CITIPOWER

INFORMATION AND COMMUNICATION TECHNOLOGY

END USER DEVICE MANAGEMENT

CP BUS 6.08 – PUBLIC
2026–31 REGULATORY PROPOSAL

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1. Overview

End user devices include computers, laptops, mobile phones and tablets, and meeting room technology. Our field and office staff use these 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 level of productivity performance.

During the current regulatory period we have transformed our approach to field operations through investment in a replacement IT system. This transformation, together with supporting end user devices, has enabled us to deliver our field services more efficiently, reliably and safely.

As end user devices reach the end of their useful life, their performance deteriorates, they become technically obsolete and capacity constrained and have increased security risks. As a result, devices may no longer perform their intended role and prevent users from undertaking efficient business processes. In this scenario, users must revert to manual processes which leads 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 end user devices during the 2026-31 regulatory period:

1. **Do not maintain currency of devices –** under this option we would not replace any devices during the 2026-31 regulatory period.
2. **Replace devices at end of useful life –** to ensure devices can continue to perform their intended role we would replace at the end of their useful life.
3. **Replace all devices in bulk at the beginning of the period** – under this option we would replace all devices at the beginning of the regulatory period and subsequently at the end of their useful life.

Option two is recommended as it ensures we able to meet our regulatory obligations across the 2026-31 regulatory period while only prudently replacing devices at the end of their useful life. The costs of each option are provided in the table below.

TABLE 1 OPTIONS ANALYSIS SUMMARY ($M, 2026)

#	OPTION	CAPEX	OPEX
1	Do not maintain device currency	-	-
2	Replace devices at end of useful life	32.8	-
3	Replace in bulk at the beginning of the period	49.3	-

Note: this includes costs associated with CitiPower and Powercor

2. Background

2.1 Types of end user devices

The use of devices is embedded in our day-to-day operations. The types of devices we utilise are described below. These devices are utilised across the organisation, including by our field service operations employees.

2.1.1 Laptop and desktop computers

Since 2019 we progressively replaced desktops with laptops, to provide flexibility in the workplace. In 2024, laptops account for nearly all computers with the use of desktops being by exception. The shift to laptops was particularly beneficial in supporting working from home during the Covid period and into the future as we adopt hot desking and non-designated workspaces.

Most end users are supplied with a standard fleet laptop. However, the standard fleet is not suitable for some roles. Higher specification laptops are required by specific areas of the business to execute their role. This includes the Network Design, Network Control Room and Network Analytics teams. Further detail is provided in appendix A regarding these higher specification laptops.

2.1.2 Mobile phones

Mobile communication allows staff to communicate efficiently and promptly, regardless of location and is necessary due to a large portion of staff working across various locations and depots. Field staff such as emergency crews are often on the road or on call 24 hours a day.

Mobile phones are also a safety tool. They enable employees to contact emergency services in the event of a fire, traffic accident, road hazard or medical emergency. Given the high-risk nature of field work, having access to mobile communications provides significant safety benefits. Our mobile phones also have numerous workplace applications which allow for more efficient communication. This includes the Cintellate (Roam) application which is used to report workplace hazards and safety incidents.

A small number of employees require high specification mobile phones which offer photogrammetry and LiDAR capability. New technology to be implemented before the start of the next regulatory period, together with these higher specification phone will enable the user to instantly record high-quality 3D information about underground assets. Further information is provided in section 2.4.2.

2.1.3 Electronic tablets

Mobile electronic tablets enable efficient processes both in the field and office. Electronic tablets are used by field personnel to provide one site reporting of works completed and live fault monitoring. A number of years ago we transformed the management of our field activities and invested in systems to manage and dispatch work to field staff with subsequent close out processes to automatically update back-end systems. Our processes are now highly dependent on all field staff having access to dependable, working mobile devices. Further information is provided in section 2.2.

2.1.4 Meeting room technology

The technology available in meeting rooms at offices and depots enables flexibility and connectivity so that teams across the organisation can collaborate seamlessly regardless of their location. The current video conferencing technology is simple to use and integrated with MS Teams. It connects wirelessly to our network which enables employees to access and share relevant files with all participants. This encourages interaction and minimises a carbon footprint associated with printing hard copies of material or site to site travel.

With the current hybrid working arrangement, many employees can be working remotely on any given day. Meeting participants are often spread between working on site and working from home. Meeting room technology enables meeting participants at all locations to gather and utilise the functionality which offers inclusion for those working remotely.

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 DEVICE LIFE

DEVICE TYPE	AVERAGE USEFUL LIFE
Laptop	4 years
Desktop	4 years
Electronic tablet	3 years
Mobile phone	2 years
Meeting room technology	4 years

2.2 Supporting field work through mobile devices

Since 2015 we have invested heavily in IT systems and applications to manage our field operations and deployed mobile devices[1] to field personnel. During the 2021-26 regulatory period we implemented a replacement IT system[2] so that can continue to deliver our field services more efficiently, reliably and safely.

Our field and office workforce utilise our automated and integrated works management solution to perform their duties on a day-to-day basis. Field services which rely on remote communications are delivered through highly automated processes, including:

- automated and centralised works scheduling, remote crew dispatch, live onsite reporting of works completed and live fault monitoring. The field functions supported by remote communications include fault management, network augmentation, connections, electrical plant and test and supply quality.
- onsite access to a vast range of location specific network information in one consolidated place through our network visualisation application. This has improved site specific situational awareness and reduced the need for revisits and/or off-site calls to source information.
- onsite automated safety checks, safety standards, safety training and safety incident logs.

The use of mobile devices provides the following benefits:

[1] Mobile phones and electronic tablets
[2] Replacement was required due to the software vendor ceasing support of the old system.

- lower costs of delivering field services through better utilisation of field crew, reduced back-office support and better utilisation of heavy fleet.
- improved network reliability through optimised and automated dispatch of fault crews and remote live fault monitoring
- reduced safety risks as field staff have ready access to safety training, technical safety standards, safety monitoring apps and safety incidents log while in the field.

2.3 Supporting all employees through workplace applications on mobile devices

In addition to the flexibility afforded by mobile devices, numerous workplace applications are available to employees. The use of business applications on devices is embedded in all our business and operational processes and at the core of our current level of productivity performance. Many of these applications are critical to ensure a safe and reliable supply of electricity to our customers.

An example of how these applications support our business is provided in the box below.

Kevin, Operational faults manager "Map Insights and the Network Dashboard applications are the first things I turn on every morning as they provide immediate situational awareness of our network".

These two mobile applications enable Kevin and his colleagues to perform job scoping activities from their desk which reduces the need for field visits, time on the road and fuel consumption. Project managers, project leads & faults managers all benefit from being able to dedicate more time to completing other tasks. A reduced number of field visits also has an indirect positive impact on health and safety risk and reduces greenhouse emissions. Vehicle accidents are our number one safety incident. By remaining depot or office based, less time is spent on the road which in turn minimises the likelihood of fatigue and road accidents.

A listing of the business applications available on end user mobile devices to support day to day activities are provided in appendix B. Further information on some key applications, and details of how they are utilised on a day-to-day basis, are provided in appendix C.

2.4 Device improvements during the 2021-26 regulatory period

As well as maintaining current service levels, the end user device replacement program has delivered the following improvements.

2.4.1 Meeting room technology

The 2022 Employee Opinion Survey highlighted limitations with the meeting room technology. The feedback included:

- Smart whiteboards and desktop collaboration phones did not support Microsoft teams.
- There was a general frustration across office locations surrounding video, and audio issues associated with hybrid meetings.

New meeting room technology was initially trialled in head office. During 2024/25 we are replacing the remaining old meeting room technology at all office locations. The new technology provides integration with MS Teams, strong security features, clear video/audio and ease of installation. Other benefits include:

- reduced room setup complexity
- ease of use at the time of a meeting, and

- the ability to run collaboration sessions with participants both in the room and remote.

The new meeting room setup includes:

- new screens: Each room is now equipped with a minimum 65-inch screen, which can be used as an extended monitor during face-to-face meetings or hybrid Teams meetings.
- wall-mounted whiteboards: Where possible, we've installed wall-mounted whiteboards that function as both traditional and interactive whiteboards compatible with Teams.
- camera tracking technology: Advanced camera tracking technology has been installed to automatically frame the group in the room, ensuring everyone is clearly visible during meetings, whether in-person or remote.

To support these upgrades, we've increased network and internet bandwidth across our depots and offices to ensure that we can effectively manage the new technology and provide a seamless experience for all users.

2.4.2 Mobile phones to support capture of 3D images

During the 2021-26 regulatory period, we are implementing technology to enable 3D images of underground assets to be recorded. The location of underground electrical assets is a significant public safety issue, particularly in the CitiPower distribution network where asset strikes can result in substantial outages, as well as significant injury and costly repairs. So that we can continue to provide safe, cost effective and reliable electricity to our customers and improve public safety, we will utilise technology available on mobile phones to create 3D models of our underground assets.

Utilising the photogrammetry and LiDAR capability available in higher specification mobile phones[3], end users will be able to instantly record high-quality 3D information about underground assets, enabling virtual inspections of trenches, taking fast and accurate measurements, and adding notes to the image. Users can then upload their scans to a secure server, generating 3D models which can easily be converted into AutoCAD files or used for visualisation in future construction works. These scans can seamlessly integrate into Powercor and CitiPower's existing systems and will be incorporated into the Dial Before You Dig Australia asset information to effectively reduce potential harm to civil contractors working near our assets.

2.4.3 Neutral supply testing to be recorded using mobile devices

A project to improve Neutral supply testing (NST)[4] compliance by uplifting existing processes and introducing software to support the capture and reporting of real-time connection testing data will be introduced during 2024/25. This software will be available to field workers undertaking NST and will enable results recording via their mobile device[5]. Potential benefits of this project are:

- improved safety outcomes due to confirmation an NST has been performed and by providing a single source of truth for testing data.
- improved NST testing compliance though enabling capture and reporting of test data.
- Audit improvements - creates an easily auditable record of an NST test which is vital in the event of an incident.

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[3] iPhone PRO

[4] Neutral supply testing measures volts, impedance and polarity in relation to the electrical grid, which include Active, Neutral and Earth to prevent safety issues.

[5] iPhone or iPad

- reduced double handling of data entry which will lead to improvements in data quality.

2.5 Shared IT systems

This business case covers IT expenditure related to end user devices utilised by employees who work on shared IT systems across both the CitiPower and Powercor network. Due to long term common ownership of these distribution businesses over time we have brought together CitiPower's and Powercor's IT systems to enable the lowest cost delivery of our IT requirements. For example, when we are required to make changes to our business processes we are only required to make these changes once, rather than having to make similar changes across two separate IT systems.

3. Identified need

The identified need is to continue to have end user devices that enable us to maintain our service levels. As devices age and move beyond their useful life they can suffer from:

- 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 cost to purchase new.
- 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 processes efficiently, for example by reverting to manual processes.

To ensure we can continue to deliver a cost efficient, safe and reliable network, we need to replace devices that will reach the end of useful life during the 2026-31 regulatory period.

4. Options analysis

We have considered three options in regard to our end user devices:

1. **Do not maintain currency of devices –** under this option we would not replace any devices during the 2026-31 regulatory period.
2. **Replace devices at end of useful life –** to ensure devices can continue to perform their intended role we would replace at the end of their useful life.
3. **Replace all devices in bulk at the beginning of the period** – under this option we would replace all devices at the beginning of the regulatory period and subsequently at the end of their useful life.

The costs of each of the options is presented in Table 3, and set out in further detail in our attached cost model.[6]

TABLE 3 OPTIONS ANALYSIS SUMMARY ($M, 2026)

#	OPTION	CAPEX	OPEX
1	Do not maintain device currency	-	-
2	Replace devices at end of useful life	32.8	-
3	Replace in bulk at the beginning of the period	49.3	-

Note: this includes costs associated with CitiPower and Powercor

[6] CP MOD 6.15 - End user device management cost - Jan2025 - Public

4.2 Risk monetisation framework

To assess our investment options, we worked with EY to develop an ICT risk framework.[7]

Table 4 provides a summary of each risk category included in our framework.

TABLE 4 RISK FRAMEWORK SUMMARY

CATEGORY	DESCRIPTION
Reliability	Risks related to events or failures that cause unforeseen impacts to electricity supply or export capability. For example, customer supply or solar export
Compliance	Risks of regulatory, legal, or financial penalties due to failure in meeting compliance obligations, such as delays in publishing key market data or unauthorised access to sensitive data
Bushfire	Risks that outages of critical operational systems may increase bushfire likelihood by impairing visibility of the network and timely decision-making
Safety	Risks affecting public and staff safety, such as loss of supply impacting life-support customers or disruptions to protective systems
Customer experience	Risks where customer interactions are impacted, such as outages of customer-facing IT systems
IT outage	Risks of systems becoming unavailable due to poor infrastructure maintenance or resource constraints, resulting in prolonged downtimes or outages
IT suitability and sustainability	Risks arising from legacy systems that are prone to failures, inefficiencies, and incompatibilities. These systems may lead to increased maintenance costs, failures, and cyber vulnerabilities if not updated

4.3 Option one: do not maintain currency

Under option one, we would not replace end user devices either at the end of their useful life or upon device failure.

The do-nothing scenario assumes no replacement of existing devices during 2026-31 regulatory period. Devices will 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 would need to revert to manual processes which would result in growing inefficiencies.

[7] CP ATT 6.02 - IT risk monetisation framework - Jan2025 - Public

Given the high dependence of our corporate and field services on devices for everyday business operations, this option would result in decreased performance across the board, leading to higher cost of operations, poorer network reliability, increased safety risks and reduced customer experience.

Not replacing end user devices would delay our response to network escalation events, potentially resulting in delays to rectifying unsafe and unreliable electricity supply. For example, without mobile devices, our call escalation staff could not be contacted, and the network operations control room would not have access to screens to easily visualise and control the network.

As a working example of the impact to field operations, if reliable mobile devices were not available, field crews would be unable to receive job allocations remotely and would need to return to the depot for work allocation. Additional time would also be spent completing paper forms for works completed and the potential for repeat site visits if network information is not available remotely. This would result in significant delays in both to the dispatch and resolution of power outages with the potential for safety issues. There would also be a higher level of safety risk for field workers without access to safety training, safety monitoring and technical standards onsite via their mobile device.

Customers calling to receive a timely and accurate update on a supply outage would be left frustrated and disappointed with our inability to utilise current technology to provide services.

Furthermore, without the tools currently available on mobile devices to manage and prioritise supply faults to Distribution Code standard, we risk non-compliance of priority 1 faults.

Corporate services rely heavily on reliable laptops to govern the day-to-day operational activities of the organisation. This includes the delivery of organisation-wide functions which deliver business support services to serve internal customers.

The following customer and retailer services would be negatively impacted if working laptops were not available for the customer group to utilise:

- the delivery of meter data and network billing to market
- supply re-energisations/de-energisations
- actioning of customer requests received via the NEM

Due to the high volume of data and transactions a manual approach would not be feasible to manage processes, leading to customer and market participant dissatisfaction.

As business and NEM requirements evolve, we would increasingly be unable to deploy new business applications on outdated technology. New technology often relies on modern end user devices and operating systems to be running. Utilising outdated and unreliable devices would limit our ability to develop innovative approaches to network management, resulting in higher long-term costs to our customers.

The table below summaries an assessment of option one against our key risk criteria.

TABLE 5 OPTION ONE RISK SUMMARY

#	RISK	DESCRIPTION
1	Reliability	Reduced supply reliability as it would take considerably longer to rectify faults especially during escalation events without end user devices
2	Compliance	Risk of non-compliance against the Distribution Code due to the increasing use of manual or paper-based operations that provides more room for human error

3	Bushfire	Longer supply rectification times for faults such as a line down can have a negative impact on bushfire risk
4	Safety	Reduced safety outcomes for customers particularly during fault events, where powerlines may remain down for longer due to limited communication Higher safety risks for field workers due to having to revert to manual instructions and limited access to safety training, safety monitoring and technical standards onsite
5	Customer experience risk	Customers seeking information around faults are likely to experience longer wait times and may not receive the latest information
6	IT system outage	Devices will experience decreased performance, technical obsolescence, 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.
7	IT system suitability and system sustainability	Unable to deploy new business solutions on outdated technology

There is no expenditure associated with option one as we would not replace or issue new end user devices.

4.4 Option two: replace devices at end of useful life

Under option two, we would replace devices at the end of their useful life[8]. This reflects current business practice.

By replacing devices once useful life has concluded, we remove the risk of decreased performance, technical obsolesce, capacity constraints and security risks. Ensuring working devices enables us to maintain current business processes and operational performance.

This option mitigates the risks associated with declining device reliability and performance as they become defective and ultimately fail. It also enables us to maintain current performance levels regarding supply reliability, safety and services. Customer experience is maintained, and the risk of regulatory non-compliance is reduced.

Under this approach, the procurement of replacement devices can be efficiently managed throughout the period. The steady purchase of devices each year enables us to maintain good supplier relationships and negotiate improved purchasing arrangements.

[8] Refer to Table 2 for average useful life per device type.

A cyclical replacement approach also enables a constant workload of device deployment devoid of peaks and troughs. In this way, resources are constantly engaged which leads to efficient operational expenditure.

The table below summaries an assessment of option two against our key risk criteria.

TABLE 6 OPTION TWO RISK SUMMARY

#	SYSTEM	DESCRIPTION
1	Reliability	Increased reliability compared to option one as automatic dispatch of supply fault work can be provided to our teams in all locations
2	Compliance	Minimal risk of non-compliance against the Distribution Code as current automatic process are maintained
3	Bushfire	Because this option enables us to maintain current supply rectification timeframes, the bushfire risk is reduced when compared to option one
4	Safety	Due to the reduced length of time to rectify fault events when compared to option one, this option enables us to maintain current customer safety levels Safety of field workers is maintained as they have access to safety training, monitoring, and technical standards on their devices
5	Customer experience risk	Customer experience risk is maintained as the call centre and communications will operate as intended
6	IT system outage	Devices would not experience decreasing performance, technical obsolescence, capacity constraints or additional security risks as devices are replaced at the end of their useful life
7	IT system suitability and system sustainability	As devices are within their useful life, will be able to deploy new business solutions without issue. By performing these updates as required business needs on devices can continue to be met.

The table below sets out the expenditure associated with option two. By the start of the 2026-31 regulatory period we anticipate 70-100 users will require the higher specification mobile phones to utilise new capabilities as set out in section 2.4.2. This has been factored into our capital expenditure forecast for the 2026-31 period.

TABLE 7 OPTION TWO EXPENDITURE FORECAST ($M, REAL 2026)

OPTION TWO	FY27	FY28	FY29	FY30	FY31	TOTAL
CitiPower	1.8	1.4	2.0	2.7	2.1	9.9
Powercor	4.1	3.2	4.6	6.3	4.8	23.0
Total	**5.9**	**4.5**	**6.5**	**9.0**	**6.9**	**32.8**

*Rounding may lead to discrepancies between individual network costs and total costs

4.5 Option three: replace devices in bulk at the beginning of the regulatory period

Under option three, we would replace devices in bulk at the beginning of the regulatory period and subsequently at the end of their useful life[9]. Devices would be refreshed without delay to ensure all staff had the same device specification and capabilities. This option is expected to enhance current levels of operational performance as it reduces the risk associated with aged and unreliable end user devices. However relative to option two, the minimal incremental benefits are exceeded by the additional cost. This option also creates unnecessary workload peaks and troughs relative to device replacement intervals.

The table below summaries an assessment of option three against our key risk criteria.

TABLE 8 OPTION THREE RISK SUMMARY

#	SYSTEM	DESCRIPTION
1	Reliability	Same as option two
2	Compliance	Same as option two
3	Bushfire	Same as option two
4	Safety	Same as option two
5	Customer experience risk	Same as option two
6	IT system Outage	Same as option two

[9] Refer to table 2 for average useful life per device type

7	IT system Suitability and system sustainability	Minor improvement in device suitability and sustainability due to the bulk upgrade, ensuring all users have compatible devices

The table below sets out the expenditure associated with option three. Significant expenditure is incurred in the initial year of the 2026-31 regulatory period due to the bulk upgrade of all devices.

TABLE 9 OPTION THREE EXPENDITURE FORECAST ($M, REAL 2026)

OPTION THREE	FY27	FY28	FY29	FY30	FY31	TOTAL
CitiPower	6.4	0.2	1.4	1.1	5.6	14.8
Powercor	15.0	0.6	3.3	2.5	13.2	34.5
Total	**21.4**	**0.8**	**4.8**	**3.5**	**18.8**	**49.3**

*Rounding may lead to discrepancies between individual network costs and total costs

5. Recommendation

Following our option analysis, we recommend option two, replace devices at end of useful life. This reflects current business practice and removes the risk of decreased performance, technical obsolesce, capacity constraints and security risks. Ensuring working devices enables us to maintain current business processes and operational performance.

Our recommendation also considered a number of general factors (e.g. project concurrency, resource availability, etc.) to ensure that the option selected and timing was pragmatic, actionable, and would have the highest probability of delivering a successful outcome.

Our proposed expenditure profile is provided in Table 10.

TABLE 10 RECOMMENDED OPTION EXPENDITURE FORECAST ($M, REAL 2026)

OPTION TWO	FY27	FY28	FY29	FY30	FY31	TOTAL
CitiPower	1.8	1.3	2.0	2.7	2.1	9.9
Powercor	4.1	3.2	4.6	6.3	4.8	23.0
Total	**5.9**	**4.5**	**6.5**	**9.0**	**6.9**	**32.8**

*Rounding may lead to discrepancies between individual network costs and total costs

A High specification laptops

The majority of end users are supplied with a standard fleet laptop. However, the standard fleet is not suitable for some roles. Higher specification laps tops are required by particular areas of the business in order to meet role specific performance and memory requirements. They are more powerful than a standard unit. Depending on the needs of the group, these higher specification laptops may also require additional connectivity ports, a larger screen for field work, increased onboard storage, longer battery life, full sized keyboard with number pad or increased storage.

Prior to schedule replacement, we review the end user needs against current marketplace offerings and ensure the devices selected are not over engineered. We scan the market for newer generation laptops to identify where we can achieve the same result for lowest cost. We ensure that the selected device is not over engineered as these trade-offs can have a negative impact on the field experience. For example, a higher performance laptop can result in a shorter battery life and a larger device can make it heavier for the user in the field. Therefore, the focus is on ensuring business needs are met while minimising expenditure.

A.1 Office Based

The network design teams require high-performance laptops with enhanced graphics, CPU, and RAM to run resource-heavy design applications like the Autodesk suite. Standard laptops don't meet the required specifications, leading to poor performance and reduced productivity.

Similarly, the network analytics teams require powerful CPU and RAM for processing large calculations. Standard models would slow their work significantly. The control room have specialist requirements for higher end machines running multi-monitor displays and graphics workstations for architectural drawings. Upgrading to design-spec laptops ensures both teams can operate efficiently without experiencing performance bottlenecks.

A.2 Field Based

The Tools of Trade (TOT) laptops provide increased processing power, storage, and RAM to handle large amounts of data, run multiple applications, and process network data in the field. Standard laptops lack the capacity for these tasks. These laptops also feature larger screens, essential for fieldwork where external monitors aren't available, allowing staff to work efficiently on complex tasks while mobile. The enhanced specifications ensure productivity and smooth operation in demanding field conditions.

The primary users of TOT laptops are the electrical plant and test group & metering operation groups. Other users include engineers, project leaders, and roles associated with maintaining the operational technology which maintains the electrical network.

EP&T are a field-based group within Network Services. They are accountable for the delivery of maintenance, faults, defects, construction & commissioning of zone substation apparatus as well as distribution assets such as substations, automatic reclosers & voltage regulators. The test & commissioning personnel within the group are heavily reliant on higher specification TOT laptops.

These laptops are utilised in the zone substation and line equipment environment to communicate, interrogate, programme & test digital and electronic equipment such as protection relays, HMI's, Ethernet switches & test equipment all from different manufacturers with standalone software packages. The role requires the EP&T personnel to constantly utilise different software in the field depending on the type and age of equipment being managed.

If the TOT laptops were not available, the following impacts would be experienced:

- Increased time taken to complete tasks due to resource intensive software taking longer to load/run. This can lead to system instability.
- Discomfort and eye strain in the field due to the smaller screen size. Many of the applications utilised by these groups are not designed for smaller screens.
- The laptop may shut down while a task is being completed if the battery life is not sufficient or requiring constant connection to power/charger to continue running. Given the field nature of the work, this is not practical.
- Inability to install/maintain software due to lack of disk space. These groups often utilise many applications.
- Inability to connect some/multiple devices, such as control equipment, in the field due to a lack of available ports.

B Business applications on mobile devices

A number of business applications which support day to day activities of the business are provided via mobile devices. These applications are provided in the table below.

APPLICATION	PURPOSE
Cintellate/ ROAM	Reporting of workplace hazards and safety incidents. A new and improved ROAM app was rolled out to mobile devices in December 2023. ROAM enables employees to capture information on their mobile devices without relying on cellular or Wi-Fi networks. Data automatically uploads to Cintellate once back in network range.
Click FSE	Utilised for asset inspection
Concur	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
Content Locker	Provides secure access to technical standards and operational diagrams ensuring employees always have access to the latest version.
iLearn	iLearn Central is a cloud-based learning content portal that can be accessed via desktop or mobile devices
Lifting load calculator	An app for line workers and designers to calculate the forces on poles enabling them to select the correct equipment when lifting
Map Insights	Provides a visual platform for our employees who monitor, plan and manage assets across our network.
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	A mobile device application developed for use by us and contains near real-time fault information sourced from our Outage Management System.

Network Status Dashboards	Klipfolio is a dashboarding application that can be used to build custom dashboards. Its main use is for situational awareness around the network, faults, crews etc. Their main use is for situational awareness around the network by providing information on power outage faults, crews dispatched to rectify and job status. Information is provided in graphical and list views. Network Status Dashboard was the first developed but other role based dashboards have since been added.
Quality Audit	Reporting solution for Connections, Construction and Contractor audits
Report IT	Report on defects or inconsistencies to Powercor assets
Salesforce SFS	Schedule and dispatch work to field crews and subsequent job close out.
Non-Verbal Comms	Enables users to capture site details and work to be completed on site and sent to network controllers
Resource Management Systems	Provides access to Victorian Electricity Supply Industry (VESI) manuals.
Working alone	Monitoring tool for those working alone

C Detail on business applications

C.1 Map Insights

Map insights empowers our workforce with trustworthy information, intelligent insights and collaborative tools for a safer, smarter and more efficient energy network. It provides online access to a range of location specific network information in one consolidation location and was developed for CitiPower/Powercor employees. Map insights provides site specific situational awareness and reduces the need for site visits and/or off-site calls to source information. Many employees consider it to be a one stop shop application and a key tool of the trade. Generic or user specific filters can be applied to the information layers so that data relevant to a role or function is displayed.

During the 2021-26 regulatory period map insights has been expanded to also provide real time fault information sourced from the outage management system, updated every 5 minutes. As well as providing geographic visibility of current faults, the user also has the ability to drill down to information related to network assets in the vicinity. During 2024 we added information about the REFCL[10] protection status for vegetation spans, making it easier to keep everyone safe.

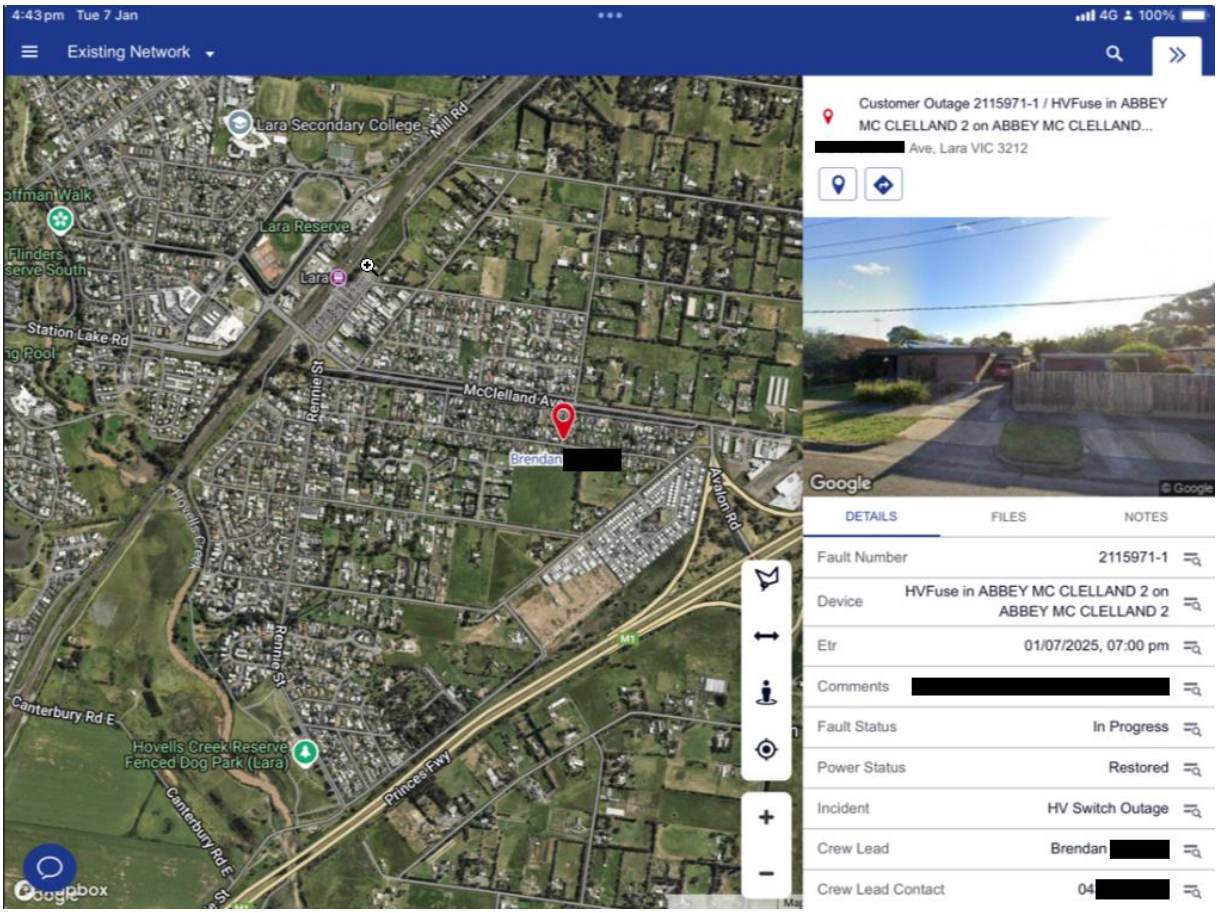
Map insights allows employees to perform job scoping activities from their desk which reduces the need for field visits, time on the road and fuel consumption. This allows the employee to benefit from being able to dedicate more time to completing other tasks. A reduced number of field visits also has an indirect positive impact on health and safety risk. Vehicle accidents are our number one safety incident. By remaining depot or office based, less time is spent on the road which in turn minimises the likelihood of fatigue and road accidents.

Map insights will also be used to prevent environmental, cultural and heritage safety incidents by providing alerts for assets in protected environments. i.e. local heritage overlays available on VicPlan.

Clicking on the fault in Map insights will provide further details such as the outage management system related cases and information received from the person who reported the fault. For example, the customer's name and phone number, details of issue reported, access information. All useful information to field officers.

[10] REFCL - Rapid Earth Fault Current Limiter. REFCL technology reduces bushfire risk. Where a powerline comes into contact with the ground or a tree, the REFCL technology effectively shuts of the power which significantly reduces the change of ignition.

FIGURE 1 MAP INSIGHTS APPLICATION



C.2 Network Fault Data

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:

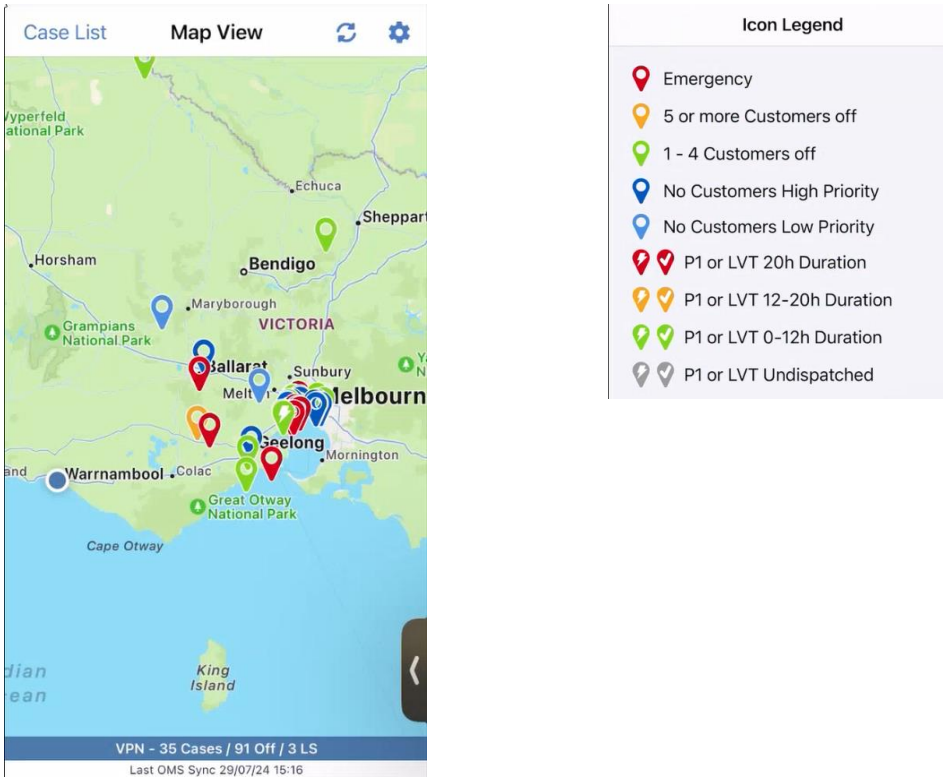
- view all outages (list or map)
- details on the outage
- crew notes
- navigation to fault.

NFD enables the identification and management of priority faults and associated risk management. For example, P1 faults are reportable to ESV if not resolved within 24 hours[11]. The colour of a fault is used to reflect the fault duration and highlights outages with a longer duration so that resources can be allocated to ensure resolution within an acceptable timeframe. Users of this tool on their mobile device include those involved in outage management and monitoring with utilisation occurring 24x7.

[11] As documented in the Distribution Code of Practice

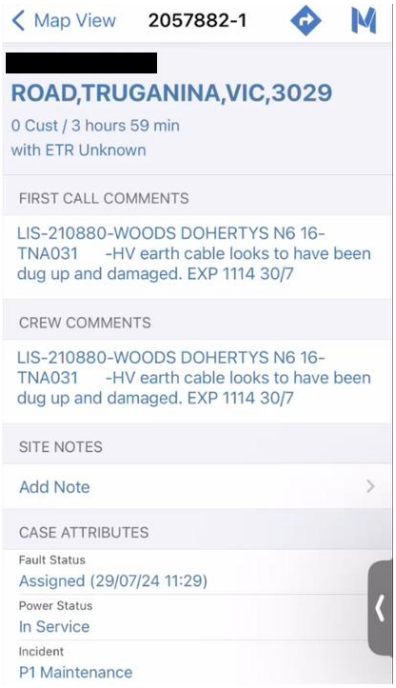
NFD also provides information on rosters across the organisation to reflect who is on call after hours per area and provide a contact phone number.

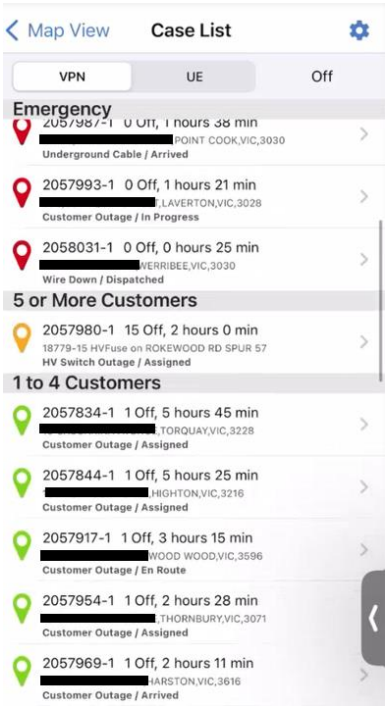
FIGURE 2 NETWORK FAULT DATA APPLICATION



From the map view a user can drill down to obtain a quick summary of the job details. A case list is also available to provide a summary view of fault jobs including by priority, how many customers are off supply and fault duration.

FIGURE 3 JOB DETAIL SUMMARY



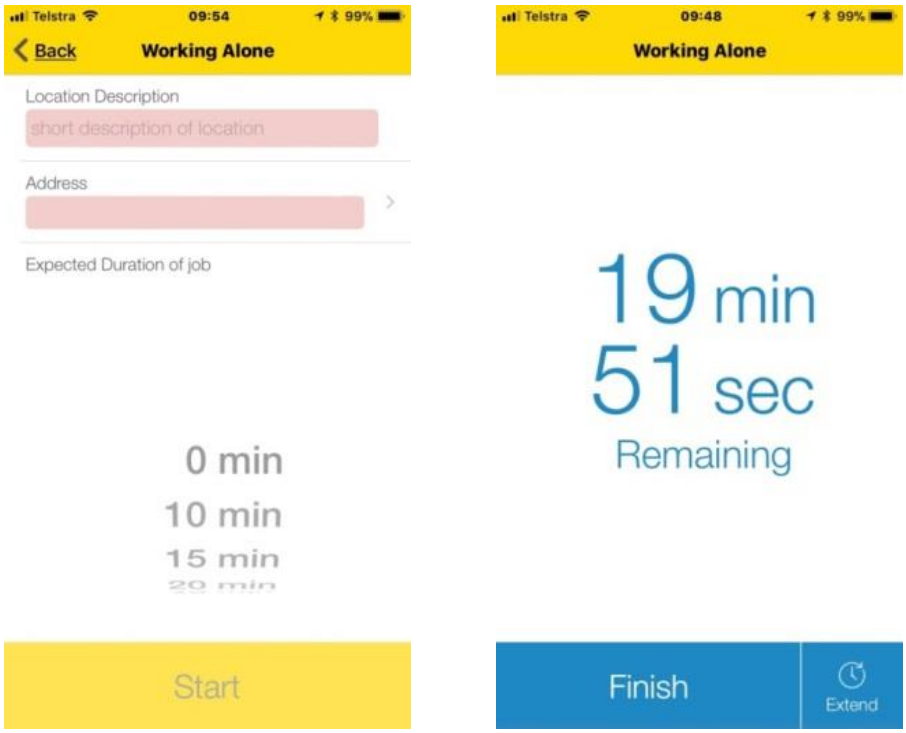


C.3 Working Alone

The Working Alone application is a monitoring tool for those working alone. Top five features of Working Alone include:

- monitors employees working alone
- escalation process
- captures current location on escalation
- ability to extend completion time
- 5-minute reminder warning

FIGURE 4 WORKING ALONE APPLICATION



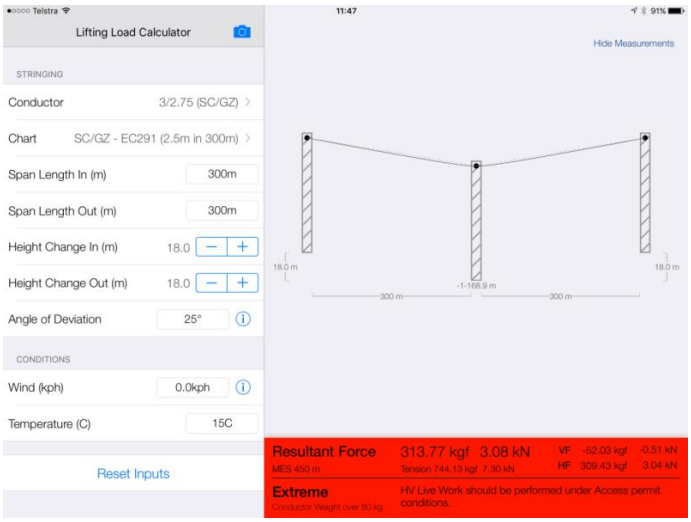
C.4 Lifting Load Calculator

The Lifting Load Calculator application is used by line workers and designers to calculate the forces on poles enabling them to select the correct equipment when lifting.

Top five features of Lifting Load Calculator include:

- determine vertical force on poles
- determine horizontal force on poles
- determine resulting force on poles
- options to adjust span length and height in and out
- options to include wind and temperature conditions

FIGURE 5 LIFING LOAD CALCULATOR APPLICATION

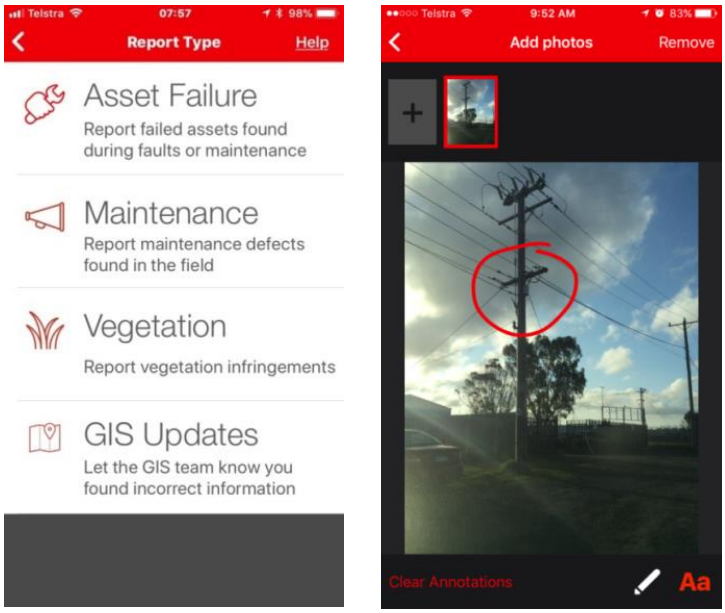


C.5 Report IT

Report IT application is used to report on defects or inconsistencies to our assets. Top five features include:

- report an asset failure
- report a maintenance defect
- report a vegetation infringement
- report a geographic information system (GIS) update
- select assets based on GPS location of photo.

FIGURE 6 REPORT IT APPLICATION



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