct systems upgrade.</p>	<p>● Low</p>

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Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
<p>Project Risk 3 Skills Availability</p> <p>The upgrade initiative will require a skilled delivery team, with knowledge and experience of the technologies, processes and best practice.</p> <p>Given the currently labour constraints in the Australian marketplace, the inherent risk is significant.</p>	<p>● Medium</p>	<p>The project will be strictly planned, scheduled and governed, consistent with the practices established in the Current RCP.</p> <p>Program and project plans will be scheduled to identify and minimise scarce resourcing conflicts, to ensure necessary resourcing is available prior to undertaking the project.</p> <p>Existing internal skills will also continue to be nurtured to maintain currency of knowledge and capability.</p>	<p>● Low</p>

Table 5: Project Delivery Risks - Option 1

2.3. Option 2: Mobile Workforce Management systems replacement

Through this option, Essential Energy will replace the existing suite of Mobile Workforce Management capabilities with a single integrated commercial works management package.

Given there are several Essential Energy specific business requirements incorporated within the existing Field Portal (e.g. Digital HIRAC and Customer Electrical Safety Testing), customisation or add-on to the new solution will be required.

2.3.1 Assumptions – Option 2

The following assumptions apply for this option:

- The existing Mobile Workforce Management capability will continue operating with current business processes until the replacement solution is implemented by end-FY29 (other than minor changes in response to compliance requirements or for health, safety or other related business process continuous improvement).
- The replacement solution will be selected through a market evaluation and formal procurement process, to ensure prudent and efficient project delivery and operations expenditure.
- The initiative will be delivered as a coordinated project, incorporating data migration trial conversions and a pilot deployment to ensure successful transition of this critical systems capability.

Mobile Workforce Management systems replacement				
Duration	Plan / Procure	9	Months	
	Design	6	Months	
	Construct / Test	12	Months	
	Deploy / Hypercare	4	Months	
	Total	31	Months	
Project Expenditure	\$M FY24 Real Terms	Capex	Opex	Totex
	Labour (Direct)	█	█	█
	Vendor Services	█	█	█
	Software & Hardware	█	█	█
	Total	█	█	█
Support Costs	\$M FY24 Real Terms		Opex p.a.	
	New software licence maintenance (net increase)		█	
	Total		█	

PRELIMINARY BUSINESS CASE – Mobile Workforce Management Upgrade

2.3.2 Benefits – Option 2

The table below summarises the benefits which will be enabled through selection of this option. Financial benefits are provided as the “ongoing per annum (p.a.)” amounts which will be achieved following implementation of the investment.

Benefit	Type and Value
Risk mitigation benefits (see section 2.3.3 below)	Non-Financial
Enables longer term systems sustainability (than Option 1) through procurement and implementation of new product based on contemporary technology as exists in or around FY28-FY29.	Resilience
Increased business process productivity through leveraging the system replacement to also enable potential improvements in: <ul style="list-style-type: none"> • Further works program planning, scheduling and allocation optimisation; • Refinement of job workplans and standard job costings; • Introduction of further work classes, include zone substation and other network inspections works 	Contributor to Productivity Improvement Target
Increased customer service through leveraging the replacement to also enable potential improvements in integration with customer systems, the CRM and Online Portal.	Customer Service Improvements

2.3.3 Residual Risks – Option 2

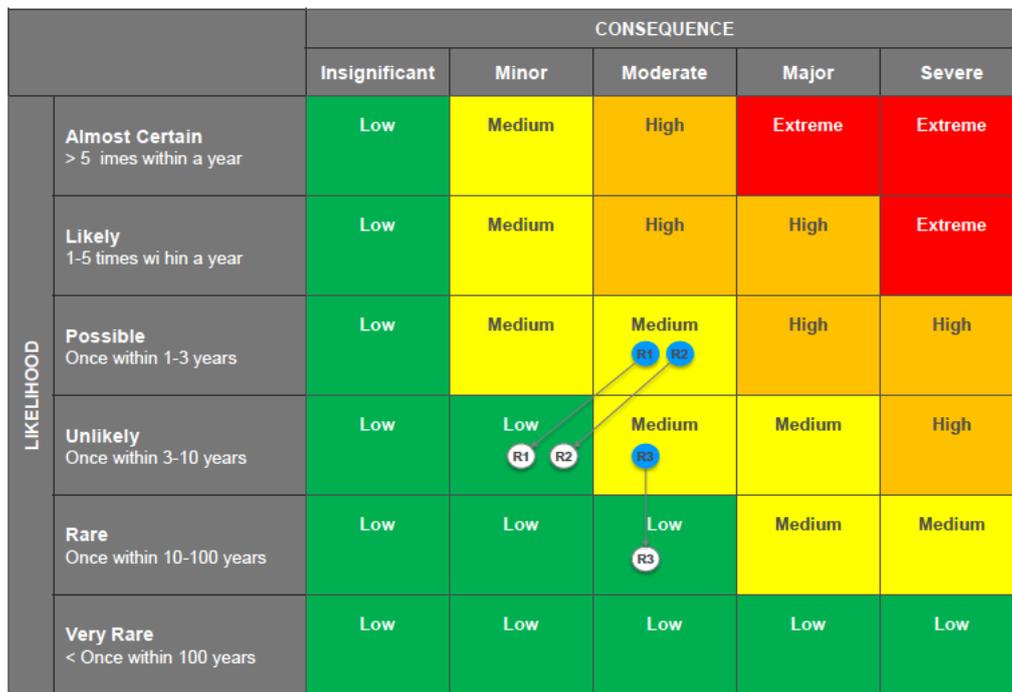
The table below summarises the risk position at the end of the coming RCP (FY29) in the event that this option is selected. Note that the risks included within this table, and the Inherent Risk ratings are as identified in section 1.5 (Page 9).

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.5		Mitigated Risk for this Option I.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
Risk R1 Solution supportability risk and/or operational failure Without investments to maintain currency of the Mobile Workforce Management software and platforms, there is a risk the underlying technologies, integrations and tools will become unsupported, leading to potential operational failure.	 Medium	Replacing the Mobile Workforce Management capability reduces the likelihood of this risk. Should an issue occur, operating on a new, vendor-supported software package would enable faster recovery and reduce its potential impact.	Unlikely	Minor	 Low
Risk R2 Cyber security risk Software managing critical infrastructure is a key target for cyber security attacks. A successful cyber security attack could result in impacts to field service delivery affecting Essential Energy customers.	 Medium	Replacing the Mobile Workforce Management capability reduces the likelihood of this risk. Should an issue occur, operating on a new, vendor-supported software package would enable faster recovery and reduce its potential impact.	Unlikely	Minor	 Low

PRELIMINARY BUSINESS CASE – Mobile Workforce Management Upgrade

Inherent Risk at end-RCP (FY29) from business drivers - see section 1.5		Mitigated Risk for this Option I.e. residual risk			
Inherent Risk	Inherent Risk Rating	Mitigation	Likelihood	Consequence	Residual Risk Rating
Risk R3 Market and industry change risk Inability to implement and support new works classes, as may be required for future market changes (e.g. new service order types etc).	Medium	In selecting a new replacement Mobile Workforce Management product, a key selection criteria would be flexibility and agility to support market and industry change.	Rare	Moderate	Low

Table 6: Residual Risks - Option 2



- Inherent Risks R1 to R3, with likelihoods forecast as at the end of the coming RCP mapped to the Essential Energy Risk Framework
- Residual Risks R1 to R3 only shown if different to the Inherent Risk

Figure 7: Residual Risks - Option 2

2.3.4 Project Delivery Risks – Option 2

The table below summarises the project delivery risks associated with implementation of this option.

Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
Project Risk 1 Project Delivery Complexity Implementation of a new Workforce Management system is inherently complex due to the criticality of the affected business functions, potential staff work practice implications and the need for substantial data migration and testing.	High	In the current RCP, Essential Energy has established strong program delivery governance and management practices which have successfully guided delivery of the Oracle ERP and EAM program. This same governance and delivery experience will be leveraged to mitigate the delivery risks associated with this initiative.	Medium

PRELIMINARY BUSINESS CASE – Mobile Workforce Management Upgrade

Inherent Project Risk	Inherent Project Risk	Controls	Residual Project Risk
<p>Project Risk 2 Solution Viability</p> <p>Selection of a new commercial product that represents works management “best practice” while also addressing Essential Energy specific business requirements will be difficult, but still viable.</p>	<p>● Medium</p>	<p>The procurement selection will be informed by a market scan of suitable products as they exist at the time (prior to FY28). Key criteria considered in this market scan (and subsequent procurement) are the effectiveness of works management processes enabled by the product, and flexibility to meet Essential Energy specific business requirements.</p>	<p>● Medium</p>
<p>Project Risk 3 Skills Availability</p> <p>The replacement systems project will require a skilled delivery team, with knowledge and experience of the new product, existing processes and best practice.</p> <p>Given the currently labour constraints in the Australian marketplace, the inherent risk is significant.</p>	<p>● Medium</p>	<p>The procurement selection will consider market penetration of available solutions, and the corresponding availability of technical and support skills.</p> <p>The project will be strictly planned, scheduled and governed, consistent with the practices established in the current RCP.</p> <p>Program and project plans will be scheduled to identify and minimise scarce resourcing conflicts, to ensure necessary resourcing is available prior to undertaking the project.</p> <p>Existing internal skills will also continue to be nurtured to maintain currency of knowledge and capability.</p>	<p>● Low</p>

Table 7: Project Delivery Risks - Option 2

3. Financial Comparison

The table below provides a comparison of the Net Present Value (NPV) for each option.

Option	NPV
Base Case	██████████
Option 1: Mobile Workforce Management mid-life systems upgrade (Recommended)	██████████
Option 2: Mobile Workforce Management systems replacement	██████████

Table 8: Financial NPV Comparison

The above NPV comparison has been performed using the NPV calculation workbook, with the following parameters.

- Discount Rate: 2.74% (Post-tax Real)
- Company Tax Rate: 30%
- Investment Modelling Period: 10 Years
- Asset Life: 7 years

4. Dependencies

Project Name	Nature of Dependency
Meter, Market and Customer Systems Program	<p>The Program Roadmap for the coming RCP includes plans to implement next generation Meter Data Management, Market CIS, Market Interactions, CRM and Online Portal capability.</p> <p>The Market CIS is a key interface to our Mobile Workforce Management systems, providing Customer Market Service Orders which must be actioned in a timeline manner in the field.</p>

PRELIMINARY BUSINESS CASE – Mobile Workforce Management Upgrade

	Rollout of CRM and Online Portal capabilities are also critical to delivery on our service improvement commitments to our customers. This includes enhanced integration with Mobile Workforce Management to provide our customers with accurate and timely information regarding planned and reactive works, estimated ToRs and customer service orders.
Payroll & RTA Renewal Project	<p>The roadmap for the coming RCP plans the Payroll & RTA Renewal project commencing in FY27 and then running in parallel with the Mobile Workforce Management initiative in FY28.</p> <p>The Payroll and RTA renewal project will be seeking to implement improvements in labour/project/job cost capture that may impact work assignment and close out practices/procedures in the field.</p> <p>Changes by the respective projects will be assessed in advance to agree outcomes that can be incorporated and delivered in the respective projects.</p>

5. Organisational Change Impacts

A stakeholder assessment and impact analysis will detail the groups/roles impacted (internal and external), the nature of the change and the level of impact. The impact assessment will articulate the change in the following dimensions for each stakeholder grouping.

- **Process:** Procedures, work practices, reference guides, work instructions, standard operating guides
- **Organisation:** Accountabilities, reporting lines, position profiles, KPI, behaviours/cultural attributes
- **Technology:** Systems, infrastructure, tools, support resourcing and contracts
- **Information:** Data and reporting.

The impact assessment informs the interventions required, with tailoring to suit the nature of the change and the stakeholder groupings – a one size fits all approach is not appropriate.

Business Area	Nature of Impact
Field staff	Upgraded user interface and work practice improvements associated with work task assignment, task signoff, HIRAC risk assessment, inspections and electrical safety testing.
Works planners and depot administrative staff	Upgraded user interface and work practice improvements associated with works allocation and optimisation, post-signoff follow-up, performance monitoring and continuous improvement.
eTech ICT Support	DevOps work practices for coordination, management and further enhancement to the updated solution.

6. Conclusion

The preceding sections of this preliminary business case summarise the business drivers for investment, the options to address those drivers, and the corresponding likely costs, benefits, risks and impacts.

On this basis, the recommended option (“Option 1 - Mobile Workforce Management mid-life systems upgrade”) is proposed for the purposes of organisational planning and forecasting.

Consistent with Essential Energy’s investment governance processes, prior to proceeding with the proposed investment a detailed delivery business case will be developed and evaluated.

ATTACHMENT 1: Glossary of Terms

The following terms or abbreviations are used within this document.

Term	Description
aaS	As a Service
ALM	Asset Lifecycle Management
Capex	Capital Expenditure
CIS	Customer Information System
CRM	Customer Relationship Management system
DMS	Distribution Management Systems
DNSP	Distribution Network Service Provider
EAM	Enterprise Asset Management
ERP	Enterprise Resource Planning
GIS	Geographic Information System
HIRAC	Hazard Identification, Risk Assessment and Control
IaaS	Infrastructure as a Service
ICT	Information & Communication Technology
NER	National Electricity Rules
NPV	Net Present Value
Opex	Operating Expenditure
PaaS	Platform as a Service
RCP	Regulatory Control Period
RTA	Rostering, Time and Attendance
SaaS	Software as a Service
SCS	Standard Control Services
ToR	Time of Recovery
Totex	Total Expenditure (Capital + Operating)