Device replacement

UE BUS 7.12 - Device replacement - Jan2020 - Public

Regulatory proposal 2021–2026

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Contents

1 Overview

Business	United Energy
Title	Device replacement
Project ID	UE BUS 7.12 - Device replacement - Jan2020 - Public
Category	IT capital expenditure - recurrent
Identified need	Our workforce utilise devices to perform their duties on a day to day basis. These devices require replacement as they reach of useful life to maintain the current level of operational performance.
	If we do not replace devices at end of useful life we will experience significant cost increases in the delivery of services through lost productivity.
Recommended option	Option 1—replace devices at end of useful life
Proposed start date	2021/22
Proposed end date	2025/26
Supporting documents	1. UE MOD 7.18 - Device replacement - Jan2020 - Public
	2. UE MOD 12.02 - Quoted services labour rate - Jan2020 - Public

End user devices (devices) include computers, laptops, mobile phones and tablets, videoconferencing units, projectors and display screens. Our field and office staff these use devices to complete day-to-day work. The use of business applications on devices is embedded in all our business and operational processes and at the core of our current productivity performance.

As devices reach the end of their useful life, their performance decreases, they become technically obsolete and capacity constrained and they have increased security risks. As a result, devices can no longer perform their intended role and users can no longer participate in business processes. Users may need to revert to manual processes which lead to loss of productivity, higher costs to customers and detrimental impacts on the delivery of a safe and reliable network.

To mitigate these impacts we have considered the following options for the replacement of devices that will reach end of their useful life during 2021–2026 regulatory period:

- Option 0—do nothing—do not replace devices
- Option 1—replace devices at end of useful life
- Option 2—replace the devices in bulk at the beginning of the period.

Table 1 summarises the options considered in addressing the need to replace aging devices.

Table 1   Options analysis summary, total capital expenditure during 2021–2026 regulatory period ($ million, 2021)

Option	IT capital expenditure
0 Do nothing— do not replace devices	0.0
1 Replace devices at end of useful life	3.1
2 Replace the devices in bulk at the beginning of the period	4.3

Source: United Energy
Note: If we did not replace devices at end of life we would incur increased operating expenditure as we would need to revert to manual processes leading to lost productivity

We recommend option 1—replace devices at end of useful life. This option is consistent with our current practices and it enables continuation of effective operations while delivering the best value to our customers.

2 Background

2.1   Devices we use

The use of devices is embedded in our day-to-day operations, as follows:

- desktop and laptop computers, and the associated accessories such as mouses, docks, keyboards, etc.:
    - we are progressively replacing all desktops with laptops, to provide flexibility in the workplace. In 2019, laptops accounted for around 80% of all computers
    - control room and design staff have specialist requirements for higher end machines running multi-monitor displays and graphics workstations for architectural drawings

- mobile devices including phones and tablets that allow staff to communicate efficiently and promptly, regardless of location:
    - mobile communication is necessary for staff working across various locations, travel frequently and/or on call 24 hours a day, for example escalation teams and operational staff undertaking infield audits which are necessary for ensuring the safety and reliability of the network
    - all mobile phones have access to numerous workplace applications that allow for more efficient communication and reporting of hazards

- video conferencing units that are deployed across the offices and depots to enable remote communications and minimise site-to-site travel

- electronic projectors that are deployed in meeting rooms to enable efficient collaboration. The projectors can connect wirelessly to our network which enables employees to access relevant files and share with all participants. This encourages interaction and eliminates the need to print off hard copies of material

- display screens that are deployed in areas of high staff density (e.g. control room) to display various statistics and useful information that changes rapidly and is best communicated through a common display (e.g. fault management).

3 Identified need

As devices reach the end of useful life, the following occurs:

- decreased performance as the device loses functionality. The most common issues include shortened battery life, microphone failures, degraded performance and general wear and tear. Component upgrades for aged phones are often not available from the manufacture and/or it is uneconomic to undertake refurbishments as the maintenance cost exceeds the new purchase cost

- technological obsolesce as software updates cannot be supported on the device. This leads to a loss of connectivity of the device to the businesses IT operating systems (i.e. mobile applications are no longer accessible to the device user)

- capacity constraints as the device cannot support the volume or sophistication of new business applications

- increased security risk as security patches cannot be deployed onto devices which cannot run a supported version of the operating system.

As a result of decreased performance, technical obsolesce, capacity constraints or security risk, devices can no longer perform their intended role and users can no longer participate in business process. Users may need to revert to manual processes which are no longer utilised. Over time there would be deteriorations in productivity leading to higher costs to customers and deterioration in network reliability and safety.

To ensure we can continue to efficiently deliver a safe and reliable network, we need to replace devices that will reach the end of useful life during the 2021–2026 regulatory period.

Table 2 indicates the average useful life of devices, based on our experiences with devices over the past decade, vendor recommendations and current replacement practices.

Table 2   **Average useful life of end user devices**

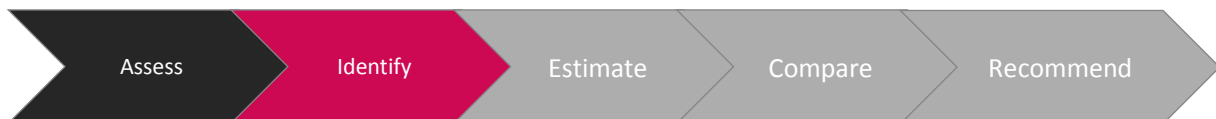| Items	Average useful life
Laptops	4
Desktops	4
Electronic tablets	2
Mobile phones	3
Videoconference units	3
Electronic projectors	4
Display screens	3

Source: United Energy

4 Options analysis

4.1 Approach

We followed a structured approach to analyse options to address our end user device requirements over the 2021–2026 regulatory period.

Figure 1   **High level approach diagram**

Assess

To assess our identified need we:

- performed a comprehensive assessment of our existing end user devices fleet

- reviewed trends in device performance and average useful life

- considered different deployment options.

Identify

We identified three potential options:

- Option 0—do nothing– do not replace devices

- Option 1—replace devices at end of useful life

- Option 2—replace the devices in bulk at the beginning of the period.

Estimate

We estimated the cost of each option as shown in table 3:

Table 3   Estimated cost method for options

Device cost forecast method	
Unit cost of device	Current cost of hardware, including accessories.
	Current labour effort for deployment.
Volume of devices	Replacement volumes based on total stock divided by average device useful life.
	Growth volumes based on the forecast increase in labour required to support the insourcing of the contact centre for fault calls from 2022.
Labour rates	Labour rates are based on a blended external IT labour rate provided by PwC.[1]

Source: United Energy

Compare

We compared the proposed options against our three themes:

- **safe and dependable**—ensure the overall safety and stability of our services is not compromised
- **flexible**—maintain a flexible IT ecosystem that can be easily adapted to changing requirements and customer expectations
- **affordable**—balance costs and benefits, while ensuring that the work performed delivers value to customers and the business.

Recommend

Based on the outcome of the comparison, we selected option1 as it addressed the identified need at the lowest cost to our customers.

4.2   Options summary

Table 4 summarises the cost of each option over the 2021–2026 regulatory period.

Table 4   Summary of options, total capital expenditure $m, June 2021

Option	IT capital expenditure
0 Do nothing— do not replace devices.	0.0
1 Replace devices at end of useful life.	3.1
2 Replace the devices in bulk at the beginning of the period.	4.3

Source: United Energy

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[1] See CP MOD 12.02 - Quoted services labour rate - Jan2020 - Public

Note: If we did not replace devices at end of life we would incur increased operating expenditure as we would need to revert to manual processes leading to lost productivity

4.3 Option 0—do nothing

The do nothing scenario assumes no replacement and no growth in devices during the 2021–2026 regulatory period. Given the high dependence of our corporate and operational staff on devices for everyday business operations, this option would result in decreasing performance across the board, leading to higher operating expenditure, poorer network reliability and increased safety risks.

Table 5 summarises the key advantages and disadvantages of option 0.

Table 5   Advantage and disadvantages of option 0

Advantages	Disadvantages
Low cost to customers in short term	Devices would increasingly reach end of life and our staff would have to revert to manual paper based processes. This would lead to significant business implications, including: • delays in responding to escalation events, potentially resulting in unsafe and unreliable electricity supply. For example, without mobile devices on call escalation staff could not be contacted and the control room would not have screens to easily visualise and control the network • delays in responding to customer requests and queries, leading to customer dissatisfaction and loss of time and effort in obtaining information. For example, customers calling to get information about an outage would not be able to get an update quickly or accurately, resulting in wasted time.
	Manual processes would result in higher costs of day to day business operations and increased labour resources would be required to complete all necessary manual work. This would lead to higher long-term costs to our customers.
	We would be increasingly unable to deploy new business applications, as they will be relying on more modern end user devices and operating systems than we will be running. This would limit our ability to develop innovative approaches to network management, resulting in higher long-term costs to our customers.

Source: United Energy

4.4 Option 1—replace devices at end of useful life

Under option 1, we would replace devices at the end of their useful life and deploy additional devices to new employees.

As noted above, once devices reach end of useful life we experience decreased performance, technical obsolesce, capacity constraints and security risks. As a result devices can no longer perform their intended role and users can no longer participate in standard business operations and processes. A user may need to revert to manual processes which lead to inefficiency and impacts on network safety and reliability.

This option maintains current levels of operational performance by replacing devices based on end of useful life and ensuring new contact centre employees have the necessary devices to undertake their roles.

Table 6 summarises the key advantages and disadvantages of option 1.

Table 6   Advantage and disadvantages of option 1

Advantages	Disadvantages
Current operational performance would be maintained in terms of operating expenditure and network reliability and safety.	Upfront capital expenditure
End user devices will continue to be able to run a supported version of operating systems and office software. As a consequence, security patches will continue to be available for devices, reducing the risk of cyber-attack.	
The procurement of replacement devices can be efficiently managed throughout the period.	

Source: United Energy

4.5   Option 2—replace the devices in bulk at the beginning of the period

Under option 2, we would replace devices in bulk at the beginning of the regulatory period and deploy additional devices to new employees in our insourced contact centre.

All existing devices would be refreshed immediately to ensure all staff had the same device specifications and capabilities. This option would be expected to enhance current levels of operational performance, however relative to option 1, the incremental benefits of all employees having the same and latest available technology are expected to exceed the incremental costs.

Table 7   Advantage and disadvantages of option 2

Advantages	Disadvantages
Current operational performance would be maintained in terms of operating expenditure and network reliability and safety.	Higher upfront capital costs than other options.
Operational performance would be enhanced due to all staff having access to the latest available technology enabling faster deployment of new applications business wide.	Incremental costs exceed incremental benefits, relative to option 1.
End user devices will continue to be able to run a supported version of operating systems and office software. As a consequence, security patches will continue to be available for end user devices, reducing the risk of cyber-attack.	Large scale deployment of devices in one year would require additional project management and labour support.

Source: United Energy

5 Recommendation

We recommend option 1—replace devices at end of useful life and deploy additional devices to new employees in our insourced contact centre. This option ensures we maintain our current level of operational performance, including current level of productivity and maintaining network reliability and safety.

Option 1 enables our workforce to continue to utilise devices which are reliable, secure, technically current and software supported. The devices will be replaced at the end of useful life to minimise the risk of lost productivity resulting from device failure.

Option 0—do nothing was not recommended because workforce productivity would decline with consequential impacts on our ability to maintain a safe and reliable network, meet our regulatory compliance obligations and provide customer services. Additionally, this option would result in increased costs for managing manual processes and result in reduced productivity, increasing costs to customers over the long term.

Option 2—replace the devices in bulk at the beginning of the period, was not recommended as the expected incremental benefits of all employees having the same and latest available technology would be lower than the incremental costs compared with option 1.

Table 8 summarises the capital expenditure required to deliver the recommended option 1.

Table 8   Recommended option: expenditure profile ($m, June 2021)

Expenditure forecast	2021/22	2022/23	2023/24	2024/25	2025/25	Total 2021–2026
Capital expenditure	0.8	0.5	0.5	0.6	0.7	3.1

Source: United Energy

A Applications on devices

A number of business applications which support day to day activities of the business are provided via mobile devices. As shown in table 9.

Table 9   **Business applications available on the devices**

Application	Purpose
Bright Future	Provide a forum for business improvement ideas and feedback to be delivered to the Strategy and Business Development teams
Cintellate	Reporting of workplace hazards and safety incidents
Concur	Provides capability to efficiently approve employee expense claims
ExpenseIt	Concur Travel and Expense allows employees to; • make air, accommodation and car hire travel reservations with preferred supplier • submit business expenses reports • claim out of pocket expenses • as a manager, approve employee travel requests and expense claims
iLearn	iLearn Central is a cloud based learning content portal that can be accessed via desktop or mobile devices
JSEA	Job Safety Environmental Assessment
Map Insights	Provides a visual platform for our employees who monitor, plan and manage assets across our network. Available from 2020
mPower	mPower application provides online training resources to employees across the organisation
Never compromise	The Never Compromise App unites two key business initiatives by enabling the use of smart mobile technology to report directly into Safety Links. This will allow us to initiate the hazards and incidents process in real time from the field including uploading photographs.
Network Fault Data (**NFD**)	NFD is an iPhone and iPad app developed for use by us and contains near real-time fault information sourced from our Outage Management System (OMS).
Productivity Platform	Enables teams/depots to monitor productivity and help improve the way they work
Quality Audit	Reporting solution for Connections, Construction and Contractor audits

Source: United Energy

Further detail on a sample of these applications is provided below.

A.1   Map Insights

Our Map Insights application allows device users to access a vast amount of information, raising the level of situational/location awareness. This information includes:

- the latest electrical network information
- customer notes

- substation capacity and loading

- outstanding maintenance items

- asset photos

- construction and underground cable plans

- details of life support customers (and their contact number)

- asset access notes

- instructions on how to operate equipment

- sensitive environmental areas – heritage, cultural, biodiversity.

The above functions of the Map Insights demonstrate the high standard of safety, efficiency and customer service that would not be possible without the use of devices.

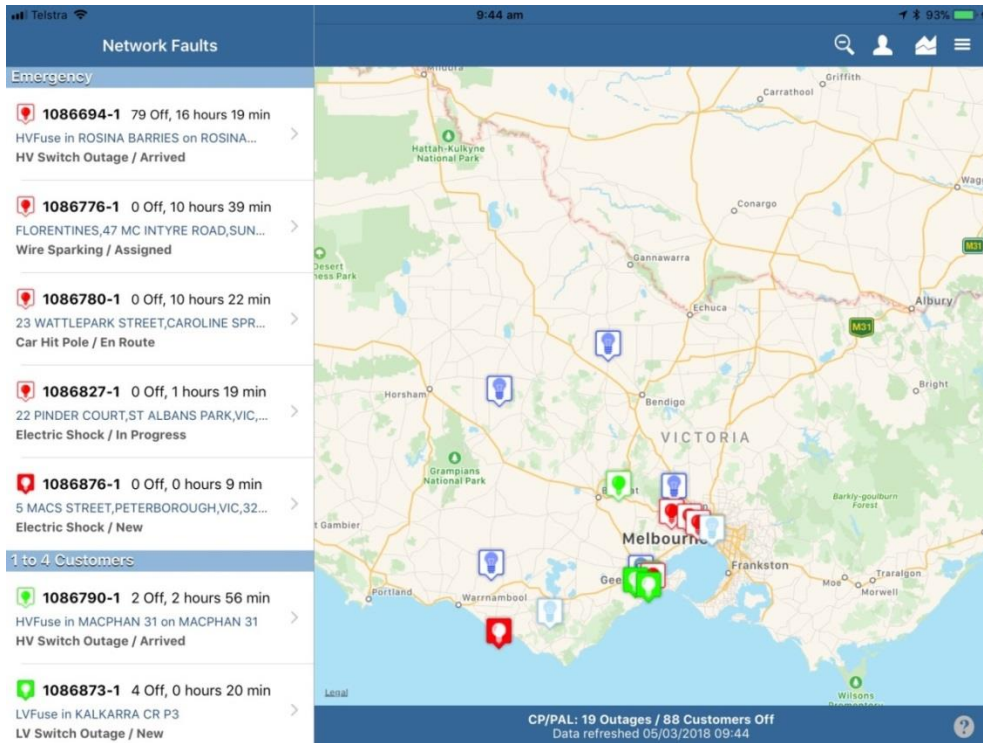**Figure 2**   **Screenshot of the Map Insights application**
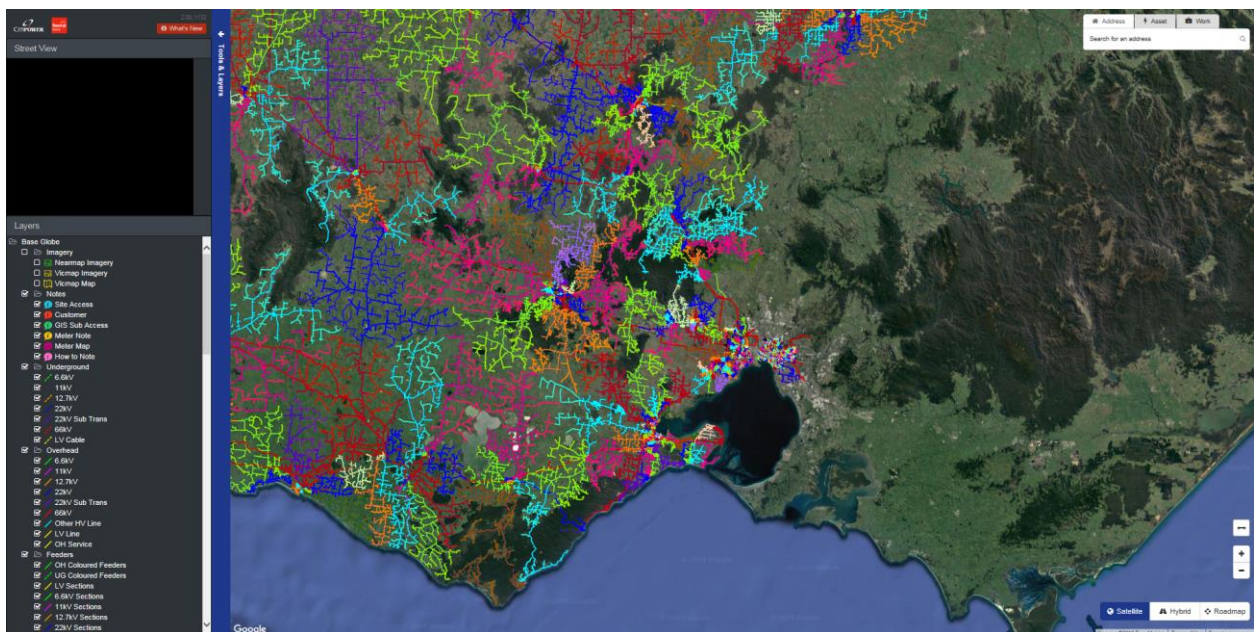
Source: United Energy

A.2   Network fault data application

Network fault data (**NFD**) displays all faults outages in 'near real' time (every 5 mins) sourced from our Outage Management System (**OMS**), displays crew details and directions to faults. Top five features of NFD include:

- view all outages (list or map)

- details on the outage

- crew notes

- navigation to fault.

Figure 3   Screenshot of the NFD application in use

Source: United Energy