

Post Incident Review into AusNet's Response to the February 2024 Outage Event

AusNet

10 July 2024

Nous Group acknowledges Aboriginal and Torres Strait Islander peoples as the First Australians and the Traditional Custodians of country throughout Australia. We pay our respect to Elders past, present and emerging, who maintain their culture, country and spiritual connection to the land, sea and community.

This artwork was developed by Marcus Lee Design to reflect Nous Group's Reconciliation Action Plan and our aspirations for respectful and productive engagement with Aboriginal and Torres Strait Islander peoples and communities.

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Executive summary

This report presents an independent post incident review (PIR) of AusNet’s response to the February 2024 storm events.

On the afternoon of 13 February 2024, major storms occurred across Victoria, causing widespread damage to the state’s electricity transmission and distribution networks. On that afternoon there were more than 620,000 power outages, including 360,000 in AusNet’s network. For AusNet this was the highest number of outages in a single day in the history of AusNet’s network.¹

94 per cent of AusNet customers had their power restored within 72 hours; but 20,000 customers were off supply for three days and more than 4,000 customers were off supply for at least seven days.²

Customers and communities across AusNet’s network understand that storms can damage assets and trigger unplanned outages, especially in tree-filled or geographically isolated areas. Customers also recognised and acknowledged the significant effort made by restoration crews working in challenging conditions.

However, customers were frustrated by a number of aspects of AusNet’s performance during the outage. The key areas of concern highlighted by affected customers who were engaged by AusNet include the duration of some outages, the limited availability of timely and accurate information and the difficulties they faced in receiving financial support.

The failure of AusNet’s online Outage Tracker was a major contributor to customer frustration during the February outage. This could not service the volume of demand and was unavailable to customers for several days. This contributed to customers feeling that they were unable to access timely and accurate information to inform their decision making. This was compounded by issues in SMS communications and excessive wait times to access AusNet representatives via a dedicated phone help line, leading to a high call abandonment rate.

For some customers, this was not the first time they have dealt with inadequate communications from their distribution business during a prolonged outage. The Electricity Distribution Network Resilience Review, published after the June and October storms and subsequent outages in 2021, highlighted the same “inadequacies in information” provided by distribution businesses, which “meant that customers were not equipped to make alternative plans”.

This review assesses AusNet’s emergency response to the widespread outages caused by the February storm events.

AusNet engaged Nous Group (Nous) to undertake an independent post incident review and make recommendations for improvement. AusNet’s aim is to determine the actions it can take to improve outcomes for customers in future unplanned outage events. This is particularly important because climate change is expected to increase the frequency and intensity of extreme weather events, with likely impacts on outages events.

This review focuses on AusNet’s distribution network. Electricity distribution is the final step in the delivery of electricity from generation plants to end users. It delivers power through a network of substations and power lines to industrial, commercial and residential customers at a usable voltage. Electricity transmission is the preceding step that carries electricity from generation plants to the distribution network.

The assessment framework used for this review centres on the needs of customers during these events.

There are several important related issues that are outside the scope of this review. These include:

- review of the simultaneous outages on AusNet’s electricity transmission network

¹ (ABC News, 2024)

² (AusNet, 2024)

- a detailed analysis of the performance of other agencies during the event, such as other distribution businesses, telecommunication companies and the state government
- a detailed technical review of operational technology and systems performance.

Infrastructure resilience is also not in scope for the review.

This review examines at a high level the functionality and use of technology in AusNet's operational response. AusNet has commissioned a separate technical review of the failure of Outage Tracker during the event due to the significant contribution this failure made to negative customer experiences. Limited access to timely and accurate information was the source of much of customers' frustrations. Outage Tracker is a page on the AusNet website with a map displaying progress on all planned and unplanned outages and the Estimated Time to Assess (ETA) or Estimated Time to Restore (ETR).

This review is closely aligned with the Network Outage Review being led by an expert panel nominated by the Victorian Government. Where relevant, Nous has aligned the scope of this review with the panel's Terms of Reference and has provided regular updates to the panel on progress and insights. It is expected that the Network Outage Review will be published by the Department of Energy, Environment and Climate Action (DEECA) later in 2024.

The February storm events caused significant and widespread damage to Victorian energy distribution assets, with AusNet's network the most affected.

The 13 February was a Total Fire Ban Day with a fire risk rating of 'catastrophic'. The storm event began in the afternoon. Wind speeds greater than 130km/h³ were recorded along with more than 500,000 lightning strikes within 600 kilometres of Melbourne.⁴ This caused major damage to homes, infrastructure, vegetation and electricity network assets.

The storm event inflicted widespread damage on AusNet's electricity transmission and distribution network in South East Victoria, including six transmission towers. Of Victoria's five distribution businesses, AusNet's network sustained the most asset damage and took the longest to restore.⁵ This was because a significant part of AusNet's distribution network is in areas that are more susceptible to storm damage and more difficult for field crews to access for repair work.

The complex and widespread nature of the February outage event triggered emergency response protocols both within AusNet and at a state government level.

The February outage event met every threshold for a major emergency, which triggers the transition of emergency management to the Victorian Government under the State Emergency Management Plan. The event was classified as a 'Class 2' emergency and was managed at the state level due to its geographic spread. DEECA, as the Control Agency for energy emergencies, managed the response by establishing a State Control Centre (SCC) to coordinate the multi-agency effort.

Distribution businesses play a vital role in managing emergencies where power is affected. They underpin the state-level response, operating alongside the Australian Energy Market Operator (AEMO) and Energy Safe Victoria as key participants in the SCC.

AusNet's primary objectives in an unplanned outage event are to restore power safely and quickly and to mitigate adverse impact on customers. During the February outage event, AusNet supported the state-level emergency response from the SCC through a company representative, known as an Emergency Management Liaison Officer (EMLO). AusNet's obligations to the SCC are to provide accurate information in a timely manner, to accommodate requests from the SCC into their restoration activities, and to support peer organisations during an emergency (for example by providing mutual aid crew) to enable an integrated, statewide response.

³ (Bureau of Meteorology, 2024)

⁴ (Weatherzone, 2024)

⁵ (AusNet, 2024)

AusNet is also required to action any written directions from the Control Agency.⁶ For example, during the February outage event AusNet was instructed to administer the Prolonged Power Outage Payment (PPOP) program and communicate information about the program to its customers.

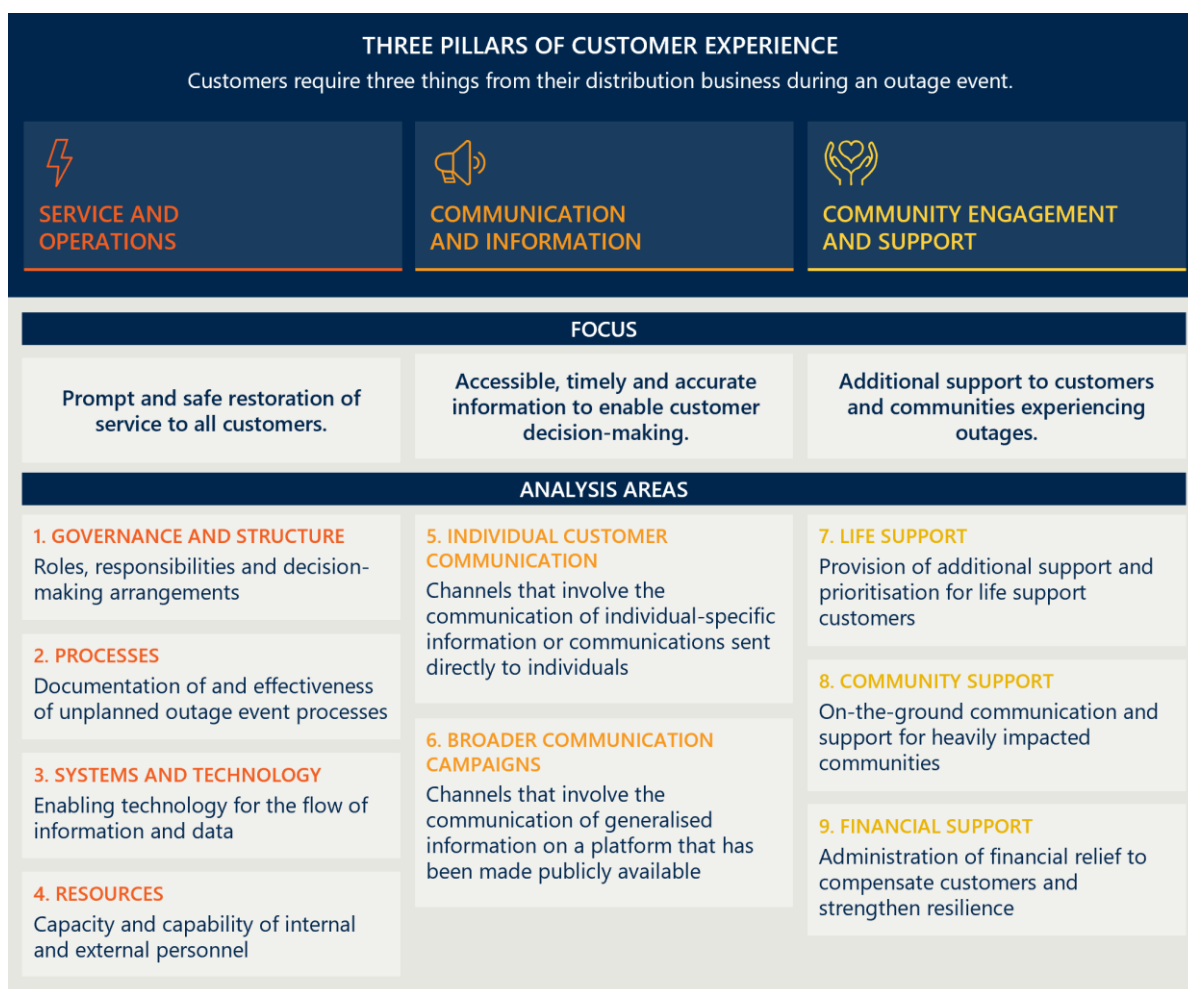
This review draws on insights from AusNet customers affected by the event to assess the company's response.

The findings of the review are framed around three pillars that represent the customer experience of an outage and the response required by AusNet to meet their needs. These pillars have been shared with the Expert Panel, DEECA, the Essential Services Commission and a Customer Consultative Committee convened by AusNet. The three pillars are:

- **Service and operations:** Focused on the timely and safe restoration of power.
- **Communication and information:** Focused on the provision of timely and accurate information to inform customers' decision-making.
- **Community engagement and support:** Focused on the availability of community and financial support during and after the event.

The assessment framework, including the three pillars of customer experience, is presented in Figure 1.

Figure 1 | Nous developed an assessment framework guided by customer experiences to structure this post incident review.



⁶ (Electricity Industry Act 2000)

The review is informed by feedback from customers which was collected by AusNet after the outage event. AusNet collected feedback through surveys, in-person engagement and the Customer Consultative Committee. Nous did not consult customers directly (though Nous reviewers did meet twice with the Customer Consultative Committee). Nous relied on these insights shared by AusNet.

The key themes from customer feedback were used to inform and shape the assessment framework and analysis for this review. A summary of key themes is presented in Figure 2.

Figure 2 | Primary themes identified in customer complaints and enquiries.



The scale and severity of the February storm events meant prolonged outages were unavoidable and highlighted areas for improvement in AusNet's emergency response that smaller storms may not have revealed.

This review assessed AusNet's emergency response across all three pillars of the assessment framework. The review took into account the severity of the February storm events and the significance of the damage to infrastructure. Infrastructure resilience was not in scope for the review.

The review considers the actions that AusNet took to restore power and seeks to identify ways that AusNet could improve the experience of customers if and when another storm event causes widespread outages. In this context it should be noted that the frequency and severity of storms is increasing across Victoria.⁷

AusNet achieved or exceeded customer expectations in several aspects of the framework's three pillars. However, some areas requiring enhancement have been identified, particularly in emergency response. The following sections summarise these findings.

Service and operations

During major unplanned outage events, AusNet establishes an operations team, consisting of the Customer Energy Operations Team (CEOT) and field delivery teams. These teams are overseen and coordinated by the Incident Management Team (IMT). The CEOT and field teams coordinate and deliver restoration of service.

AusNet restored power to 85 per cent of affected customers within two days; to 94 per cent of customers within three days; and to all customers within 13 days. This was achieved with no safety incidents in the field despite challenging weather and about two weeks of sustained restoration work.

AusNet was quick to activate its emergency response thanks to preparatory steps taken the day before based on weather warnings. AusNet staff showed a high-level of capability in key roles and a commendable dedication to the response effort. Staff worked additional hours and days and remained on call where required. AusNet successfully scaled up its capacity across response teams to manage unprecedented volumes of work, increasing from 60 crew members in the field delivery team to 450.

To achieve this, AusNet cancelled planned works and drew on additional third-party companies, leveraging the mutual aid agreement that it has with other distribution businesses where necessary.

However, this review identified opportunities for AusNet to improve service and operations during an emergency. For a full discussion of issues and recommended actions refer to Section 5.

Issues were identified in AusNet's governance, including its structure, decision-making delegations and principles of prioritisation. There was a lack of formal governance at the regional level for field resources. Instead, the response was planned, managed and delivered centrally. This structure at times slowed information flow and decision-making between the CEOT and field delivery teams.

There were problems with prioritisation of field work, including clarifying how temporary generation, community safety concerns (such as downed but isolated power lines) and damage assessment were prioritised in relation to restoration work. The authority to prioritise and reprioritise work was dispersed: priorities were issued by the CEOT, by the SCC and by leads within field delivery teams. Without a common understanding of prioritisation principles and accountability, this led to inefficiencies.

Some processes that are critical to the service and operations response were not designed or optimised for an event of this scale. This was specifically noted with the processes for assessing damage, facilitating field work and handing over between shifts. AusNet did not effectively frontload damage assessment to improve prioritisation of repairs. This delayed restoration as further damage was uncovered. This was compounded by inefficient processes which limited the capacity of the CEOT to direct work. For example, processes to arrange permits and isolate power to enable field repairs were too slow, creating a bottleneck at the CEOT. In addition, a failure to rigorously adhere to defined processes for handing over between

⁷ (CSIRO, n.d.)

shifts led to lost productivity. For example, handovers between the overnight shift of the CEOT to the planning function in the morning could have been improved.

Enabling technology lacked the capacity, functionality or integration to effectively support restoration work of this scale. For example, the Advanced Distribution Management System (ADMS) experienced a range of faults driven by high-demand and configuration which caused the system to slow down. The algorithm to calculate Estimated Time to Restore (ETR) was not designed to manage the number of outages, generating inaccurate estimates. The systems used by the CEOT to view asset information, such as location, photos and dependencies, are not in one centralised platform, which slows down controllers. Data available to the CEOT was limited due to surge capacity field delivery teams lacking access to the automated system to update and receive jobs. At times data available to the field delivery teams did not display clearly in their system because an integration issue between this system and the ADMS sometimes created multiple jobs for one fault. In areas with telecommunication outages, there was no back up technology to communicate with field delivery teams. Barriers to quickly sharing accurate information undermined productivity and sometimes caused revisits to completed jobs.

The capacity and capability of resources involved in the response were not always sufficient. Where capacity was limited, some teams experienced excessive work hours, while capability issues led to reduced effectiveness in critical roles. While restoration jobs outnumbered the available field crews, AusNet declined further field crew resources from third parties. This is because these resources would not have significantly increased productivity without a corresponding increase in the capacity of the CEOT and service delivery partner planners to direct the additional crews.

Communication and information

AusNet's customer and communications team is tasked to give customers accessible, timely and accurate information during an unplanned outage event. The team used diverse channels and platforms, with an intention to provide both direct customer-specific information and broadcast communications of general information through public platforms.

Limitations in AusNet's communications and information functions caused significant customer frustration. While faced with an unprecedented demand for information, the communications team needed to adapt to complications such as the failure of Outage Tracker on the first day of the event. AusNet designed, developed and activated an interim replacement for Outage Tracker within hours but it enabled only a basic level of self-service to information for customers, that many found difficult to navigate.

AusNet scaled up its call centre capacity to manage significant call volumes after long call wait times over the first two days. Major customers, DEECA and the Essential Services Commission reported that AusNet ensured a strong line of communication throughout the event. The team used social media to provide regular geo-tagged updates and closely monitored customer sentiment online.

However, this review identified opportunities for AusNet to improve communications and information during an emergency. For a full discussion of issues and recommended actions refer to Section 6.

The interim solution that replaced AusNet's primary Outage Tracker between 13 and 21 February 2024 did not provide an equivalent customer experience. The tabulated spreadsheet was difficult for customers to use. Despite the increase in call centre capacity, customers still faced wait times of 22 minutes or more for the first two days of the event. There was no agent or AI chat function available through the AusNet website as an alternative channel for these customer enquiries.

SMS communications were limited; firstly, because AusNet has SMS contact details for only 60 per cent of its customers; secondly, because AusNet disabled its automated SMSs to these customers on the third day, choosing instead to send SMSs manually due to a defect that risked spreading inaccurate information to customers. This meant customers received more generic and less regular SMSs. Estimated Time to Assess and Estimated Time to Restore often changed, and the language used by AusNet gave customers false confidence in the accuracy of the information.

AusNet did not have an effective strategy for communicating with customers through non-power dependent channels, such as radio (if battery powered), traditional print media or noticeboards in community hubs.

AusNet's use of broad communication channels was not enough to address widely felt customer frustration over a lack of information after the failure of Outage Tracker. This is despite AusNet's increased use of social media, in part to compensate for the Outage Tracker failure. Other broad channels included the AusNet website, social media and media, such as radio and news publications.

There was also an avoidable delay in AusNet's initial engagement with regional media. This was due to the time taken to clarify the implications of AEMO's Single Industry Spokesperson Protocol, which was invoked during the event.

Customers could have been given more regionally tailored preparedness information through the annual summer preparedness campaigns that AusNet delivers along with other Victorian distribution businesses.

Community engagement and support

During a prolonged outage event, AusNet typically provides a range of services to customers that extend beyond the direct restoration of power supply. This includes outreach to customers that are on the life support register; a physical presence in affected communities; and in some circumstances investments in community resilience or supporting financial compensation to mitigate losses experienced by customers.

Throughout the February outage event, there were limited elements of AusNet's community engagement and support function that were delivered effectively and improved the experience of some customers. For example, During the outage AusNet contacted 18 local governments and established an extended presence in some of the hardest hit communities, such as Mirboo North.

In line with its obligations, AusNet maintained a 24/7 priority telephone line for access by customers in need, including life support customers. However long wait times over the first two days meant that not all customers were able to speak to the call centre. Available information from the customer life support register was shared with government authorities to enable welfare checks, and AusNet proactively contacted some life support customers via phone.

AusNet also facilitated financial compensation to more than 3,800 customers through the government funded Prolonged Power Outage Payment (PPOP) scheme. AusNet also established a \$10 million Energy Resilience Community Fund to provide both individual compensation and community-level investments.

However, this review identified opportunities for AusNet to improve community engagement and support during an emergency. For a full discussion of issues and recommended actions refer to Section 7.

Incomplete and outdated information in the life support register, information which is largely provided by energy retailers, prevented effective prioritisation of life support customers for welfare checks. This incomplete and outdated life support customer data is not solely AusNet's responsibility; instead, it requires joint action with retailers and the Essential Services Commission to address fully.

PPOP payments were slowed by AusNet's inadequate technology systems, lack of trained staff and inefficient coordination with DEECA. Technology system challenges since the last PPOP program AusNet administered on behalf of the Victorian Government in 2021 had not been addressed, which led to delays due to, for instance, an ineffective system to verify customer identities. AusNet's call centre operators had no experience and minimal training in the PPOP program to facilitate customer queries and complaints. Finally, the joint management of the PPOP program by DEECA and AusNet necessitated effective information sharing and coordination, which was found to be insufficient to enable quick decision-making around customer eligibility for payment.

AusNet's deployment of regional Emergency Management Liaison Officers (EMLOs) and community engagement personnel was improvised rather than well-planned and coordinated. This led to inconsistencies in the level and type of support received across hard-hit communities. Limited relationships with local governments resulted in missed opportunities for AusNet to provide tailored support to communities and local emergency responses, including through temporary generation.

This review presents nine recommendations designed to uplift AusNet's capacity and capability to improve its response to future storm events.

Figure 3 (below) provides a high-level summary of the nine recommendations that are made in this Post Incident Review. Each recommendation is underpinned by actions (31 in total) that should be adopted by AusNet to ensure it is better equipped to mitigate the direct impact on customers of future unplanned outages. These actions are further detailed and classified in terms of their recommended timing for implementation and the level of impact they are likely to have on improving customer outcomes in Sections 5 to 7.

Figure 3 | Overview of recommendations made in this report to improve AusNet's response to an unplanned outage event.



Nous recognises that AusNet has already started several of the actions recommended. Nous suggests that a broader program of work should be established to consolidate, track and monitor implementation of the whole package of interdependent actions.

1 Introduction

This report is an independent, evidence-based Post Incident Review (PIR) of AusNet's operational response to the major unplanned outage event caused by severe weather events in February 2024, which led to the most outages in AusNet's history. The PIR was commissioned by AusNet and has been completed by Nous Group (Nous).

1.1 Purpose of this post incident review

The purpose of this report is to outline what worked well and where improvements can be made in AusNet's overall operational response to the extreme weather event and resulting power outages in February 2024. The report identifies the factors that led to a poor customer experience and provides recommendations and proposed actions that AusNet can take to prepare and respond to future unplanned outage events of this scale or greater.

This PIR examines the actions taken by AusNet between 13 February and 26 February 2024 inclusive. Two storm events occurred during this period – the first on 13 February and the second on 22 February. AusNet's emergency response activities started on 13 February when the storms were identified and ended on 26 February, when power was restored to the last customer. The Victorian Government funded a Prolonged Power Outage Payment (PPOP) program to provide financial compensation to customers who experienced more than seven cumulative days of outages. AusNet administered this program and these activities extended beyond 26 February 2024.

The overall framework used to conduct the analysis is designed to assess AusNet's performance through a customer-centric lens. That is, the framework considers the factors that are most relevant to residential and business customers during an unplanned outage. It is informed by customer feedback related to the event received by AusNet and provided to Nous. The assessment framework applied in this PIR is described in Section 4. The three pillars of customer experience applied to this PIR are:

- **service and operations** – focused on the timely and safe restoration of power
- **communication and information** – the information made available to enable customers to make informed decisions on how to manage their outage
- **community engagement and support** – the face-to-face engagement and non-power related support AusNet provided during and after the event.

AusNet commissioned this PIR as part of standard practice following major outage events, to understand what it did right during the February outage event and where it can improve. The PIR also constitutes part of the formal requirements agreed with the Essential Services Commission under the enforceable undertaking that arose due to the failure of AusNet's Outage Tracker during the event. AusNet has stated its commitment to improving outcomes for its customers during future storm events.

1.2 Terms of reference for the post incident review

This PIR primarily considers AusNet's response to the February storm events in the context of its role as a distribution network service provider (distribution business), implementing emergency procedures to restore supply to customers.

The simultaneous event on AusNet's electricity transmission network and any planned or unplanned work due to other causes during the February outage event were out of scope for this PIR. This review focuses on the outages on AusNet's distribution network, which is the network of substations and powerlines that delivers electricity to end users at a safe, useable voltage.

The PIR excludes any detailed analysis of the performance of other agencies during the event, such as other distribution businesses, telecommunication companies and state government, other than for the purpose of identifying dependencies on AusNet's response.

A detailed technical review of operational technology and systems performance during the event is out of scope of this PIR. This includes important systems that experienced technical issues, such as AusNet's Outage Tracker tool and the Advanced Distribution Management System (ADMS). AusNet has commissioned a separate technical review of the Outage Tracker failure. This PIR does examine (at a high level) the functionality and use of technology in the wider context of its impact on AusNet's operational response. This includes how the reduced functionality of AusNet's Outage Tracker and the ADMS had flow-on effects that resulted in a poor experience for customers, such as a lack of available information (Outage Tracker) or a reduced ability to efficiently coordinate the overall restoration of power (ADMS).

The scope of the PIR is predominantly centred around three of the four pillars of emergency management.

The actions that AusNet took during the event predominantly centred around three of the four pillars of emergency management:

- **Preparedness** – Actions and processes that take place when an emergency is imminent.
- **Response** – Actions taken during an emergency to address its immediate impact.
- **Recovery** – Actions taken after the response period to recover from the impact.

Prevention (or mitigation) is defined in AusNet's Incident and Crisis Management Plan "SPIRACS" (Strategic Plan for Integrated Response and Contingency System) and the Victorian Government's State Emergency Management Plan as 'the elimination or reduction of the incidence or severity of emergencies and the mitigation of their effects.' In AusNet's SPIRACS, preparedness and prevention activities are grouped together, and the prescribed activities include to maintain SPIRACS, train staff, conduct emergency exercises, define emergency management structures, and objectively classify emergencies to determine the appropriate response. The four phases of emergency management are depicted in Figure 4.

This PIR assesses AusNet's operational response to the February 2024 storm event. Investment in asset resilience is not in the scope of this report. We are aware that AusNet is currently developing and engaging on its resilience plans for the next Electricity Distribution Pricing Review, including working with DEECA on implementing the recommendations arising from the Network Resilience Review. It has also invested in trials of resilience solutions including of 17 standalone power systems and has installed energy resilience solutions in high-risk locations (funded by DEECA). AusNet is working with other critical infrastructure (including telecommunications and water utilities) on individual resilience projects.

Figure 4 | Four phases of emergency management



There are published or ongoing reviews with relevance for the scope and context of this PIR.

Two reviews have significant relevance to the scope and context of this PIR. The reviews were authored by expert panels commissioned by the Department of Energy, Environment and Climate Action (DEECA). They assess distribution businesses' responses to the 2021 storm events and the February 2024 storm events respectively. These are outlined in Table 1.

Table 1 | Relevant completed or ongoing reviews

Review	Scope
Electricity Distribution Network Resilience Review (published May 2022)	This review was initiated in response to the major unplanned outage events caused by the June and October 2021 storms. The review, published in a report in 2022, provided expert advice to the Minister on distribution network resilience and specifically the role played by electricity distribution businesses in Victoria following the 2021 storm events and the resulting outages. It focused on the obligation of distribution businesses to improve distribution network preparedness for, and response to, unplanned outage events arising from storms and other extreme weather events and to strengthen community resilience to unplanned outage events.
Network Outage Review – System Response to 13 February Storms (planned for publication August 2024)	A Victorian Government-initiated Network Outage Review is currently investigating the response to the February storm events that caused the outage event. Its terms of reference include the preparedness of energy distribution companies to respond to extreme weather events and other aspects of the response, such as communications with customers and preparedness to administer the PPOP program and other forms of relief and customer support. By design, this PIR is aligned with the scope of the Network Outage Review.

1.3 Terminology

This report references terminology typically used in the context of emergency management and operating an electricity distribution business. A glossary of all terminology is available in Appendix A.

1.4 Structure of this report

The report is structured as follows:

- **Section 2: The February storm events at the focus of this PIR** – Describes the context and sequence of events related to the mass outages at the focus of this PIR, featuring a visual timeline for clarity.
- **Section 3: How major unplanned outage events are managed** – Summarises the state-wide emergency management process and how AusNet's role fits within the broader state response.
- **Section 4: The assessment framework** – Outlines the assessment framework that was applied during the PIR to guide the findings and recommendations.
- **Section 5: Service and Operations** – Provides a summary of findings and recommendations relating to the customer experience of AusNet's service and operations.
- **Section 6: Communication and Information** – Provides a summary of findings and recommendations relating to the customer experience of AusNet's communications and information.

- **Section 7: Community Engagement and Support** – Provides a summary of findings and recommendations relating to the customer experience of AusNet’s community engagement and support.

2 The February storm events and their impact on AusNet

This PIR focuses on the actions taken by AusNet in response to the unplanned outage event in February 2024. The outage was caused by severe storms on 13 and 22 February across Victoria, which affected AusNet's distribution network and to a lesser extent other distribution networks.

2.1 AusNet operates its distribution network in the areas of Victoria most prone to storm damage

AusNet is one of five Victorian electricity distribution networks, operating the second largest distribution business by area, and providing electricity to 802,000 customers living across eastern Victoria (in the Gippsland and Hume regions) and parts of metropolitan Melbourne.⁸

AusNet is one of two distribution businesses operating predominantly in regional and rural areas, with 58 per cent of AusNet's customers serviced by its network in rural parts of Victoria.⁹ These areas can be difficult to access due to dense vegetation, rural roads or mountainous and alpine terrain. Areas with dense vegetation also make AusNet's network more prone to storm damage. 24 per cent of AusNet's wires and cables suspended between its poles and towers require vegetation management to reduce these risks.¹⁰

The location of AusNet's distribution network on rough terrain contributes to the time it takes to assess, plan and undertake repair works. This results in a longer time to conduct restoration works than other distribution businesses that have a smaller proportion of assets in challenging terrain. On February 13, 45 per cent of AusNet's customers experienced an outage. The comparable figures for its peers were 25 per cent (United Energy) and 9 per cent (Powercor Australia).¹¹

2.2 The February storm events were of a scale unprecedented for AusNet

The February outage event was the largest network outage that AusNet has experienced on its electricity network. It was caused by two severe weather events of thunderstorms and record-level winds. Over 360,000 customer power interruptions occurred on 13 February and about 40,000 interruptions when the second storm hit on the 22 February. About 25 per cent of its network (12,000 kilometres of feeder backbone power lines) had to be surveyed, repaired or both.

Statement on the severity of the storm

"[This event] was one of the largest outage events in the state's history... it may take days if not weeks to restore electricity to all of those [impacted]."

Victorian Minister for Energy and Resources, Lily D'Ambrosio¹²

While 94 per cent of AusNet's customers had their power restored within three days of the initial storm, some residents of Cockatoo and Emerald experienced 14 days of outages. Mirboo North, Leongatha and Yarragon, also in the Gippsland region, experienced over nine days of outages. The extended outages these customers experienced were a result of the significant devastation caused by the two storm events

⁸ (AusNet, n.d.)

⁹ (AusNet, 2024)

¹⁰ (AusNet, 2024)

¹¹ (AusNet, 2024)

¹² (Nine News, 2024)

in these communities, requiring significant rebuilding of sections of the network. The unplanned outage event concluded on 26 February when power was fully restored to all those who lost power due to the storm events.

Following the full restoration of power, AusNet's operational response continued as they supported DEECA to administer the PPOP program, which was designed to provide financial relief to customers meeting eligibility criteria set by the Victorian Government.

2.3 Timeline of the key events

This section offers an overview of the sequence of events, starting from the initial storm, to contextualise AusNet's response and define the extent of the PIR.

Figure 5 | Images that showcase the terrain around AusNet's distribution network and the damage caused by the February 2024 storms



AusNet took steps to prepare for extreme fire danger and the possibility of severe storms.

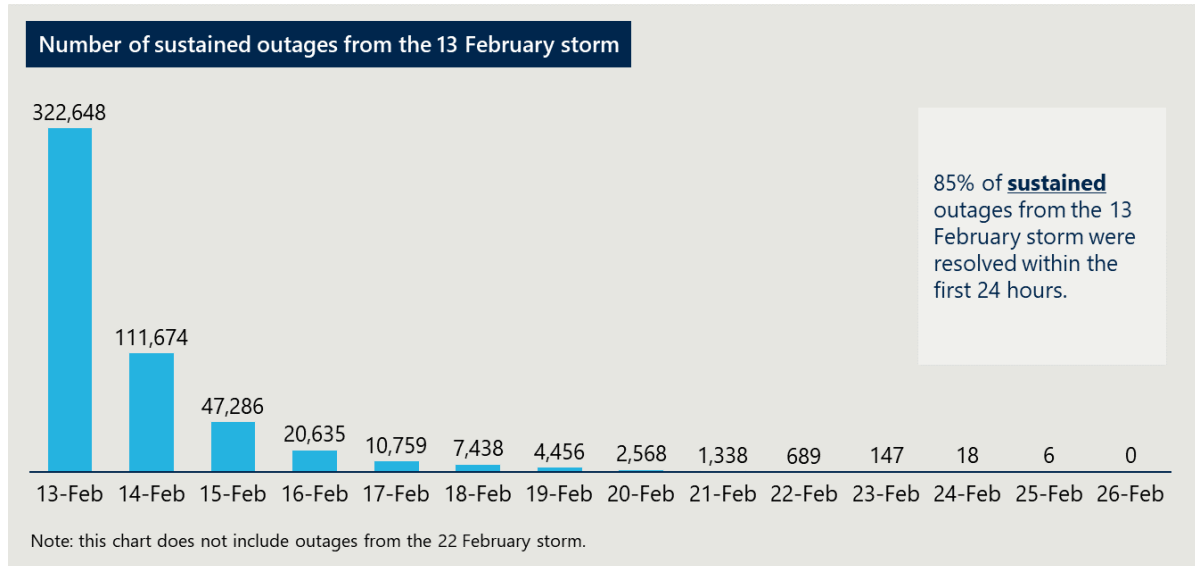
On the evening of 12 February 2024, a catastrophic fire danger warning was issued for Victoria's north-west region with the expectation of high temperatures and strong winds of up to 50 kilometres per hour. A total fire ban was declared by the Country Fire Authority to come into effect for 13 February in response to the weather forecasts.

AusNet took several actions in preparation for the imminent weather event. They held two emergency briefings prior to the event on 12 February with their Incident Management Team and prepared resource rosters for an emergency response. Customers received an SMS alerting them to the risk of unplanned outages. Finally, AusNet activated their Rapid Earth Fault Current Limiter (REFCL) powerline protection settings to reduce bushfire risks in response to the total fire ban. These settings increase the sensitivity of powerline protection, reducing the likelihood of electrical infrastructure triggering a fire but increasing the likelihood and duration of outages.

Severe storms on 13 February 2024 caused outages for 620,000 properties in eastern Victoria.

Between 1pm and 4pm on Tuesday 13 February, around 620,000 Victorian homes and businesses lost power.¹³ This included more than 320,000 AusNet customers, higher than any other outage event in history on AusNet’s network (Figure 6).¹⁴ Winds reaching 130 kilometres per hour¹⁵ swept through eastern Victoria, uprooting trees, lifting roofs and leaving roads blocked by fallen vegetation. Over the course of the day, more than 500,000 lightning strikes were recorded.¹⁶

Figure 6 | AusNet customers experiencing outages per day, 13 to 26 February 2024



The State Emergency Services (SES) received 3,000 calls for help, and 37 homes were left uninhabitable¹⁷ from the destruction. The storms’ intensity, combined with network vulnerability due to sensitive REFCL protection settings, resulted in the largest outage event in AusNet’s history.

Figure 7 highlights how the severity of the event compares to other major event days on AusNet’s network, comparing the total minutes off supply using an Unplanned System Average Interruption Duration Index (USAIDI). This is calculated by dividing the sum of all the sustained interruptions in minutes, for day 1 for the most recent events and for the entire event for the others, by AusNet’s total customer base.

¹³ (ABC News, 2024)

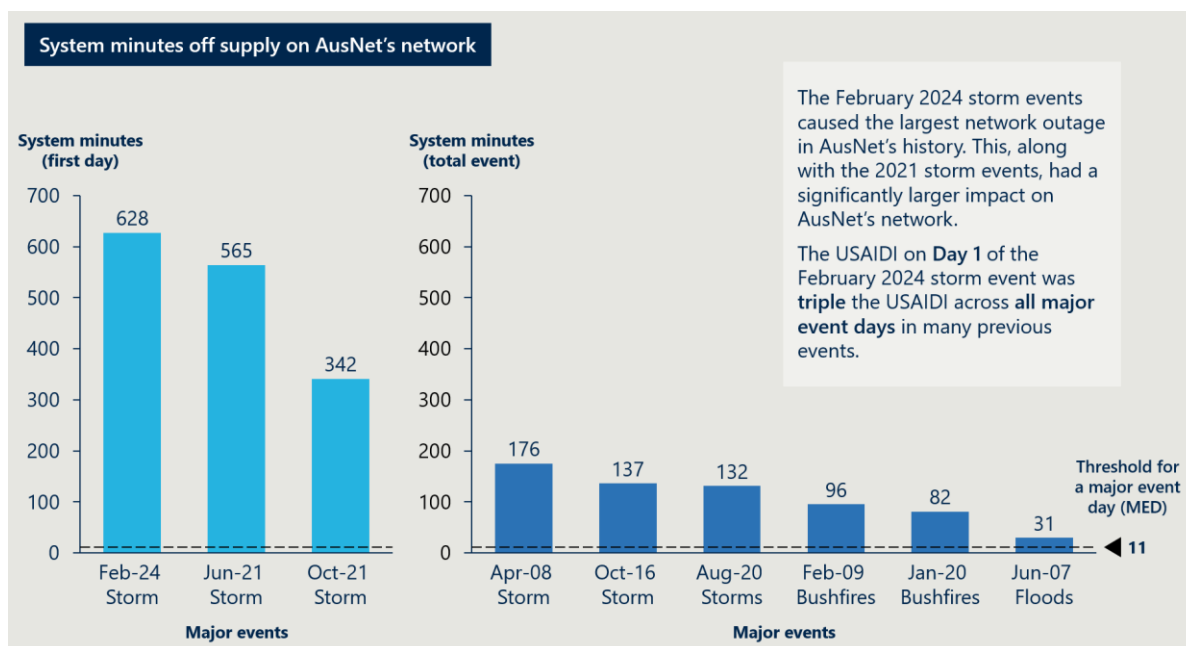
¹⁴ (AusNet, 2024)

¹⁵ (Bureau of Meteorology, 2024)

¹⁶ (Nine News, 2024)

¹⁷ (ABC News, 2024)

Figure 7 | System minutes off supply on AusNet’s network using the Unplanned System Average Interruption Duration Index (USAIDI)



Separate damage to AusNet’s electricity transmission network resulted in load shedding of supply to 90,000 properties.

During the storms, and in addition to the damage to its lower voltage distribution network (poles and wires), which was concentrated in the southeast of Victoria, AusNet’s transmission network was severely damaged.

Powerlines between Moorabool and Sydenham tripped following the failure of six transmission towers. The subsequent disconnection of Dundonnell Wind Farm, Yaloak South Wind Farm and all four generating units at the Loy Yang A coal-fired thermal power station had a significant impact to the network’s stability and supply.¹⁸ Approximately 2,690 megawatts of generation were lost.

On 13 February at 2:20pm, AusNet was instructed by the Australian Energy Market Operator (AEMO) to initiate load shedding, which meant actively shutting down supply to parts of their network to reduce the strain of demand and prevent further system failures. Load shedding cut supply to 90,000 properties¹⁹ until AEMO instructed load to be restored by 5:10pm on the same day.

Telecommunication service outages compounded the difficulties faced by both customers and AusNet in its emergency response.

Finally, almost 500 phone towers and 450 NBN sites were disrupted due to the storm’s damage.²⁰ Many communities experienced complete mobile phone reception outages and were unable to contact Triple Zero. Information released publicly by Telstra suggests that it was not until the sixth day of the February outage event that all their owned and operated mobile sites were restored, though 90 per cent were restored by day three.²¹

Two days before full restoration of supply was completed, a second storm hit AusNet’s network.

On 22 February, a small number of customers were still experiencing outages when restoration efforts were set back by a second storm event. The return of gale-force winds inflicted further damage across the

¹⁸ (Australian Energy Market Operator, 2024)

¹⁹ (ABC News, 2024)

²⁰ (SBS News, 2024)

²¹ (Telstra, 2024)

state and on Victoria's electricity network, creating outages for another 40,000 AusNet customers. This included many of the customers who had already been hard hit by the first storm event in Emerald, Cockatoo and the broader Gippsland region. In Emerald 1,307 customers lost power on 22 February, about half as many customers as on 13 February. In Cockatoo 1,685 customers lost power, almost the same number of customers as on 13 February.²²

The Victorian Government established a financial relief program to be administered by distribution businesses.

The Victorian Government announced a Prolonged Power Outage Payment (PPOP) program on 16 February to provide financial relief to those who experienced at least cumulative seven days of outages, to help these customers buy much needed basic items and find alternative accommodation. The payment was jointly funded by the Australian and Victorian governments through the Disaster Recovery Funding Arrangements. AusNet and other distribution businesses are responsible for administering the payments to customers, as they hold critical information about the affected customers and are well positioned to assess eligibility.

It is not the first time a financial relief payment has been funded by the Victorian Government and administered by distribution businesses in the wake of a major unplanned outage event. The most recent time was after the 2021 storm events, when the Victorian Government provided a PPOP with similar eligibility criteria, which AusNet supported through administration of payments to its customers.

AusNet opened applications on 22 February and began making payments from 23 February. There were over 4,000 eligible AusNet customers, yet AusNet received about 45,000 applications, which was likely due to the high number of affected customers.

²² AusNet internal data

3 A major unplanned outage event requires a state-level and AusNet-level response

This section outlines how a statewide, multi-agency approach is undertaken in line with the State Emergency Management Plan for major emergencies of the type and scale of the February outage event. It describes emergency management at the state level, the role distribution businesses play in the broader response and finally, AusNet's own emergency management practices. The latter details AusNet's operational structure for emergency events affecting its business, including key roles and responsibilities.

3.1 The State Emergency Management Plan guides a statewide response to major emergencies

A State Emergency Management Plan is required under the *Emergency Management Act 2013* to guide an integrated, coordinated and comprehensive approach to emergency management at the state level. It specifies the roles and responsibilities of various agencies involved in the state-level emergency response, and it includes provisions for the mitigation of, response to and recovery from emergencies (before, during and after.)

The February outage event met every threshold to be deemed a major emergency.

The February outage event met every threshold for a major emergency, which triggers the transition of emergency management to the Victorian Government under the State Emergency Management Plan. These thresholds, defined under the State Emergency Management Energy Subplan, require failure or disruption of generation, transmission or distribution equipment to cause:²³

- unplanned outages for more than 20,000 customers for more than 30 minutes in a single distribution business's distribution zone
- a single credible contingency event which reduces redundancy for more than 20,000 customers for more than 12 hours
- Estimated Times to Restore (ETRs) more than 72 hours for more than 10,000 customers
- outages for critical infrastructure
- outages for industry resulting in, or likely to result in, significant commercial or industry impact.

To ensure emergency management arrangements are scalable, the State Emergency Management Plan defines three operational tiers – incident, region and state.

Victoria's three operational tiers for emergency management are incident, region and state, with the option for an 'area of operations' to be declared to manage a complex emergency that may be geographically located over several municipalities or regions.²⁴

The February outage event required a response at the state operational tier. This tier is activated when resource requirements, coordination, consequences and communications extend beyond the region or area of the incident and therefore require the highest level of management.

The *Emergency Management Act 2013* defines three different classes of emergency and sets out how the control of response activities varies with the emergency class.

The three classes of emergencies include Class 1 emergencies, such as major fires, to Class 3 emergencies, which are security emergencies, such as warlike acts or terrorist acts. Any emergency that does not meet

²³ (Emergency Management Victoria, 2023)

²⁴ (Emergency Management Victoria, 2023)

the definitions for Class 1 or Class 3 emergencies is deemed a Class 2 emergency. The control of emergency response activities varies depending on the class of the emergency.

The February outage event was a Class 2 emergency. This means that it is the responsibility of the Emergency Management Commissioner (EMC) to ensure control arrangements are in place. The EMC is a permanent role required under the *Emergency Management Act 2013* and appointed by Victoria's Governor in Council. In addition to ensuring control arrangements are in place during a Class 1 or Class 2 emergency, the EMC manages the state's primary control centre on behalf of, or in collaboration with, relevant agencies.

At the head of the control arrangements, overseen by the EMC, is the Control Agency. The Control Agency is determined by default by the form of the emergency. For electricity emergencies, the default Control Agency is DEECA²⁵ and the Control Agency Officer in Charge (CAOiC) is the Department Head of DEECA. This means DEECA and its Department Head had overall control of response activities for the February outage event.

The next tier of control is the State Controller, who is appointed by the CAOiC.²⁶ The State Controller works with the emergency management sector more broadly to manage risk and impacts and to coordinate intelligence and messaging. The State Controller manages the operational response to a Class 2 emergency, which includes planning and control of response activities and establishing a management structure for the emergency. During the February outage event, the State Controller was the Executive Director of Electrification, Efficiency and Safety within DEECA, the Control Agency.

For Class 2 emergencies, the CAOiC determines where the emergency will be controlled from.²⁷ For the February outage event, the CAOiC decided the emergency would be controlled from an SCC. Victoria has Regional Control Centres and Incident Control Centres located strategically throughout the state. These were also used, as appropriate, during the February outage event at the discretion of the Head of DEECA.

The SCC is Victoria's primary control centre for managing emergencies, a hub for the network of control centres across the state. It provides a service that operates for, and in collaboration with, emergency management agencies within Victoria to minimise the likelihood of an emergency and the effects of an emergency on the Victorian community.

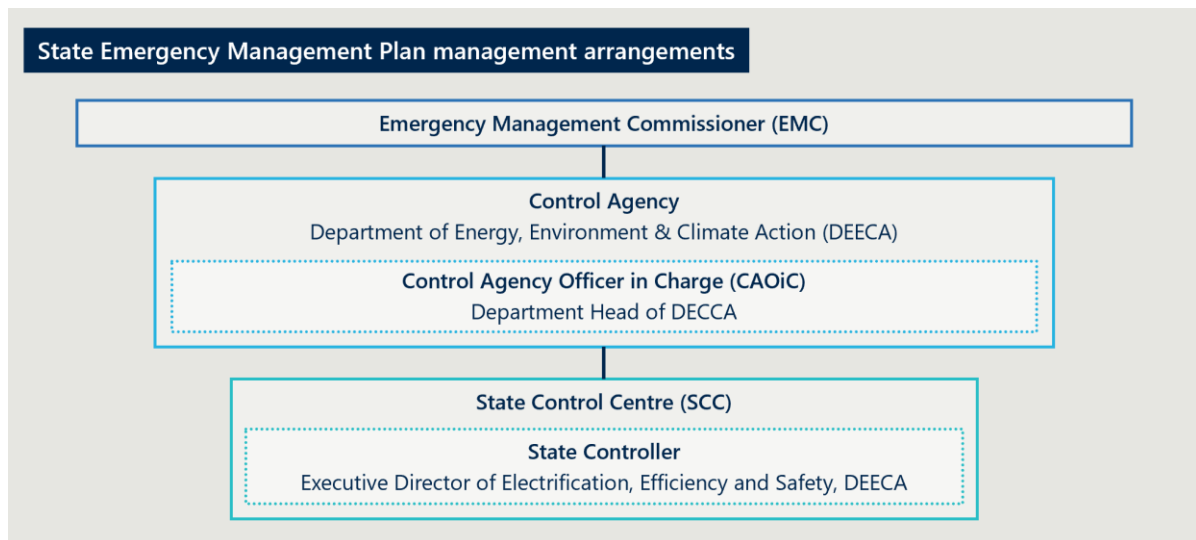
Figure 8 depicts the state emergency management structure that was activated for the February outage event, which includes the EMC, Control Agency, CAOiC, SCC and State Controller.

²⁵ (Emergency Management Victoria, n.d.)

²⁶ (Emergency Management Victoria, 2023)

²⁷ (Emergency Management Victoria, 2023)

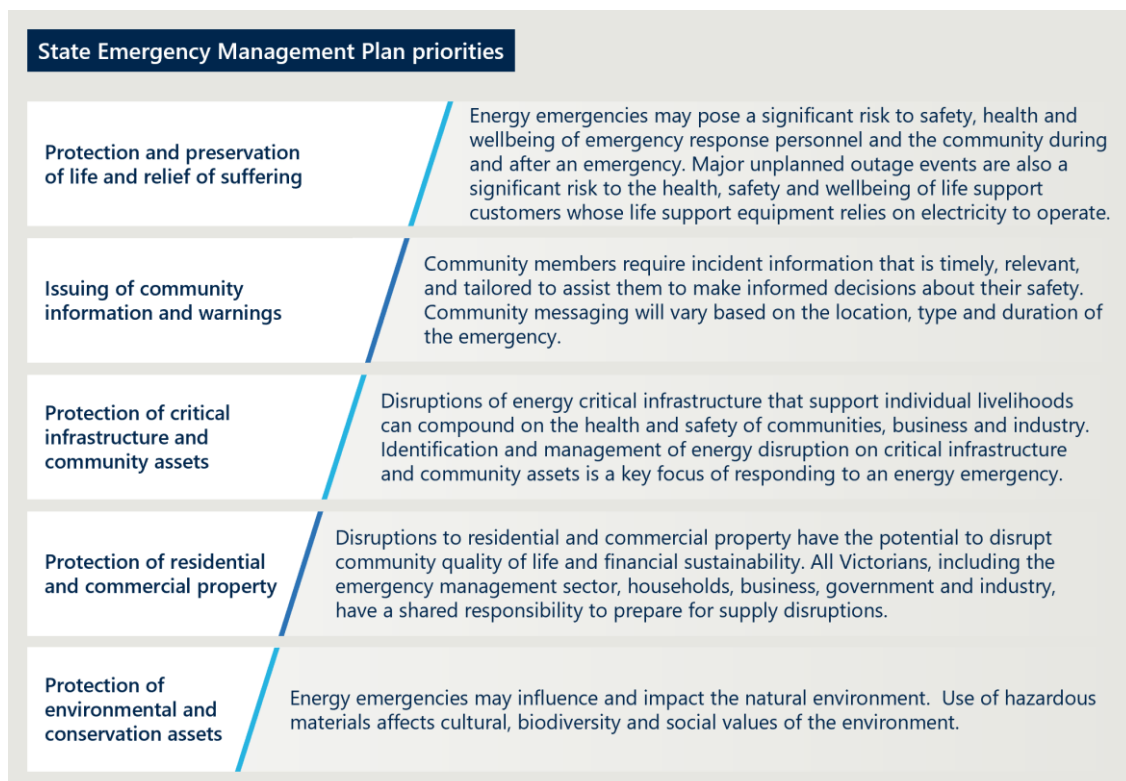
Figure 8 | State Emergency management arrangements for the February outage event in line with the State Emergency Management Plan



The State Emergency Management Plan sets out priorities and principles to guide statewide response, relief and recovery efforts.

The State Emergency Management Priorities underpin and guide all decisions during a response to any emergency.²⁸ It is the responsibility of the State Controller to consider and apply the State Emergency Management Priorities. These priorities are outlined in Figure 9 and placed in the context of a major unplanned outage event.

Figure 9 | State Emergency Management Plan response priorities



²⁸ (Emergency Management Victoria, 2023)

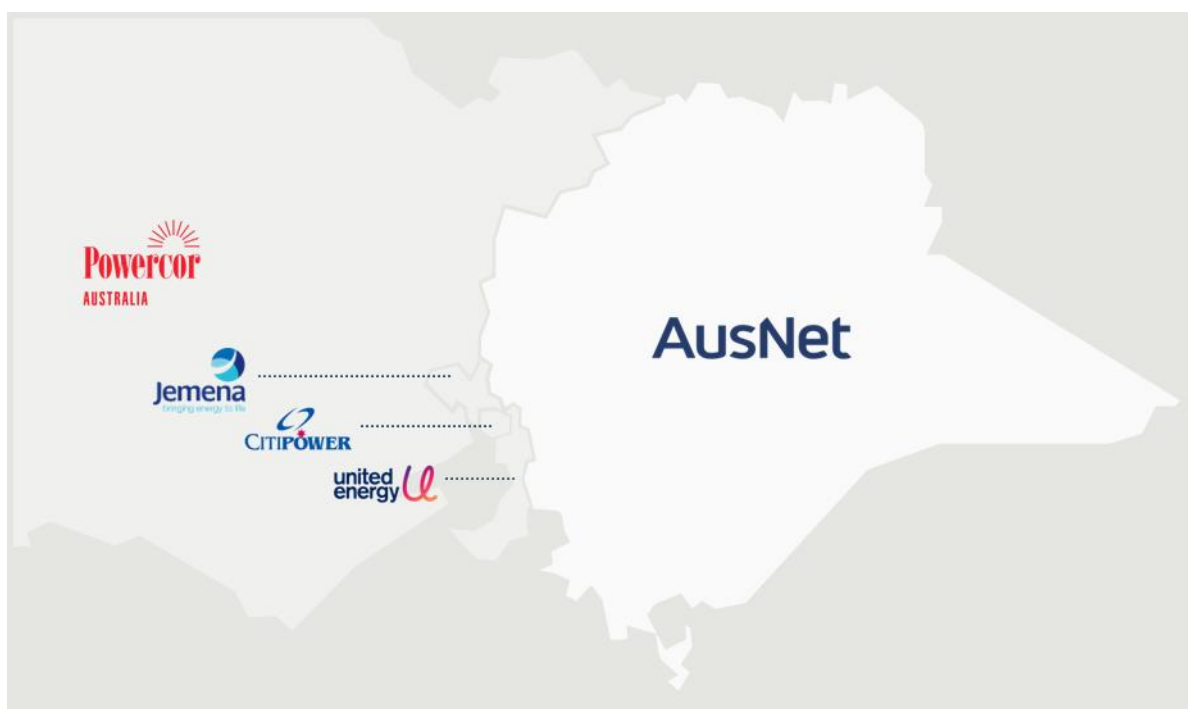
3.2 Distribution businesses and others in the electricity sector are responsible for supporting the state-level response to major emergencies

Distribution businesses, among other businesses in the electricity sector, perform a critical role in managing and responding to energy emergencies and supporting the broader state-level response.

There are five electricity distribution businesses operating in Victoria.

There are five distribution businesses in Victoria: AusNet, CitiPower, Jemena, Powercor Australia and United Energy Distribution.²⁹ Each of Victoria's distribution businesses is responsible for a separate geographic region, as shown in Figure 10.

Figure 10 | Geographic regions of Victoria's distribution businesses³⁰



Distribution businesses plan, build, maintain and operate the electricity distribution networks in the National Electricity Market. This includes maintaining the infrastructure that distributes low-voltage electricity to homes and businesses, such as poles, wires and substations.

Electricity distribution is a separate business from that of electricity retailers, who are responsible for buying and trading electricity from generators to then sell to electricity customers. It is also discrete from electricity generation, the process of generating electric power from primary energy sources, and transmission, the process of delivering generated electricity to the distribution grid.

Distribution businesses are critical energy industry participants that support a state-level emergency response.

In line with the State Emergency Management Energy Subplan, there were three main participants in the electricity sector that supported the response to the February outage event.³¹ These were:

²⁹ A sixth provider, Essential Energy, operates predominantly in New South Wales but serves a small number of customers in Victoria.

³⁰ (Canstar, 2024)

³¹ (Emergency Management Victoria, 2023)

- **Australian Energy Market Operator:** AEMO is the operator of the electricity systems and markets in Victoria. It has a range of powers, including the power to direct load shedding and to intervene in energy markets to respond to risks to the security of energy supply. During an electricity emergency, AEMO provides expert advice to DEECA about electricity supply disruption and coordinates and directs electricity industries to respond.
- **Energy Safe Victoria (ESV):** ESV is the safety regulator of electricity systems and markets. During an energy emergency, ESV provides safety and technical advice, including technical specialists to lead investigations and to exercise emergency powers to resolve the emergency.
- **Electricity industry (including distribution businesses):** This includes owners and operators of energy infrastructure and supply chains, such as distribution businesses like AusNet. As a distribution business, AusNet has the primary responsibility to respond to electricity supply disruption and deliver repairs, restoration, and reconnection to Victoria. AusNet and other players in the electricity industry, must provide subject matter expertise to advise and support DEECA during a major electricity emergency.

There is an agreed process between Victoria’s distribution businesses to obtain, where possible, short-term assistance in the form of personnel, equipment, materials and other related services outside of the area that a distribution business operates. This rapid, short-term deployment of assistance following an event, when a distribution business has exhausted or is near exhausting all its available resources, is known as mutual aid.

AusNet supported the state-level emergency response by maintaining an Emergency Management Liaison Officer in the SCC.

AusNet’s primary objectives during a major unplanned outage event are the safe and timely restoration of power and the mitigation of adverse impact on customers. During the February outage event, AusNet supported the state-level emergency response from the SCC via a representative, an Emergency Management Liaison Officer (EMLO).

There is a shared EMLO roster across the five distribution businesses, and one EMLO acts as an interface between the SCC and all Victorian distribution businesses. However, during the February outage event AusNet went beyond the rostered industry EMLO and maintained a dedicated AusNet EMLO in the SCC throughout the event. Through its EMLO, AusNet collaborates with emergency management agencies, such as Victorian SES and the Control Agency, DEECA.

AusNet’s obligations as a distribution business are

- to provide accurate and timely information to the SCC to inform planning and operations
- to accommodate requests from the SCC into their restoration activities, and
- to support peer organisations during an emergency to ensure an integrated, statewide response.

AusNet is required to action any written directions from the CAOIC, the Department Head of DEECA, if reasonable.³² For example, during the February outage event, AusNet was instructed to administer the PPOP program and communicate the program to its customers.

3.3 AusNet activates and follows its own emergency management practices during major unplanned outage events

AusNet’s prevention, preparation, response and recovery for emergencies is guided by the processes in its Incident and Crisis Management Plan SPIRACS. Within AusNet, an emergency is defined as an adverse event or series of events that could harm employees, contractors or the public, or could result in service

³² (Electricity Industry Act 2000)

disruption requiring mobilisation and organisation of resources beyond normal business processes and resources.³³

3.3.1 The February outage event was classed as a Level 3 event within AusNet, activating a Crisis Management Team and Incident Management Team

AusNet's SPIRACS protocols are activated at the outset of an emergency. SPIRACS categorises emergencies into three levels, each with a different management structure and approach.³⁴ The February outage event was classed as a Level 3 emergency. This is the highest escalation level, triggered when the response requires substantial and specialist resources with key stakeholder and government involvement.

In Level 3 emergencies, a Crisis Management Team, headed by a Crisis Manager, leads the event and manages the strategic response. The Incident Management Team (IMT), headed by an Incident Commander, leads the operational response at the focus of this PIR and reports to the Crisis Management Team. These teams operate from what is known as the Emergency Operations Centre, a secure facility equipped with adjacent breakout rooms, 'go boxes' with lanyards, bibs and role placards, dedicated workstations, wall charts, monitors and key technology systems. AusNet maintains rosters for key roles within the IMT, including the:

- **Crisis Manager**, who is responsible for developing objectives and plans for the Crisis Management Team, supervising the IMT and ensuring the response is carried out in a safe and legally sound manner. This role interacts with key stakeholders, such as government officials, the Board and company management. They may delegate authority to team members but retain accountability for the response.
- **Incident Commander**, who is accountable for the incident response, including the activities undertaken by the IMT, and has the authority to commit resources to the response. They are responsible for determining the SPIRACS escalation level, managing the operational response, controlling AusNet's Emergency Operations Centre, ensuring safety and delivering on any direction provided by the Crisis Manager.
- **Emergency Management Liaison Officer**, who maintains a robust 'real-time' line of communication between the SCC and AusNet's Emergency Operations Centre during a Level 3 emergency, with the authority to speak on behalf of AusNet on the current situation, the availability and location of resources and response progress.

Other rostered roles within the IMT are the leads of specialist teams involved in emergency management. This structure, along with the specialist team leads in the IMT, is depicted in Figure 11. The role each plays in the response is summarised below.

Field operations

The field operations team consists of the Customer Energy Operations Team (CEOT), the field delivery team and other specialist teams, as required.

The field operations lead provides an interface between the field operations team and the IMT. They are responsible for assessing the operational implications of the incident, conducting an initial assessment supported by others within field operations, determining the need for additional field delivery resources, reviewing scheduled planned works to determine what may need to be cancelled, and coordinating with planners and the field delivery team to identify sensitive customer prioritisation. They ensure a safe field operations response that protects people, the environment and property.

Customer Energy Operations Team (CEOT)

³³ Internal AusNet document

³⁴ Internal AusNet document

The CEOT operates from the control room and covers a range of roles and responsibilities that together direct and enable the work required to deliver repairs, restoration and reconnection to its customers, including via temporary generation. The CEOT includes the following functions:

- **Controllers** – they address network alarms, provide safe access to electricity assets by isolating power to defined sections of the network, issue access permits to enable field delivery to commence work, and reenergise relevant network sections once works are completed and permits closed.
- **Dispatchers** – they prepare work orders with all the requisite information for a field crew to attend a fault, such as the fault type, location, asset specifications, required equipment and tasks to maximise safety and ensure all jobs are resolved with complete information.

Field delivery

The field delivery team is responsible for carrying out repairs and restoration work, including establishing temporary generation, to reconnect AusNet's customers. AusNet outsources its field delivery team to a third-party integrated services provider. The primary delivery partner receives instruction from AusNet's planning team on the work to prioritise. However, the primary delivery partner has its own planning team that is responsible for prioritisation of AusNet's repair and restoration work during business as usual. During the February outage event, this responsibility was escalated to a planning team within AusNet, and the service provider's planning team assisted with more granular prioritisation of work within a single day, as needed.

During the February outage event, AusNet leveraged the mutual aid agreement, which is set out in the State Emergency Management Energy Subplan, to obtain short-term assistance from other field delivery operations companies, given the scale of the work required.

Specialist teams

During the February outage event, other specialist teams involved in field operations included vegetation management. Vegetation management are responsible for clearing vegetation from AusNet's assets to enable repair work to be undertaken by the field delivery team. AusNet outsources its vegetation management team to a delivery partner.

Intelligence (reporting)

The intelligence team is the central source of truth for the incident response. It is critical to decision-making and planning. It is responsible for gathering, collating and monitoring information on current and forecast conditions and providing timely, accurate and relevant intelligence to the planning team and Incident Commander.

Planning

The planning team is represented by its lead in the IMT and is responsible for anticipating potential consequences and identifying short-term and long-term response and recovery goals. The planning lead assesses and resolves priority escalations from the IMT and prioritises deployment of temporary generation, where required.

Customer and communications

The customer and communications team provides timely, tailored and relevant information to affected customers, communities and other stakeholders.

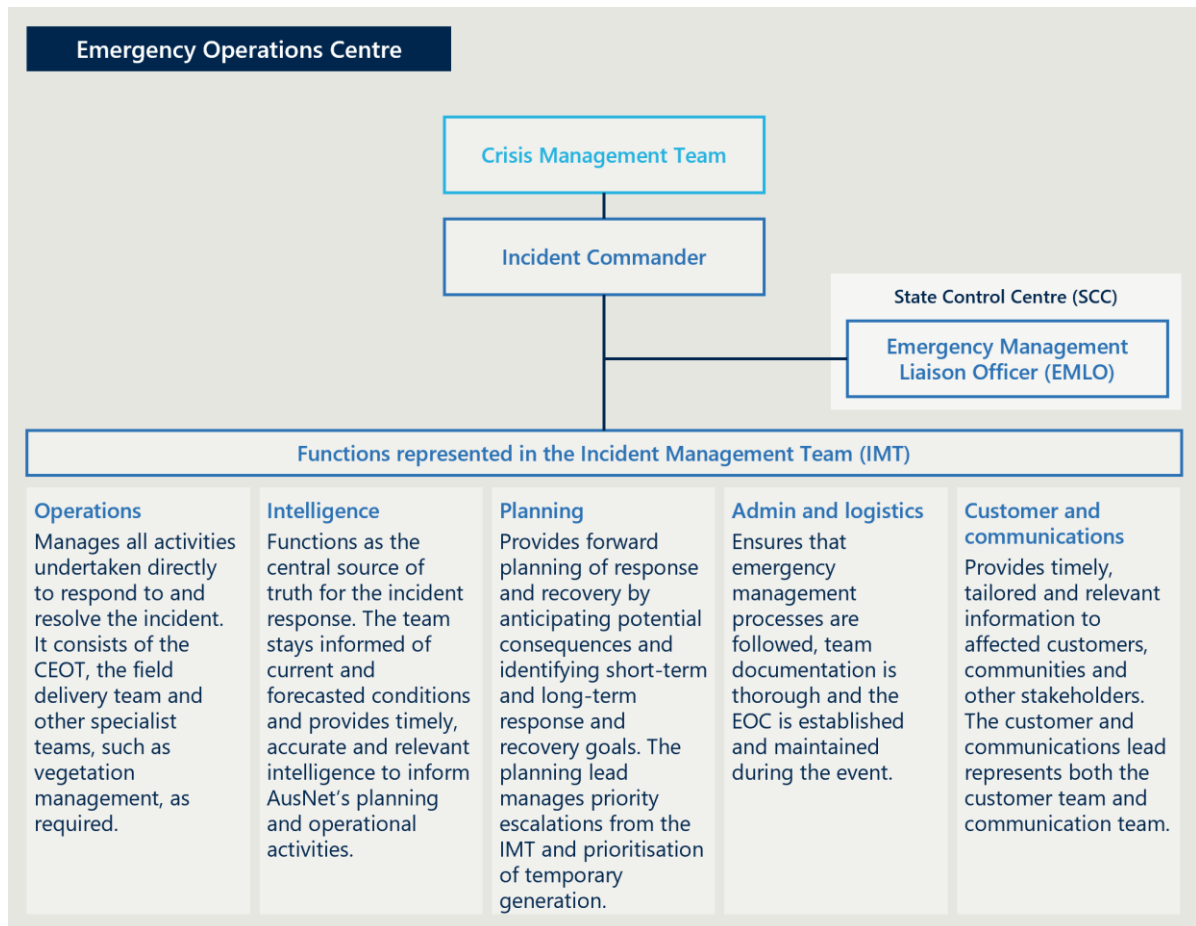
The customer unit's responsibilities include managing emergency call volumes, identifying and informing the planning team of customers who may need to have their restoration prioritised, providing life support customer data to DEECA once reporting triggers are reached and managing government relief payments, such as PPOP.

The communications unit is responsible for identifying the information needs of affected communities and acting accordingly. This means developing, reviewing and releasing timely communications with

customers, communities and stakeholders across both broad communication channels to a wide audience and direct communication channels received by customers individually.

Figure 11 summarises the functions represented in the IMT within AusNet’s broader emergency management structure.

Figure 11 | AusNet’s emergency management structure and summary of functions represented in the IMT



4 Assessment framework

AusNet's stated objectives for the PIR are to determine what actions it can take or what it can do differently to improve the outcome for its customers during future unplanned outage events. The assessment framework used to undertake the PIR has therefore been designed with customer outcomes as the measure of success.

This approach provides confidence that the findings and recommendations are framed in a way that seeks to enable AusNet to better service its customers during major unplanned outage events.

4.1 The assessment framework considers what matters most to customers during an outage

The assessment framework was developed with central focus on how customers experienced the February outage event. The framework considered customer feedback from the event, investigation of previous outage events, initial conversations with AusNet staff involved in the emergency response, and the terms of reference for the Network Outage Review (Appendix C). The assessment framework was shared with the Expert Panel, DEECA, the Essential Services Committee and AusNet's Customer Consultative Committee.

The PIR is guided by the broad guiding question:

Guiding question for this PIR:

What steps could AusNet take to improve its emergency response, through the preparedness, response and recovery phases of an unplanned outage event and specifically how will these actions improve outcomes for customers?

There are three pillars of customer experience during an unplanned outage event.

A review of customer experiences during recent outage events found that there are three areas that are important to customers experiencing outages. The three areas are:

- **Service and operations** – Customers expect a distribution business to take all necessary steps to identify the cause of a fault and undertake work that restores power to their home, business, or community quickly.
- **Communication and information** – Customers expect access to timely and accurate information about the outage they are experiencing, including estimated restoration times. Communication from or information made available by a distribution business should enable customers to make informed decisions about how to prepare for and respond to the event.
- **Community engagement and support** – Customers want to be able access services that mitigate their negative experience of an outage event. This includes a wide range of immediate or retrospective support beyond the restoration of power.

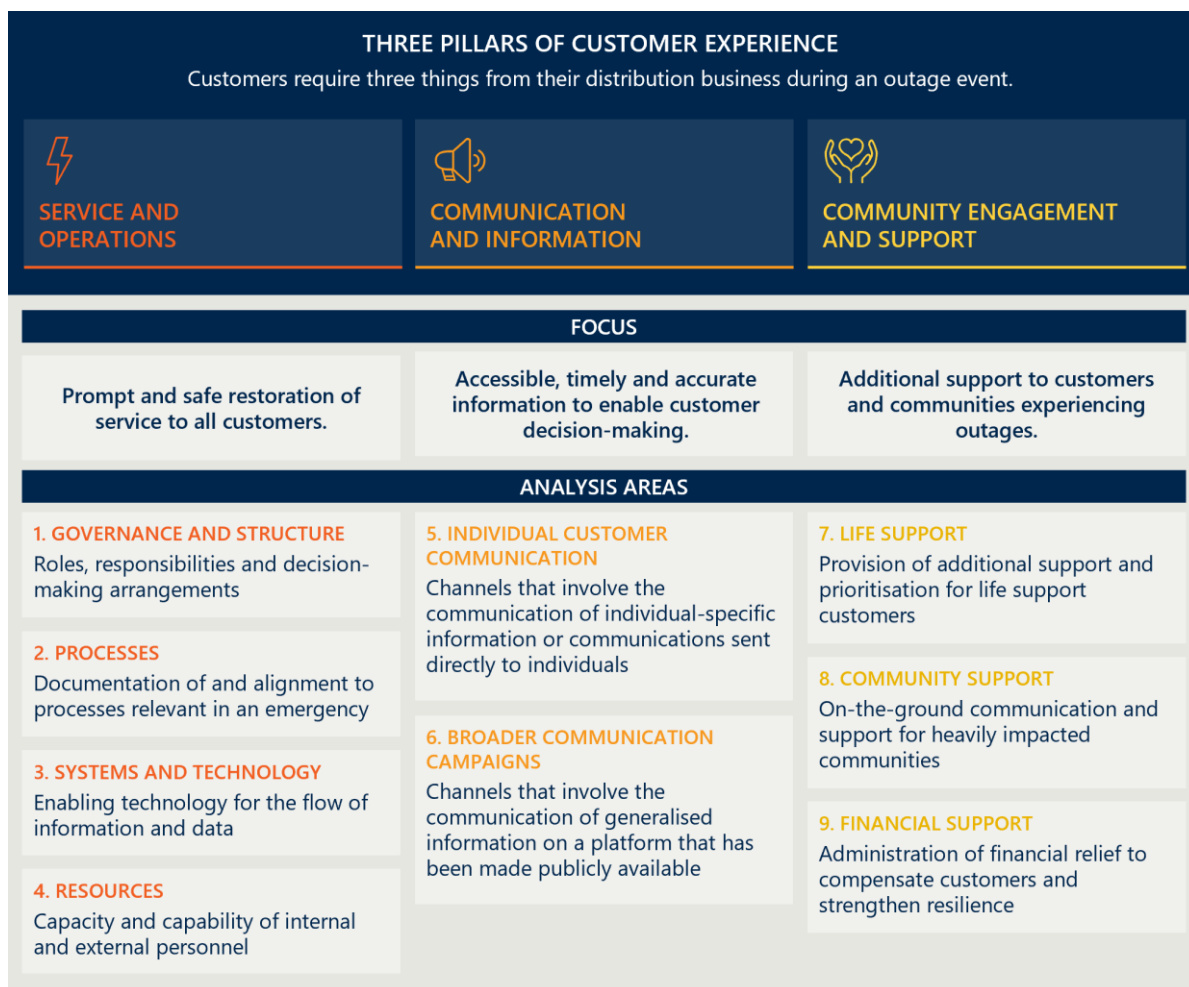
The key themes from customer feedback were used to inform and shape the assessment framework and analysis for this review. A summary of key themes is presented in Figure 12.

Figure 12 | Primary themes identified in customer complaints and enquiries



Figure 13 outlines the assessment framework that underpins this PIR, the focus of each pillar of customer experience and the areas of analysis undertaken under each pillar.

Figure 13 | Post Incident Review Assessment Framework



Detailed segments of the analysis framework including key lines of enquiry, are included at the start of each of the findings sections (Section 5, Section 6 and Section 7).

The subsequent sections of the report detail the findings of the PIR, grouping them under each analysis area. Recommendations are then detailed in response to the findings within each analysis area, and are subsequently broken up into individual actions intended to improve AusNet’s performance in responding to major unplanned outage events. Table 2 outlines the criteria used to determine the indicative complexity of actions.

Table 2 | Relative assessment of actions based on implementation complexity

Relative assessment of implementation complexity		
<p>Actions are deemed more complex based on the following factors:</p> <ul style="list-style-type: none"> • The requirement for engagement with external stakeholders, including DEECA, the Essential Services Commission and energy retailers. • The need for considerable technology or system-related changes and implementation. • The time required for the development and delivery of training. 		
<p>Low Complexity</p> <p>Actions that do not include any of the factors listed above.</p> <p>3 months to implement (by 30 September 2024)</p>	<p>Medium Complexity</p> <p>Actions that include one of the factors listed above.</p> <p>3–12 months to implement (by 30 June 2025)</p>	<p>High Complexity</p> <p>Actions that more than one of the factors listed above.</p> <p>12–24 months to implement (by 30 June 2026)</p>

5 Service and operations

5.1 Overview

This section assesses AusNet’s service and operations relating to the prompt and safe restoration of power to all customers, including via temporary generation.

Assessment framework

AusNet’s service and operations is assessed by the performance of its resources, systems and technology, process and governance. Figure 14 outlines the assessment framework, including the key questions this section seeks to answer.

Figure 14 | Service and operations assessment framework

SERVICE AND OPERATIONS

FOCUS: Prompt and safe restoration of service to all customers.

Categories of analysis for this customer experience pillar:

Governance and Structure	Process	Systems and Technology	Resources
<p>Roles, responsibilities and decision-making arrangements</p> <p>Key lines of enquiry</p> <ul style="list-style-type: none"> How well did AusNet staff understand their roles in emergency management? How well did AusNet’s emergency management roles and structures support the response? How well did AusNet’s emergency management structure interact with other stakeholders such as delivery partners and the SCC? 	<p>Documentation of and effectiveness of unplanned outage event processes</p> <p>Key lines of enquiry</p> <ul style="list-style-type: none"> To what extent did AusNet have clear, documented processes that supported restoration activities? To what degree were AusNet’s processes able to scale in line with the demands of the events? To what degree were AusNet’s administrative processes able to support the operations? 	<p>Enabling technology for the flow of information and data</p> <p>Key lines of enquiry</p> <ul style="list-style-type: none"> Did AusNet have an appropriate set of technology solutions in place to respond to the events? Were AusNet’s systems and processes successful in supporting the response? 	<p>Capacity and capability of internal and external personnel</p> <p>Key lines of enquiry</p> <ul style="list-style-type: none"> Did AusNet have adequate people rostered and available to provide coverage for key roles throughout the events? Did AusNet staff in key emergency roles have the requisite skills and experience to fulfil their roles?

There were many successes in AusNet’s service and operations during the February outage event.

The PIR identified many successes within AusNet’s service and operations performance. These include the significant progress made to implement recommendations made in the Network Resilience Review following the 2021 storm events.³⁵ In the February outage event, AusNet achieved the safe restoration of power to 85 per cent of affected customers within 48 hours of the storm and to 94 per cent within 72 hours with no safety incidents in the field.³⁶

There were further examples of strong performance in AusNet’s governance, process, systems and technology and resources. AusNet quickly stood up its Incident Management Team and processes,

³⁵ (AusNet, 2024)

³⁶ (AusNet, 2024)

generally in line with its emergency response manual SPIRACS. AusNet held two emergency briefings with the IMT on 12 February to ensure the team was prepared to act on the declaration of an emergency. Many staff taking key emergency response roles were well trained in their responsibilities and were able to fulfil their designated roles. This was evidenced by feedback that AusNet interacted and communicated well with key stakeholders, including major customers. A pre-existing roster for emergency management roles provided coverage for most roles, and most teams acted proactively to mitigate the risk of fatigue, splitting into shifts and strategically resting some people early. Regardless, most if not all employees exerted an enormous effort to support the response, working additional hours and days, and remaining on-call where required.

AusNet took early action to ensure it had adequate resources available. Delivery leads contacted surge resource providers ahead of the storm and secured their assistance quickly as the extent of damage came to light. Planned work was cancelled or put on hold, as field resources were scaled up from a typical contingent of approximately 60 to 450. A second Field Team Lead was appointed to manage surge resources, streamlining information flow to and from field crews. Appendix B reflects both this adapted governance structure and the supporting technology systems used in AusNet's response.

AusNet customer experience

"I would like to acknowledge and thank all the people who worked extra hard over last few days after the storms. It's been a mammoth effort from what I can see, and you have our gratitude... To restore power within 24-36hrs to these areas must have taken a lot of extra shifts and dedication. It did not go unnoticed, so please express to all staff that their efforts were truly appreciated."

AusNet voice of customer insight summary

5.2 Issues and recommendations

The areas for improvement in AusNet's service and operations are explored across governance and structure; process; systems and technology; and resources.

5.2.1 Prioritisation, control and visibility of fieldwork were inconsistent during the event, which impacted the speed of assessment and restoration

An inconsistent understanding of the authority and rules to reprioritise restoration work under emergency conditions created inefficiencies in decision-making (including how and where to preference generators over restoration).

AusNet's fault restoration priorities are documented in its Fault Response and Restoration Strategy. The strategy describes the priority of restoration that should be followed. Due to the dynamic nature of the network it allows for priorities to be changed by the CEOT Controller or Shift Manger on Duty if other factors must be considered (for example for safety). During unplanned outage events where an SCC is established, restoration planning needs to also consider SCC priorities which are communicated to the CEOT via the EMLO. The Fault Response and Restoration Strategy does not currently document how these requests should be integrated and dealt with by the CEOT during the event.

During unplanned outage events, network damage and fault information is continually updated, which requires flexibility to re-deploy field crews as priorities change. During the February outage event, some decisions on redeployment or reprioritisation were made by field delivery team leads without consulting with the CEOT. While these decentralised decisions were made in good faith and to address what was perceived as high priority at the time, they did not always align with the priorities set by the CEOT and they created uncertainty on decision-making rights for restoration priority setting. This created a risk that the agreed priorities set by the CEOT or the SCC would not be implemented in the field. Staff members

within the CEOT reflected that at times felt like a “toothless tiger” with a lack of authority over the field operations leads and field crew.

During major unplanned outage events, AusNet’s EMLO receives prioritisation instructions from the SCC, which need to be incorporated into AusNet’s fault prioritisation. These instructions are usually intended to ensure the prompt restoration of power to critical infrastructure such as schools and hospitals.

During the February outage event, these requests conflicted with AusNet’s internal prioritisation, leading to competing priorities and an overriding of the Fault Response and Restoration Strategy. During the February outage event, the SCC communicated over 500 priorities to AusNet, which at times outnumbered the faults AusNet could restore in one day. AusNet planners needed to consider the consequences of prioritising the SCC requests on its overall restoration, which typically prioritises restoration work that brings the most customers back online first while maintaining overall network resilience and security. While the SCC requests were important for ensuring critical infrastructure was restored quickly, it is not clear whether prioritising these requests always created the best outcome for customers, and there are no rules in place for how these requests are to be incorporated into AusNet’s restoration strategy to optimise overall restoration times.

A further related issue was unclear prioritisation protocols for temporary generation when requested by the SCC. Temporary generation is commonly used during unplanned outage events to provide supply where there is a priority need, for example to restore power to critical infrastructure like schools. During the February outage event, AusNet deployed several generators, which usually required AusNet to organise the logistics and delivery of the generator unit and coordinate the contractor to do the necessary network connection and disconnection work. Deploying temporary generation requires an inherent and critical trade off – it reallocates resources that could be undertaking permanent restoration work. This has a direct impact on the level of permanent restoration work that can occur while temporary generation is installed.

On several occasions during the February outage event, temporary generation was requested by the SCC for locations that were deemed a priority. These requests were often submitted directly to AusNet’s field staff without going through the CEOT or IMT planner for analysis or prioritisation and comparison with the needs of other restoration work. This meant that requests from the SCC for temporary generation were bypassing any prioritisation process. This impacted the ability of the related work crews to undertake other permanent restoration work. AusNet staff highlighted they were not aware of any policies that guided the trade-offs, considerations, and appropriate use of temporary generation. The impact of these actions was that the deployment of generation did not pass through a robust assessment process. Furthermore, communities or customers that needed temporary generation most may have missed out, such as communities with the longest outage durations.

A lack of clarity on how to prioritise community safety incidents against restoration works led to occurrences where downed power lines remained near homes or roads for extended periods, presenting a real or perceived threat to safety.

Customers reported incidents of wires being left across roads or blocking access into and out of homes for many days.³⁷ Some of these were known to have been reported to AusNet. However, it was not clear when to prioritise power lines creating obstructions over restoration work. This meant that these faults were not elevated to a high enough priority to be addressed until days after being reported. For example, power lines lay over roads in Mirboo North for many days until residents who could not get access into the town decided to drive over them. A resident in the Dandenong Ranges who reported to AusNet that a line was blocking their driveway was trapped in their home for six days.

Downed wires (live or isolated) on public roads are always addressed as a priority when encountered by field crews, who will stay with the wires until they have been made safe. This is captured in the prioritisation framework, which states that CEOT controllers, or Shift Manager on Duty, may alter the priority of restoration, including for “safety considerations”. However, it is not clear how reported safety

³⁷ (AusNet, 2024)

hazards, unsighted by AusNet, are to be incorporated into prioritisation, especially when the related fault only affects a single customer.

Differences in the governance and reporting lines for the primary delivery partner, surge capacity field crews and vegetation management crews reduced visibility and control for the IMT and CEOT, impacting the effectiveness of the in-field response.

AusNet's primary service delivery partner uses a Field Mobility Solution, which receives faults (jobs) directly from an Advanced Distribution Management System (ADMS) and is used to schedule and dispatch jobs to crews. This system is used by crews to record information on attended faults, such as any requirements to complete the job, and updates on completion. Some of this data is sent back to ADMS automatically. This allows a high level of automation, reducing manual effort and human error. It also allows CEOT operators and Field Delivery Managers to see a single view of the current faults, priorities and workforce responding.

While most of the field resourcing was provided by the primary delivery partner, additional surge capacity was required from other service providers. These external providers do not operate the same system and had no integration with AusNet's ADMS. This meant that surge capacity crews from other providers needed to receive jobs and updates or otherwise interact with AusNet via phone or email.

Having two separate methods for dispatching work to field crews necessitated two separate teams, with separate reporting lines through two Field Delivery Leads. As a result, Field Delivery Leads did not have a single, integrated view of the current faults, priorities and workforce. This impacted their ability to make optimal decisions, reduced workforce efficiency and increased outage durations.

The impact of surge crews having to communicate with the CEOT manually (for example, through phone calls) rather than using a device connected to FSM to update and receive jobs automatically had a negative impact on restoration times. The CEOT was often inundated with phone calls and restoration planning work, so relying on a phone call to close out a job, update the status of a job or seek direction for new work was often delayed by many hours. It also affected the efficiency of the CEOT's planning work as they tried to prioritise work based on live updates in the system (ADMS) and slower updates from the surge field crews. In the later stages of the restoration effort, surge crews were accompanied by a primary contractor who had access to a mobile device but this created inefficiencies as there were sometimes too many field crew attending each restoration project.

The response was largely planned, managed and delivered centrally, which resulted in constraints on information flow and decision-making between the CEOT, AusNet field management and delivery teams.

In a Level 3 emergency, AusNet usually has one field operations lead who manages the emergency centrally. However, the scale of the February storm events posed challenges for a primarily centralised management structure with regional response teams in the east, central and north.³⁸ AusNet split the field operations lead into two roles, managing the primary delivery partner's field crews and surge capacity field crews respectively. Even so, the volume of jobs assigned to the field crews was so large that it was not feasible for the two field operations leads to maintain visibility of each other's work and manage queries from the field. This was compounded by other communication limitations, such as surge capacity field crews not having access to technology systems for receiving and updating jobs, the Outage Tracker failure, and the lack of telecommunications in certain areas early and during in the event.

Even without these additional barriers, AusNet reflected that a clearer framework to delegate field operations to teams focused on affected regional areas could have helped to minimise communication bottlenecks and improve visibility. An arrangement like this was implemented in Mirboo North later in the event due to significant localised storm damage. Field crew teams with a dedicated field operations manager focused on restoration in this area. AusNet reflected that a decentralised approach to field operations accelerated restoration in Mirboo North but was not implemented in line with a formal model for regional delegation.

³⁸ (AusNet, 2023)

RECOMMENDATION 1:

Define and train staff on a consistent set of governance arrangements (for example rules, roles, structures, decision-making authority) for prioritising work, directing field crew and increasing regional level delegations.

Action 1.1: Engage with DEECA (Control Agency for the SCC) and customers to agree a policy for prioritisation during a major unplanned outage event.

3–12 months
(by 30 June 2025)

AusNet should work with the Victorian Government and agree how AusNet should incorporate restoration priorities from the SCC into its restoration plan and specify which circumstances and customers justify a departure from documented restoration priorities. AusNet and the Victorian Government should create and agree a decision-making logic that can be easily understood and followed during a major unplanned outage event. The decision-making logic should also include clear guidance for the use of temporary generation.

SPIRACS should state explicitly how SCC priorities are incorporated into AusNet’s plan for restoration and temporary generation deployment and who is the ultimate decision-maker on prioritisation and temporary generation decisions.

The roles, responsibilities and decision-making authority should be clearly documented and should include the SCC, EMLO and all other relevant roles involved in setting and implementing restoration priorities down to the field delivery level.

This action would deliver the following benefit(s) for customers:

- Customers with elevated needs experience prioritisation above other customers, when appropriate.
- Customers experience restoration in an order that shortens outage duration as much as possible, without compromising customers with elevated needs, thanks to a clear framework for incorporating various priorities, including those of the SCC.

This action would deliver the following benefit(s) for AusNet:

- AusNet and DEECA agree on which needs justify prioritisation over restoring the greatest number of customers, even if this leads to longer outages overall.

Action 1.2: Define how to prioritise making safe damaged assets that create public safety hazards.

3–12 months
(by 30 June 2025)

The February storm events caused significant damage to distribution assets, including collapsing poles that caused wires to fall onto roads or onto residents’ homes. Community communications are clear and consistent that members of the public should never touch an electrical wire even if it is believed to be deenergised. AusNet’s current prioritisation framework does not adequately explain how and when crews or resources should be deployed to resolve incidents which in effect will not lead to any power restoration but will ensure community safety. It should be investigated to see if a specialist surge team of suitably qualified AusNet staff could be formed to manage community safety incidents.

This action would deliver the following benefit(s) for customers:

- Customers experience fewer enduring safety concerns during an unplanned outage, as AusNet better prioritises addressing real or perceived risks to community safety.

This action would deliver the following benefit(s) for AusNet:

- AusNet staff responsible for prioritisation receive better support when deciding how to prioritise customer safety concerns thanks to clear rules.

Action 1.3: Expand SPIRACS to include preferred management structure for field teams.

3–12 months
(by 30 June 2025)

The requirement for surge resources and mutual aid can be expected in future. A robust emergency response will require full integration of field resources, regardless of where they are sourced. Common management structures, roles and lines of control require documentation to cover primary contractors, surge contractors and mutual aid for lines, construction and vegetation management work.

SPIRACS should expand to include reporting structures down to the level of the service providers, outlining what their roles and responsibilities are and how they are to interact with the overall response. The structures should maximise the potential for coordination between service providers, as unplanned outage events may involve volatile and evolving situations that require a high level of flexibility in how resources are deployed.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages thanks to AusNet accessing and deploying surge capacity field crews faster.
- Customers experience shorter outages thanks to better information flow between those involved in AusNet’s response, particularly between decision-makers in the CEOT and field delivery teams

Action 1.4: Implement regional delivery structures to increase visibility and control of fieldwork.

3–12 months
(by 30 June 2025)

AusNet should develop a model for regional delivery during a major unplanned outage event that creates segments based on the intensity, concentration and requirements across the geographies that have the most damage. The model should be flexible and should consider traditional regions across central, east and north. All or a subset of these regions could be invoked (depending on storm location) and a regional manager appointed for each. The regional managers would then work with contractors that are allocated to respond to restoration work in that region. An alternative approach could be region specific – for example, setting up regions at the local government area or suburb level depending on the damage. The model should be flexible and should be able to be tailored once the extent of damage is known. Whatever model is selected should have dedicated field managers, within AusNet and within the field contractor organisation with committed field delivery crew, for each regional area.

To maximise the effectiveness of a regional model, decisions that could safely be delegated to a regional level should be considered to allow a more efficient restoration response. This could include:

- contracting and resourcing of linesman and construction crew, including surge resources and mutual-aid
- contracting of vegetation management
- development of scopes of work.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as a regional model improves the speed of information flow and decision-making, enabling faster repairs and restoration.
- Customers experience shorter outages, as the CEOT and regional managers operate with streamlined scope due to a logical split of responsibilities, which leads to faster decisions and information flow to field delivery teams to enable repairs and restoration.

5.2.2 The capacity and design of processes for field assessment, permitting and switching, work package development and handovers were insufficient for the event scale

Limitations on assessment methods such as use of field crews and helicopters, and limitations on their scalability and the capacity to process incoming data, constrained the speed of assessing network damage and planning repairs.

In the early hours of a major unplanned outage event, the focus for a distribution business is on rapidly generating information on the scale and nature of the damage. The systems and technology available will report on the number of faults that have been triggered across the network, but visual assessment is required to identify what has caused the faults and how significant any asset damage is.

The need for damage assessment was intensified by the Rapid Earth Fault Current Limiter (REFCL) settings that were in place due to the total fire ban weather conditions. REFCL technology reduces the chance of bushfires by making line protection settings more sensitive; however, this results in isolations occurring more frequently and, as a result, it may increase restoration time. When REFCL technology is activated, it isolates an entire feeder line, rather than an isolated section around the fault.

Prepare for possible unplanned outages ahead of total fire ban

“Before we can restore electricity, we need to physically patrol the line to locate, identify and if required clear the cause of the fault, which is a time-consuming process.”

*AusNet Executive General Manager
12 February 2024*

The February storm events and REFCL technology activation created the need for AusNet to coordinate patrols on thousands of kilometres of affected lines. Two AusNet helicopters were deployed and were complemented by field crews. Helicopters are the most efficient way to patrol large areas when weather allows. AusNet only had access to two helicopters during the event. Reflections from operations staff within the IMT response suggest that if more helicopters had been available it would have improved the speed of assessment. AusNet staff also noted that drones could feasibly replace the use of helicopters, but current Victorian regulations prevent flights beyond the pilot’s line of sight for this purpose.

The use of field crews to support aerial assessment is complex and time consuming but necessary to prove that lines are safe to reenergise. Line patrolling by field crews has an opportunity cost because it diverts resources away from restoration work. The patrol work could be undertaken by less specialist staff (for example former line workers or other staff with appropriate training), to ensure that assessment work does not reduce the capacity of restoration crew.

Assessment of damage in the field needs to be reviewed and processed centrally within the CEOT to inform the planning and prioritisation of restoration work. The volume and complexity of this incoming information, especially during the early stages of the event, was significant and was difficult to process at pace for several reasons. Firstly, the information from AusNet’s primary contractor was provided through the Advanced Distribution Management System (ADMS), but information from surge contractors was provided via phone. Secondly, AusNet corporate staff were deployed to assist in assessment activities in the field, but there was not a formal process to integrate this information into the CEOT’s planning and prioritisation work. Finally, the resources in the CEOT are specialised and have limited capacity to process several channels of complex information.

Arranging permits and isolation requires field crew to call the CEOT, which resulted in long wait times and delays to restoration work because of the CEOT’s capacity constraints.

Fault restoration work results in multiple touchpoints with the CEOT. CEOT personnel identify and dispatch the initial job to delivery crews; isolate the relevant section of the network; arrange a vegetation crew if required; issue the work permit; reenergise the section; and close out the permit. This requires ongoing communications between the CEOT and the dispatched field crew. Some of these interactions are completed through the ADMS and the primary delivery partner’s Field Service Management system (FSM) and some (permitting and network switching) require phone calls between the field crew and the CEOT.

The CEOT also receives calls from non-operational stakeholders, such as from within AusNet, Energy Safe Victoria or emergency services, who report faults or safety issues such as downed but isolated wires. Internal and external stakeholders also seek information, such as Estimated Time to Restore (ETR) or the current number of outages. These calls are all facilitated by the CEOT, without a formal triage or Interactive Voice Response (IVR) system to segment and set priorities. This means that field crews may experience wait times for instruction or information due to the CEOT being engaged with lower priority matters.

During the February outage event, there were an unprecedented number of faults being reported to the CEOT. There were about seven times the typical number of people working in the field. This caused a significant increase in the number of phone calls coming into the CEOT. While surge staff were added to

help with the workload, there is a limited number of people with the training and experience to be able to facilitate this function.

As a result, at times the CEOT could not keep up with incoming call volume, leaving some callers on hold for a long time. Some field crews reported being unable to contact the CEOT to arrange switching, which is necessary after completing a job, sometimes for hours. This delayed the restoration of power to customers whose fault had been repaired and impeded the relevant crews from being able to move to their next job.

Handover processes were either not in place or not robustly followed for certain roles, which resulted in lost time spent getting up to date.

During the event staff worked long hours and rosters were in place to provide the coverage required to facilitate restoration work. There were many roles that required a formal handover, either in person or through a handover document. For example, field crews need to know the completed jobs and outstanding work. The CEOT and other emergency roles, like EMLOs or IMT leads, needed information on the issues, priorities and progress of the previous shift.

In consultations for the PIR, staff who facilitated these roles raised issues on the handover process during shift changes. The most critical issues were planners in the IMT being unable to establish what had been completed overnight because of insufficient handovers from the CEOT following night shifts. The planners in the IMT need the most up-to-date information on the damage to the network, current priorities, state of resource availability and any major risks that must be mitigated. Many staff coming in to start their shifts noted that handover documentation had not been completed in full or at all. As a result they needed a significant amount of downtime to research and consult with a range of stakeholders before they could start their shift productively.

RECOMMENDATION 2:

Improve critical processes that underpin assessment and restoration work to increase scale, information availability and efficiencies during major unplanned outage events.

Action 2.1: Broaden methods for damage assessment to gain a faster view of the damage.

3–12 months
(by 30 June 2025)

AusNet should develop a broader suite of assessment methods to gain information on the impact of the storm (for example assets damaged, road access, community impacts) that can be deployed following any major network damage. This includes improving internal roles and processes to receive and process incoming assessment data to make it useful for decision-making by the CEOT and IMT.

The enhancements could include:

- increasing the capacity of on-the-ground assessment resources (for example, deploying ex-technical staff into the field to undertake assessments)
- increasing the access to helicopters, owned or contracted, to expand the ability to quickly patrol long lines in difficult to access areas
- using vegetation crews to conduct assessments
- using short-range drones deployed with crews for inaccessible damage
- using long-range drones for widespread damage assessment (noting that current Civil Aviation Safety Authority rules limit opportunities for long-range drone use).

Use of helicopters should be expanded as a priority, as they allow the greatest opportunity to survey large, hard-to-access areas that are prone to storm damage.

This action would deliver the following benefit(s) for customers:

- Customers receive more accurate ETRs or ETAs sooner, as algorithm-generated ETRs and ETAs are more quickly replaced by estimates from the field delivery team, thus improving the quality of information for their decision-making.
- Customers experience shorter outages due to AusNet gaining faster and more accurate intelligence to guide early intervention, including temporary generation, in areas with major damage.
- Customers experience shorter outages due to less reprioritisation, which slows repairs, thanks to a faster and more accurate assessment of the required work.

Action 2.2: Implement process and technology changes to reduce call traffic and allow greater time for restoration effort.

3–12 months
(by 30 June 2025)

Incoming calls should be categorised and prioritised, with only those requiring immediate attention to be routed to the CEOT. Other calls should be received by non-CEOT staff, to allow the CEOT to focus on activities critical to restoration. There are opportunities to use technologies such as Interactive Voice Response (IVR) to re-route requests that can be handled outside the CEOT during major unplanned outage events.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as low priority calls to the CEOT are routed to other teams where possible, reducing the wait times of field delivery teams seeking assistance.
- Customers experience shorter outages, as the CEOT can spend less time on low priority calls and more time directing field crews, allowing for more field crews to operate and speeding up repair work.

Action 2.3: Update handover processes for shift changes across critical roles and train staff on procedures.

**3–12 months
(by 30 June 2025)**

AusNet should define a clear process for handovers between shifts for critical roles within the CEOT and IMT and should include this process in training and drills. Where useful, handover templates may be used to help ensure that CEOT and IMT staff have the information they need to begin their shift with momentum and minimise time spent getting up to speed. AusNet should review handover procedures and training for other roles, such as the EMLO in the SCC. Finally, AusNet should amend handover procedures for other roles, where useful, and ensure these staff are trained in the processes.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages due to the CEOT and IMT having greater productive time in each shift to facilitate restoration work carried out by field delivery teams.

5.2.3 Technology platforms used for monitoring, planning and restoring outages did not have the optimal level of capacity, functionality and integration, affecting the ability to respond efficiently

Due to design, configuration and testing limitations, the ADMS slowed down under high demand and the Estimate Time to Restore (ETR) and Estimated Time to Assess (ETA) algorithm was underspecified and unable to automatically communicate priorities to field crews during high volumes.

AusNet relies on specialist software to provide an ADMS and optimise the performance and reliability of its distribution network. The ADMS product used by AusNet is recognised as leading practice and is widely used by both Australian and international distribution businesses.³⁹

During the February storm events, the unprecedented scale of damage to the AusNet network and volume of faults created challenges in the ADMS software. The overall effect was a slow-down in the useability of key functions. CEOT staff experienced wait times and a lack of responsiveness when using the software. At times they needed to reset their computers to restore functionality. The ADMS is central to AusNet's network management, and its importance is heightened during a storm event, where the number of events being managed and the number of live users is greater.

When functionality limitations were identified, the ADMS vendor was contacted and a technical support team was rapidly established to identify, diagnose and resolve the faults. Post-incident technical analysis by the vendor found that there were two primary causes for the slow-down in functionality of ADMS. Firstly, there was a product fault that impacted system speed but had not been observed by AusNet until an event of this scale occurred. This product fault was known to the vendor and had been resolved in a more recent version of the software, but AusNet, while still on a supported version, was a few versions behind. Secondly, AusNet's implementation of almost 200 custom scripts may have contributed to the slowdown of ADMS under significant demand, as business process had changed and some outdated scripts were still in operation.

The data and information available to the CEOT is limited and difficult to access (for example asset location, asset detail, asset photos, dependencies, AMI-level data) which results in sub-optimal planning and sequencing of repairs.

Before dispatching work to delivery crews, CEOT staff consolidate and assess a range of information related to the fault. This includes the nature of the fault, its priority, the number of impacted customers, the geographic location, the location within the network, the assets affected, the specifications of required construction (for example cable tensions), photos of the damage, access considerations, and plant and equipment requirements (for example elevated work platforms).

³⁹ (Guidehouse Insights, 2023)

Some of this information is gathered automatically through the ADMS, but many others, such as the geographic location and the equipment specifications, need to be retrieved from separate systems that can only be accessed via different computers to ADMS. This requires the CEOT operator to switch between different computers to retrieve all the information required. In some cases the CEOT is unable to access information in another system at all.

This presents two issues during an unplanned outage event with high volumes of faults. Firstly, it takes more time for CEOT operators to dispatch faults; secondly, it makes it hard for operators to get an integrated view of the overall network status.

Early in the event AusNet mobilised surge capacity field crews quickly, but these crews waited several hours before the CEOT gave them directions on where to start their assessment and restoration work. Giving the CEOT the necessary tools and information to plan and dispatch work under a high volume of faults is critical during a major unplanned outage event. Optimising the first 24 to 72 hours may not significantly influence the overall length of the unplanned outage event, but it allows assessment work to be dispatched and undertaken quickly so that more accurate and timely information can be provided to customers.

The limited overall network and job information available to the CEOT also limits their ability to optimise the overall restoration response. Without a consolidated view of faults, asset information, job status and resource allocation, it is difficult to direct field crew in the most efficient and effective way. For example, if there is limited visibility of crew locations, it is hard to plan the fastest dispatch option for fault locations that are nearby.

The technology systems used by field crews were inconsistent in capability and did not provide full visibility of job status, location and priority. Some communication was impacted by telecommunication tower outages and there was no back-up solution.

AusNet relies on the information in the ADMS to manage faults on its network. The ADMS is integrated with several other systems including FSM, the primary delivery partner's field management system; Advanced Metering Infrastructure (AMI) data, which integrates information from smart meters; and Outage Tracker, an online page for checking the status of electrical outages.

The primary delivery partner's field crew use mobile devices to receive information from AusNet on faults and restoration work and to provide updates back to AusNet on job status. The mobile devices use FSM which is integrated with AusNet's ADMS system. When restoration work is ready to be issued, AusNet can push jobs from the ADMS to FSM, where the primary delivery partner can access and manage the fault response.

This arrangement posed several challenges under emergency conditions. Firstly, FSM does not provide all information fields to the ADMS, so the CEOT cannot see the same range of information as the primary delivery partner. This limits their visibility of restoration activities and inhibits optimal planning. Secondly, surge capacity field crews do not have access to FSM or the ADMS so the CEOT cannot observe or plan restoration work in an integrated way. Finally, mobile devices rely on telecommunications to receive and update their jobs. In areas with telecommunication outages, early in the February outage event, field crews were forced to drive until they received signal to then update FSM or call the CEOT to provide an update before driving back to finalise the job.

These technical limitations led to a lack of visibility between the primary delivery partner and surge capacity field crews, which hindered a well-coordinated response. Field crews lost productive time while trying to circumvent telecommunication outages to contact the CEOT. Whether due to telecommunications outages or the manual updating process, some surge capacity field crews did not report their job status at the end of the day. This left the CEOT and field operations leads with incomplete information when they came to prioritise and plan the next day.

Manual processes were implemented during the event to prioritise restoration work, which resulted in job re-visits due to errors in reconciling information that was out of date.

The standard prioritisation for the sequence of fault restoration is automatically allocated by the ADMS. Each fault is allocated a priority between P1 (highest priority) to P5, based on the "Trouble Type", the cause of the fault and the potential risk that it may present. For example, a broken cross-arm is Priority 1, while a street wire hanging low is Priority 3. Each priority relates to a key performance indicator target for response time, from 60 minutes for P1 to 72 hours for P5.⁴⁰

During major unplanned outage events, the mechanism for determining job priorities changes to allow for manual intervention. In a widespread outage the system becomes overloaded with P1 and P2 tasks, which cannot all be addressed in a day. This means that prioritisation within the list of P1 and P2 tasks is required. The CEOT reviews all the P1 and P2 faults to determine further prioritisation based on network integrity and the number of customers that can be restored by addressing the fault.

The solution deployed during the February outage event was to develop a spreadsheet presented by AusNet each morning that contained the 20 to 30 priority jobs for that day. This solution was developed during the event rather than prepared prior and was iterated throughout the response. The spreadsheet required manual updates from the field and was susceptible to error. The CEOT needed to develop the day's priority list based on the latest information, but the information they received was often out of date due to field crews failing to update their job statuses for reasons previously described. This led to several jobs being re-visited although the fault had already been rectified.

The primary delivery partner encountered issues with how nested incidents were displayed in FSM (via the ADMS), including duplicates, updates not progressing and faults being displayed that had already been attended.

During major unplanned outage events, it is common for one instance of network damage to cause several separate faults in the ADMS. When this occurs, the ADMS has a feature that 'nests' the faults together so they can be treated as a single fault to avoid dispatching multiple crews to a single repair job.

Through the February outage event the primary delivery partner reported issues with the job nesting feature. Updates from the field updated one but not all of the incidents inside a nested incident. This issue caused downtime for field crews, as they were instructed to attend jobs that had already been completed. This suggests an integration issue between FSM and the ADMS that affects how nested faults are being displayed to the primary delivery partner field crews and the functionality of updating a job's status.

⁴⁰ (AusNet, 2020)

RECOMMENDATION 3:

Upgrade the capacity of existing technology to meet demand of major unplanned outage events and implement new functionality to increase the visibility of restoration work.

Action 3.1: Improve the functionality and capacity of the ADMS during storm events.

12–36 months
(by 30 June 2027)

Note: Action 3.1 includes upgrades and enhancements to the ADMS system. Implementing all components could come at significant cost, which would require approval through the Electricity Distribution Price Review process. If so, they would not be implemented before 1 July 2026.

As the software platform used for network operations and restoration, the ADMS needs the capability to support an unplanned outage event of any type and size. To improve AusNet’s response in future events there are six upgrades to the ADMS that would provide greater functionality, especially when responding to widespread outages. The following upgrades should be considered for implementation following cost-benefit analysis, as appropriate:

- Ensure that systems used by field delivery teams provide clear visibility of jobs so field crews can accurately interpret instructions and priorities, automate communication of CEOT priorities and resolve nesting issues.
- Update the ETA algorithm to support the worst possible scenario for faults and outages.
- Further integrate AMI data to provide accurate and timely information on customer supply status.
- Integrate solutions to capture full job information, including the location of field crews, to gain visibility of field operations during unplanned outage events.
- Upgrade and test the capacity to a sufficient level to perform optimally in major unplanned outage events.
- Implement a technology or process solution to allow surge and mutual-aid field crew to receive job details from, and provide job updates into, the ADMS using the primary delivery partner’s field management system or an alternative system.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as there are fewer instances of miscommunication between the CEOT and field delivery teams slowing repair work due to integration issues in enabling technology systems.
- Customers receive more reliable ETRs and ETAs thanks to a robust algorithm that generates reliable, automated estimates regardless of the scale of the unplanned outage event.
- Customers experience shorter outages, as the CEOT can use real-time crew location information to optimise prioritisation and planning and increase flexibility when new information is received.
- Customers experience shorter outages, as the CEOT has more accurate data on outages, which improves its precision when prioritising faults that are responsible for the greatest number of outages.

Action 3.2: Upgrade system access and functionality for critical staff to improve visibility of damage, assets and resources.

12–24 months
(by 30 June 2026)

A single, integrated dashboard which combines fault information from the ADMS, asset details, reports, photos and the network map on a single system, presented geographically, should be used to inform decision-making by the response team. This would help the CEOT, field operations leads and the Planning Lead to plan and dispatch jobs.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as it takes less time for the CEOT to prepare and dispatch work orders.
- Customers experience shorter outages, as the CEOT makes use of all available information to improve prioritisation and planning.

Action 3.3: Expand methods for processing reports on damaged assets.

3–12 months
(by 30 June 2025)

Members of the public and emergency responders such as Victoria State Emergency Services are valuable sources of intelligence. They are sometimes the first to encounter network damage, which they may report to AusNet. AusNet should explore opportunities to process this information into valuable insights for the CEOT and planners to inform their decision-making.

Some externally reported information, such as photos or descriptions of damaged assets, may not be useful, and any valuable information may be difficult to identify among high volumes of reports, especially during major unplanned outage events. This requires a method to process externally provided data and synthesise what is valuable to the CEOT and planners. The call centre or data team may be suitable as a central team for data processing. To ensure data processing is cost-effective, the chosen method should leverage automation as much as possible.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter safety concerns during an unplanned outage, as real or perceived risks to community safety can be identified and addressed more quickly.
- Customers experience shorter outages, especially in the event tail, as major network damage requiring the most time to rectify may be identified and acted on earlier.

Action 3.4: Ensure field crews have means to communicate even during telecommunication outages.

3–12 months
(by 30 June 2025)

AusNet should prepare depots and crews for possible losses to power and telecommunications during emergency responses. The following steps should be taken:

- Equip all crews (or all trucks) with a satellite phone for emergency use.
- Provide all trucks with connection to Starlink satellite internet connections.
- Install Wi-Fi hotspot capabilities on trucks to allow mobile devices to have access during telecom outages.
- Install back-up generation at all depots.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages when unplanned outage events also cause telecommunications outages, as field crews can continue restoration works with minimal disruption.

5.2.4 The number of available staff experienced and trained in emergency response was limited, which caused excessive work hours and inefficiencies when relief staff took over

There was significant variation in the level of experience, training and knowledge for lead roles during the event.

When establishing its emergency response and formalising the IMT, decisions were required to match the seniority, experience and training of available staff with the requirements of leadership roles. During the event, the IMT leadership roles were primarily filled with staff that had the necessary capability and, in most instances, had participated in previous major unplanned outage events and were well placed to conduct their roles competently.

The challenge for AusNet was that these roles worked long shifts and needed to be complemented with relief staff and surge capacity resources.

Stakeholders noted that when relief resources were brought in to facilitate leadership roles, such as the EMLO in the SCC, these personnel had less experience and training to make decisions quickly and with authority. This meant that decisions were sometimes delayed until the primary EMLO in the SCC was available. This EMLO role was instrumental in maintaining a productive working relationship with AusNet's external stakeholders. The EMLO role was identified as a key risk during the event, as it created a single point of failure for the leadership team without a relief resource with the same level of capability.

For limited specialist resources, such as controllers and dispatchers in the CEOT and planners in the IMT, ramping up the workforce required rostering surge capacity resources with less recent experience at a time when pressure was at its highest. While resources filling emergency management roles had the required technical experience, such as in network engineering, they sometimes lacked up-to-date training on the current suite of software. As the software was necessary to allow them to perform their roles effectively and efficiently during the event, getting up to speed on the current systems slowed the productivity of some central functions.

The issue of limited personnel with the right experience and skills was not unique to the IMT. Some AusNet staff reflected that the planning and scheduling team within the primary delivery partner faced constraints to process the volume of work being issued. This team is on the critical path for restoration work: while AusNet can issue work orders to field crew who are ready and mobilised, restoration work will be delayed if there is not the right level of capacity and capability in the primary delivery partner's planning and scheduling team

Capacity in the field delivery teams was not a significant issue thanks to AusNet's early engagement of surge capacity and use of the mutual aid agreement under the State Emergency Management Energy Subplan. While there were more jobs than field delivery teams, engaging further surge capacity would not have significantly increased productivity without a corresponding increase in the capacity of central planning and management functions to direct the additional crews. In fact, AusNet declined further field crew resources from third parties for this reason.

However, it is worth noting that a future storm event with a significant impact on more than one distribution business would increase competition for surge capacity field crews. Turning to interstate field delivery resources under a mutual aid agreement would be a useful solution, but this is not presently feasible due to licensing restrictions and the lack of an established process.

RECOMMENDATION 4:

Develop and implement a training regime to increase the number of staff that can competently facilitate critical roles during a major unplanned outage event.

Action 4.1: Better utilise non-emergency AusNet staff by deploying them to support roles.

3–12 months
(by 30 June 2025)

During a major unplanned outage event, the demand on highly skilled roles is significant. Any opportunity to remove responsibilities that are administrative or require a lower level of experience or knowledge will free up capacity to focus on restoration focussed work. Removing lower-level tasks from highly skilled personnel reduces the need to find surge resources that have decades of experience and may not be available within AusNet or the labour market more broadly.

AusNet should update its emergency staffing strategy, identify the highly skilled roles that cannot be easily replaced or complemented with surge resources, and identify broader roles in the business that can work alongside them during an emergency and remove the burden of non-critical activities.

The staffing strategy should also train and prepare AusNet staff for broader stand-alone roles that can accelerate the restoration process. For example, this could include resourcing experienced distribution engineers to support assessing damage and developing scopes of work, and training regionally based staff with an understanding of local communities, businesses and assets to undertake formal regional engagement roles.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as staff trained for emergency roles are allocated to high-value tasks that facilitate restoration and tasks that require less experience or training are fulfilled by other staff.
- Customers experience shorter outages thanks to greater capacity and capability of staff involved in the emergency response.

Action 4.2: Review current training program for all emergency response roles and update when relevant software programs change.

0–3 months
(by 30 September 2024)

Training programs should be designed for relief and surge staff so they are quickly productive in their roles when an event occurs. This means regular monitoring and updating the currency of skills required to facilitate emergency management roles (for example, making sure staff are trained on the latest version of software programs), as emergencies will not allow time to train or refresh skills.

Regular training and evaluation should focus on having enough people with a current proficiency in all roles key to support the emergency response. This may include rotating back-up staff through their respective roles to ensure they have the adequate experience to quickly join the restoration effort during a major unplanned outage event.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as there are more adequately trained staff to fulfil roles that facilitate restoration, such as those in the IMT or the SCC EMLO.
- Customers experience shorter outages, as there is greater capability among relief staff who temporarily take over from more experienced staff critical roles that directly facilitate restoration.

Action 4.3: Work with primary service delivery partner to agree a surge model for their planners.

0–3 months
(by 30 September 2024)

The primary delivery partner's planning and scheduling functions are also critical to the effectiveness of the response. In emergencies affecting AusNet's network, service delivery partners are likely to be facing demand for resources from other impacted distribution.

AusNet and their primary delivery partner should co-design an agreed surge model for all critical primary delivery partner roles responsible for planning and scheduling. This could include augmentation of key roles supplemented with experienced AusNet staff to bring the experience and corporate knowledge into the delivery team.

This action would deliver the following benefit(s) for customers:

- Customers experience shorter outages, as the delivery partner can onboard and direct surge capacity field crews more efficiently and effectively.

SYSTEM ACTION

Action 4.4: Seek pathway to a mutual aid agreement with interstate distribution businesses.

12–24 months
(by 30 June 2026)

This action cannot be delivered by AusNet in isolation, as it requires system-wide collaboration.

In a future larger unplanned outage event, in which the distribution infrastructure of most or all Victorian distribution businesses is significantly damaged, there may be a shortage of field delivery resources to carry out restoration work in a reasonable timeframe. If field delivery resources across Victoria were fully utilised some customers would likely face substantial prolonged outages. One viable solution would be to replicate aspects of the model utilised in fire emergencies and seek to share resources across jurisdictional boundaries. In this case that would be by forming mutual aid agreements with distribution businesses in other Australian states.

AusNet should engage Victorian distribution businesses, interstate distribution businesses, DEECA and other stakeholders as necessary to start a process to put in place interstate mutual aid arrangements. This would require regulatory barriers to be resolved by, for example, waiving licensing requirements specific to Victoria under exceptional circumstances, including a major unplanned outage event.

This action would deliver the following benefit(s) for customers:

- Customers experience faster restoration times thanks to surge capacity from interstate field delivery resources when resources within Victoria are insufficient to address widespread outages in a timely manner.

6 Communications and Information

6.1 Overview

This section assesses the timeliness, reliability and accessibility of AusNet’s external communications to its customers and stakeholders. It identifies areas for improvement in providing information that enables customers to plan and make decisions during unplanned outage events.

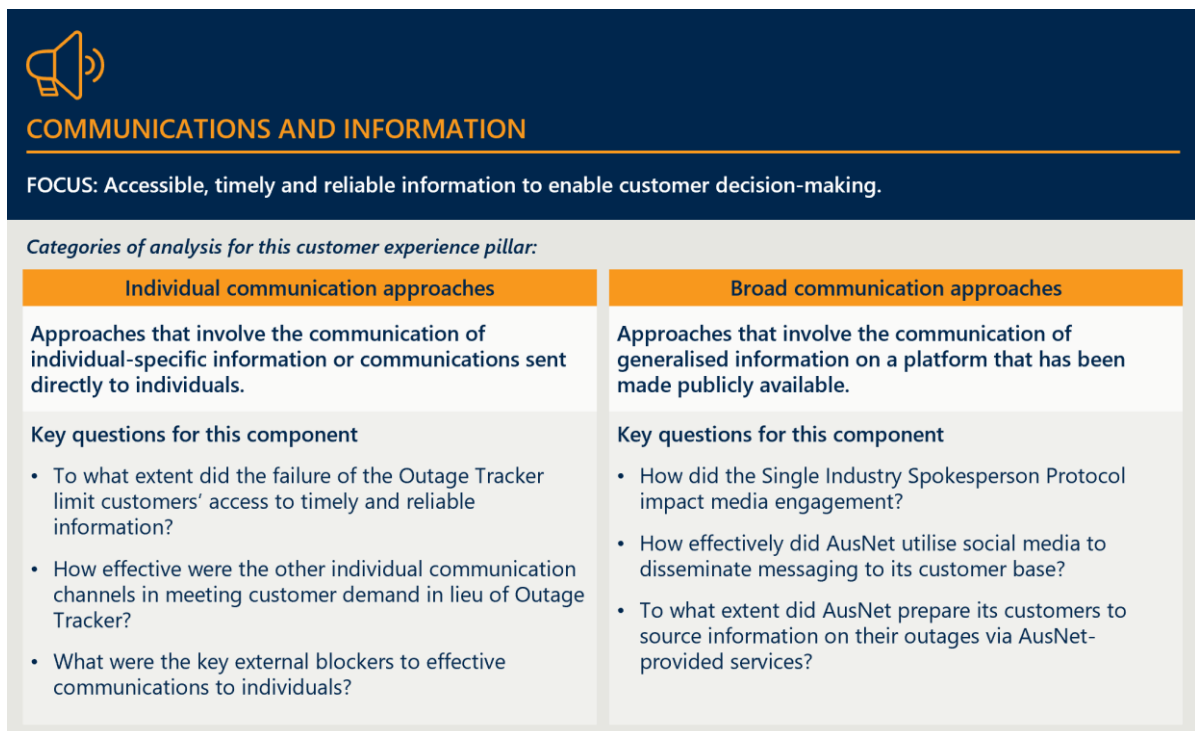
Assessment framework

AusNet has two primary modes of customer communications: individual customer communications and broader communication campaigns. Individual customer communications encompasses all communication modes that give customers tailored, outage-specific information through either direct contact or publicly available platforms. This includes channels such as SMS, the call centre and Outage Tracker.

Broader communication campaigns refers to communication modes that disseminate general information to a broader audience. This includes the AusNet website, social media and traditional media such as radio and news publications.

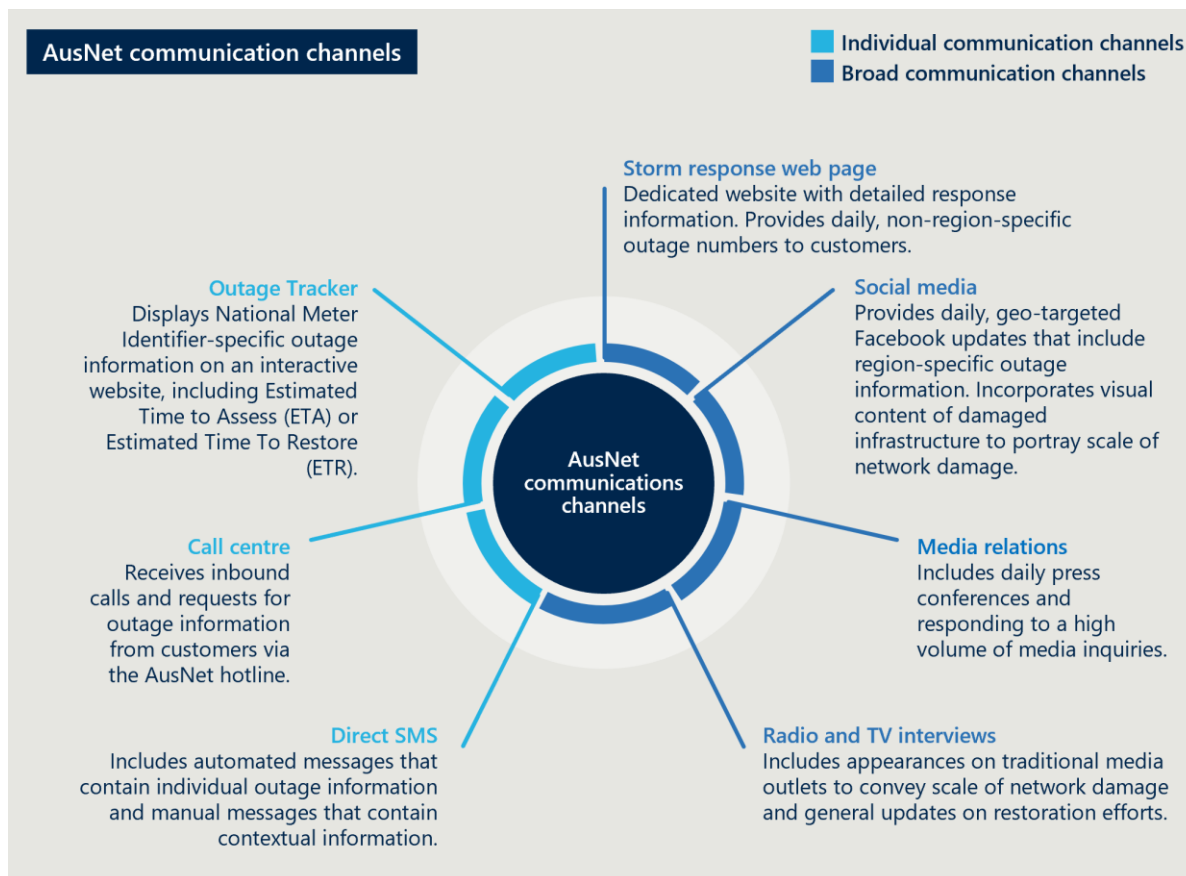
Figure 14 outlines our assessment framework and the key questions this section seeks to answer.

Figure 15 | Communications and information assessment framework



Both individual and broad communications play key roles within AusNet’s communication strategy, as they convey distinct types of content and reach different segments of AusNet’s customer base. Figure 16 maps out each channel to the two primary modes of communications above by colour and provides a brief description of their functions.

Figure 16 | AusNet communication channels



There were many successes in AusNet’s communication and information during the February outage event.

During the February outage event, AusNet faced unprecedented levels of demand for information from its customers and showed many strengths in its communications and information.

AusNet has a well-established communication strategy that is enacted during a major unplanned outage event. AusNet used at least nine communication channels to disseminate information to customers, accommodating a range of engagement preferences (Figure 16). These channels enabled AusNet to provide both outage-specific and contextual information.

The communications team showed strong adaptability to unexpected technical challenges during the event. When AusNet’s Outage Tracker failed, in part due to unprecedented demand, AusNet designed, developed and activated an interim solution within hours. While this solution did not deliver an equivalent standard of accessibility and information to customers, it was improved over nine days to enable a basic level of outage information until the primary Outage Tracker was relaunched on 21 February.

The AusNet customer team expanded the capacity of their call centre from 25 agents on day one to 54 on day three to service unprecedented customer demand. This surge capacity was possible due to the outsourced arrangement for AusNet’s call centre with an external service provider, implemented in response to recommendations in the 2022 Network Resilience Review. The Interactive Voice Response (IVR) system managed half of calls received in the first three days, which reduced wait times for other customers.⁴¹

AusNet managed inbound communications from major business customers, such as supermarkets, throughout the event by allocating staff to general customer relations roles to ensure an open line of

⁴¹ (AusNet, 2024)

communication. This enabled some businesses to access tailored, up-to-date information on restoration to inform their decision-making when managing business operations without power.

The Essential Services Commission reported that AusNet communicated effectively during the event and was responsive to their information requests, reporting on customer outage numbers, life support customers and restoration efforts.

The communications team used social media effectively to provide regular updates to customers regarding restoration progress. Social media posts, primarily on Facebook, were geographically tagged to provide region-specific information to customers. AusNet also shared visual content via social media to show the extent of infrastructure damage. This helped to manage customer expectations and provided context around AusNet restoration efforts.

Finally, the communications team remained informed of customer sentiment and key discussion topics online through their media monitoring tool. This enabled the team to distil key themes among customer conversations and concerns. These insights informed the content and tone of messaging on AusNet's website, social media platforms and other forms of broad customer communications.

6.2 Issues and recommendations

The areas for improvement in AusNet's communications and information are explored across the two primary modes of communication: individual communication and broad communication.

6.2.1 Outage Tracker's failure, alongside SMS and call centre limitations, resulted in inconsistent delivery of timely, accurate and accessible customer information

AusNet's Outage Tracker failed, limiting customers' access to accurate and live outage information.

AusNet's primary communication tool, Outage Tracker, failed on the day of the event. As a result, customers were unable to effectively source information on their outage in the first week following the first storm event. Outage Tracker failed due to an unprecedented volume of requests, which overwhelmed its maximum request capacity. This resulted in repeated interruptions in Outage Tracker supply from 2:11pm on 13 February, followed by a complete supply cut-off at 4:15pm.⁴²

AusNet customer experience

"The AusNet outage tracker did not work at all. I did not receive a text or any communication regarding the outage or any indication of when the power would be restored. This was the most frustrating aspect of the incident."

AusNet Voice of customer insight summary

Outage Tracker ordinarily provides customers with information on their outage and a corresponding Estimated Time to Assess (ETA) or Estimated Time to Restore (ETR). The usefulness and presentation of the information provided on Outage Tracker has been built and iterated upon based on extensive customer research and user testing. Since the 2021 storm events, AusNet has made many improvements to Outage Tracker and the Outage Management System (OMS), AusNet's internal database that manages outages and outage information. There have been three main improvements. Firstly, the OMS and ADMS were integrated to enable accurate field data and information on unplanned outages to be built into the OMS. Secondly, the front-end of Outage Tracker was redesigned to improve user experience and integrate additional functions such as the 'Report a Fault' capability. Finally, statuses were enhanced, allowing

⁴² (AusNet, 2024)

customers to follow the various stages of unplanned outages, including an ETA before the fault has been assessed followed by an up-to-date ETR. However, the Outage Tracker failure meant this solution was unavailable until 21 February, the ninth day of the February outage event.

The absence of a backup plan for Outage Tracker led to a suboptimal interim solution.

Under the Electricity Distribution Code of Practice, AusNet has an obligation to its customers to provide frequently updated information regarding their supply ETR or ETA. AusNet ordinarily satisfies this requirement via the availability of Outage Tracker.

AusNet's obligation to provide information to its customers

In the case of an unplanned interruption or an emergency, a distributor must make available, via frequently updated entries on a prominent part of its website, an estimate of the time when electricity supply will be restored (ETRs) or an estimate of when reliable information on the restoration of supply will be made available (ETAs).

Clause 11.3 of the Electricity Distribution Code of Practice⁴³

Following the failure of Outage Tracker, AusNet was forced to develop an interim solution to meet this obligation to its customers. AusNet did not have a contingency plan in place. It developed an interim solution on the day. The interim solution presented tabulated customer outage data in a downloadable spreadsheet on the AusNet website. The interim solution was launched at 9:30pm on 13 February and remained the primary source for customers to self-service outage information until eight days later when the primary Outage Tracker solution was relaunched on 21 February.⁴⁴

The interim solution was kept up to date through its connection to the OMS, and it was refreshed once a minute.⁴⁵ Having to be implemented immediately and without warning meant the interim solution was not optimised for customer experience. While AusNet iterated on and improved the interim solution over the first two days, many customers were not able to use the interim solution to meaningfully understand information about their outage. For example, customers did not often know their National Meter Identifier (NMI) number, which was necessary to search for their outage in the interim solution. These customers were then turning to other information channels, increasing call centre demand or using broad customer information from social and traditional media as their primary source of information.

High call centre demand caused service delays and customer frustration, particularly as the IVR was effective only for customers who could provide their NMI.

Following the 2021 storm events, AusNet outsourced its call centre activities to a service delivery partner. This was done with the intent of increasing potential to surge capacity and gaining access to best-practice technological solutions, including an IVR mechanism.

The call centre received 43,000 inbound calls on 13 February, an unprecedented volume. This was due in part to the failure of Outage Tracker. AusNet supported its call centre operations with the implementation of IVR, which enabled customers to self-serve information on their outage provided that they were able to provide their NMI. 62 per cent of callers on 13 February were able to self-serve information on their outages, reducing the burden on the call centre.

AusNet also scaled up the resourcing of the call centre to handle the volume of calls, increasing its capacity from 25 agents to 54. However in the first two days, 79 per cent of the calls that were not resolved through the IVR were abandoned, reflecting that the call centre was significantly under-resourced even with the IVR managing half the demand.⁴⁶ A key driver of the high abandonment rate was the long call waiting times; customers waited for 22 minutes on average over the first two days before connecting

⁴³ (Essential Services Commission, 2023)

⁴⁴ (AusNet, 2024)

⁴⁵ (AusNet, 2024)

⁴⁶ Internal AusNet call centre data

with a call centre agent. There was no feasible way to service the level of demand in the first two days of the event. AusNet estimates that the call centre would have needed an additional 198 agents on 13 February to service all the calls.⁴⁷ AusNet does not have a live chat or AI chatbot available through their website as an alternative channel for customer enquiries.

Systems and processes designed to update customers required manual intervention, causing generalised and irregular messages.

AusNet decided to switch off its automated SMS system on the third day of the event. While this functionality was somewhat replaced by manual SMSs, messages sent to customers were generalised and sent irregularly.

AusNet customer experience

"AusNet had proactively sent text updates from 13th – 16th Feb then nothing... no updates from 17th to 21st until we relogged out [sic] outage."

AusNet Voice of customer insight summary

Following the 2021 storm events, AusNet invested in system improvements to its OMS, which came into effect on 24 January 2024. Although the OMS underwent comprehensive testing before launch, the team identified a defect in their SMS system. The solution was unable to identify and group ETRs for multiple outages impacting the same customer. This meant it would trigger automated 'event based' SMSs to customers notifying of the resolution of one outage while the customer may still be impacted by others.⁴⁸ AusNet decided to switch off automated messaging on 15 February, as the defect would have caused incorrect information on customer ETAs and ETRs to be sent out through SMS. The team's decision to revert to manual messaging was also influenced by the failure of Outage Tracker. Members of the team who had relied on OMS as a single source of truth were not able to reconcile the content of the automated messages with Outage Tracker. Hence, the decision to switch back to manual messaging was made to mitigate the risk of spreading inaccurate information to consumers. However, this decision hindered AusNet's ability to provide timely information to its customers as they were now reliant on manual messaging.

Manual messaging came with its own challenges. Manual messages were not sent as consistently as automated messages due to the effort required by the communications team. This meant messages were received irregularly and less frequently by customers than if automated SMSs were activated. The automated SMS solution is designed to update customers every four hours, even if the update is the same as the previous one. Disabling automated SMSs during the event may have created confusion for customers when regular updates stopped. Manual SMSs were still useful at times, especially when providing context specific to the February outage event, such as the number of remaining outages across Victoria or explaining the storms behind the outages. However, manual SMSs were not an equivalent substitute for AusNet's carefully designed, automated solution when this solution operates without defects.

AusNet did not have an effective strategy to determine how and when to communicate with customers in situations where information is highly uncertain.

In the first 48 hours of the February outage event, AusNet's ability to communicate accurate and personalised outage information to customers was significantly hindered by a lack of accurate information from the field. There were 1,864 faults across AusNet's distribution network; the scale and spread of the damage meant it took time for the field delivery resources to assess the damage.⁴⁹ Hazardous terrain

⁴⁷ (AusNet, 2024)

⁴⁸ (AusNet, 2024)

⁴⁹ (AusNet, 2024)

caused by fallen trees and branches also hindered network assessment efforts as crew safety was a key priority.

AusNet had previously undertaken extensive customer research to understand how customers prefer to be kept informed during outage events. The most recent round of customer research was undertaken after the 2021 storm events and has informed AusNet's current approach to SMS communication. AusNet systems are set up to automatically update customers when their power first goes out, when an ETA or ETR is set or any time their status changes. If there is no change in status or new activity for four hours then a reminder is sent to the customer that the outage is known and will be restored when possible.

The scale and complexity of the February outage event significantly limited the effectiveness of AusNet's ideal SMS communication strategy. The ETA algorithm within the ADMS was not capable of handling the volume of faults (see section 5.2.3), and the scale of damage meant that accurate damage assessment took days to undertake in some areas of the network (see section 5.2.2). As a result, many customers would have received overly optimistic ETA or ETR updates that would have been slowly revised as other priorities in the network emerged. AusNet staff estimated that customers receiving up to eight different ETAs or ETRs for the same fault would not have been uncommon. Under the circumstances the language used by AusNet to communicate ETAs and ETRs was too strong, offering ETAs and ETRs in definitive language down to the hour and minute.

Customers expressed frustration that they were unable to make good decisions about how to manage their personal situation, as they were given inaccurate and unreliable information.

AusNet relies heavily on communication channels that depend on the availability of both power and telecommunications.

AusNet's main channels to communicate to customers depend on customers having access to power. During the February outage event, affected areas were in many cases also affected by losses to telecommunications. For many customers, the loss of power and telecommunications also eliminates their Internet access. As a result, customers in many areas had significantly reduced access to information on the nature of their outage and its expected duration. Telecommunication towers were not fully restored by operators until approximately day six of the event.

Of the nine channels identified as part of AusNet's communication strategy during the event (Figure 16), just two, radio (if battery powered) and traditional media (print), are accessible when power, telecommunications and Internet are all unavailable. AusNet did not have an effective and coordinated strategy to amplify these channels during the February outage event. Nor did AusNet closely coordinate with local governments and community representative groups to disseminate information through physical message boards in community centres where outages were the longest.

Contact details that retailers provide to utilities are not always complete, so outbound messages during the February outage event only reached 60 per cent of customers.

AusNet relies on the customer data collected by electricity retailers to update its database of customer contact details. Customer data collection practices vary between electricity retailers. Mobile phone numbers and email addresses are not mandatory fields and are collected at the discretion of retailers. As a result, AusNet staff estimate that it only has up-to-date mobile numbers for 60 per cent of its customers. This impacts AusNet's ability to send timely updates to affected customers, especially in the absence of a functional Outage Tracker.

RECOMMENDATION 5:

Uplift the capacity and functionality of technology used to communicate with customers, supported by the development of a revised strategy and process to determine how AusNet communicates meaningfully with customers during major unplanned outage events.

Action 5.1: Deliver the recommendations from the Outage Tracker review.

As per Outage Tracker review

- See Outage Tracker Review.

Action 5.2: Create and customer-test a backup tool to provide customers with information required under the Electricity Distribution Code of Practice in the event of Outage Tracker failure.

3–12 months
(by 30 June 2025)

AusNet is obligated under the Electricity Distribution Code of Practice to provide customers experiencing unplanned interruptions, “an estimate of the time when supply will be restored or, if reliable information is not available to inform that estimate, an estimate of when reliable information on restoration of supply will be available”. This is to be provided “as soon as practicable, by way of a 24 hour telephone service and by way of frequently updated entries on prominent parts of its website.”

AusNet should review the contingency system that was deployed during the February outage event and review (with input from the Essential Services Commission) the level to which it delivered on this obligation to customers.

AusNet should ensure that it is better prepared for future storm events by designing a tool and set of processes to deploy if Outage Tracker fails again. The roll-back tool need not be designed to replace the entire functionality of Outage Tracker, however it should provide customers with information on their outage and the expected time when supply will be restored. Any back-up system or tool developed by AusNet must be tested with customers to ensure it has acceptable functionality and accessibility. It should be designed so that it can be activated on short notice (within four hours) if Outage Tracker is rendered unavailable.

This action would deliver the following benefit(s) for customers:

- Customers can reliably access information regarding the status of their outage.

This action would deliver the following benefit(s) for AusNet:

- AusNet meets its obligations under the Electricity Distributor Code of Practice even in the event of an Outage Tracker failure.

Action 5.3: Develop and test improvements to Interactive Voice Response and implement additional methods (for example web chat services) for customers to make enquiries, to increase customers’ access to information during a widespread outage.

3–12 months
(by 30 June 2025)

During the February outage event, the use Interactive Voice Response (IVR) helped to partially manage the large volume of calls into the call centre. This was due to customers being able to self-serve the information they need without needing to wait to speak to an agent.

AusNet should extend the use of IVR and assess the suitability of other best-practice technologies, such as Webchat (agent managed) and chatbots (automatic responses), to give customers a wider range of options to access customer support. The implementation of any new tool will require training of operational staff and a level of accessible education and instruction for customers to make these tools accessible.

This action would deliver the following benefit(s) for customers:

- Customers can choose from a variety of channels to access information according to personal preference.
- Customers receive information faster thanks to multiple channels with readily accessible information.
- Customers experience shorter wait times to speak to an AusNet agent due to the introduction of Webchat in addition to the call centre.

Action 5.4: Develop guidelines and train staff on ETR and ETA communication to customers during extensive outages

3–12 months
(by 30 June 2025)

Estimate Time to Assess (ETA) and Estimated Time to Restore (ETR) frequently changes during the response to a major unplanned outage event as the extent of damage becomes better understood. AusNet should develop a strategy that has clear instructions on the most effective way to communicate with customers when there is a low level of confidence in the accuracy of the data.

The strategy should include decision factors as to when the default automatic messaging system should be deactivated (for example, at an event scale that is greater than the algorithm's ability to accurately predict crew dispatch times) and when it should be replaced with manual message protocols (and the trade-offs associated with both). The strategy should include decision factors as to whether messages should be automated by the outage monitoring system.

This strategy should be informed by customer research and testing. Testing should seek to define the most effective language to employ when there is significant uncertainty around assessment and restoration times. Options to improve the experience could include a broader range for ETAs or ETRs in the first instance, or reversing the framing by informing customers that their fault will not be assessed before a specific time.

AusNet should also test with customers the use of an initial broadcast message as a formal addition to the SMS strategy in an emergency. When a Level 3 emergency is called, a general message could be sent to all customers to inform them of a major unplanned outage event in AusNet's network, making all customers aware of Outage Tracker and other services. This message should inform customers that more accurate information regarding ETAs and ETRs will be provided once the damage is fully assessed, which will take time. Before implementation, this approach should also be validated with the State Control Centre and Victorian emergency management protocols to ensure no conflict or confusion will be caused with wider emergency efforts.

This action would deliver the following benefit(s) for customers:

- Customers receive information earlier to inform their decision-making, for example whether to seek alternate accommodation or to take action to prevent personal losses such as food spoilage, thanks to a better balance between the timeliness and the reliability of ETAs and ETRs.
- Customers are less likely to be frustrated at changing ETAs and ETRs, as the language used when providing these estimates is less definitive and better at managing expectations.

SYSTEM ACTION

Action 5.5: Work with retailers, the Essential Services Commission and Victorian Government to ensure customer contact details are current and accurate.

12–24 months
(by 30 June 2026)

This action cannot be delivered by AusNet in isolation, as it requires collaboration with entities across the system.

Customer data (specifically phone and email contact details) collected by retailers is not always complete and is not always kept up to date. AusNet estimates that it has accurate mobile phone records for 60 per cent of the customers on its distribution network.

Incomplete information affects AusNet's ability to reach its customers via key communication channels such as SMS and email. AusNet will need to work with retailers, the Essential Services Commission and the Victorian Government to identify ways to improve the collection and relevance of the customer information. This could include a change to the regulations to make it mandatory to collect and validate customer data.

If successfully implemented, the outcome of this action would be:

- More customers, including life support customers, receive timely and accurate outage information.

6.2.2 AusNet's outbound communications managed some demand for information disaggregated by regions, but uncertainty around the event media protocols slowed down regional engagement.

Throughout the emergency AusNet complemented its targeted, individual communication channels with broad communications campaigns. Broad communications used a range of channels to disseminate information to the public, including social media, which can be geotargeted; traditional print media; radio; and the AusNet website. These campaigns are designed to increase the reach of information to help customers make informed decision. The diverse channels used by AusNet were effective, but there were

opportunities to disseminate information sooner or to extend the functionality of channels to better engage with customer needs.

The operationalisation of the Single Industry Spokesperson Protocol was unclear, resulting in delayed engagement with local and regional media.

The Single Industry Spokesperson Protocol (SISP) is designed to ensure that consistent information is provided to the public during a major unplanned outage event in Victoria. It is evoked by AEMO according to publicly available criteria. Circumstances that trigger the immediate consideration of the SISP include two or more distributors being affected, disruption to more than 100,000 customers across the Melbourne metropolitan area, the likelihood of extended restoration times and prolonged call centre delays.⁵⁰ Upon enactment, AEMO takes control and coordination of major state-wide media and functions as the single industry spokesperson until the deactivation of the protocol.

Coordination of media responses under the SISP

“During a major event, AEMO will liaise with industry and government (as required) to ensure consistency of messages and information flow to the public. AEMO will manage major state-wide media. Distribution Network Service Providers should continue to manage local and regional media communications.”

Single Industry Spokesperson Protocol
for Electricity in Victoria (AEMO)

During the February outage event the allocation of responsibilities under the SISP was unclear, requiring liaison between AusNet and AEMO to clarify the interpretation of the protocol. This led to state media not getting a spokesperson to discuss the emergency until the early morning of the 14 February. The nuance between statewide and regional media restrictions was not clearly reflected in SPIRACS. All distribution businesses, including AusNet, are working with AEMO to clarify the SISP and improve implementation for future major unplanned outage events. Together, there appears to be a collective belief that the SISP provides insufficient role clarity for distribution businesses in different circumstances, such as during significant weather events or when load shedding is required.

Social media alternatives, such as Facebook, addressed some level of demand for information but could not replicate Outage Tracker’s functionality, causing frustration for many customers.

The communications team used social media to disseminate information to their customers, primarily via their Facebook page. This included information on restoration progress complemented by images of the damaged infrastructure to portray the scale of the damage due to the storms. These visuals were effective in managing the expectations of affected customers. The communications team also responded to customer requests for information by theming key customer concerns and crafting social media posts that addressed key groupings. These measures allowed AusNet to respond to all the enquiries with a reasonable level of quality and timeliness.

AusNet also used social media to give customers more targeted information regarding their outages. A few days after the first storm event, AusNet created geotargeted social media posts to give tailored updates to hard-hit communities, such as Mirboo North, Emerald and Cockatoo. AusNet also tagged local government, using their platforms to reach customers who did not use social media. Despite these efforts, the information available to customers during the February outage event lacked the ease and personalisation of the information usually supplied by Outage Tracker.

⁵⁰ (Australian Energy Market Operator, 2019)

The scale of the event initially overwhelmed AusNet’s capacity to monitor media, develop timely briefings and respond to the volume of customer engagement through social media.

AusNet’s communications team was stretched for capacity during the event due to the volume of media and customer enquiries. This forced the team to deploy innovative strategies to handle the surge in requests, including responding to incoming media requests via a daily press conference and grouping customer enquiries into common themes. AusNet received between 15 to 20 queries a day from various media outlets. Instead of responding to each individual media request, AusNet conducted daily press conferences to provide standardised updates.

AusNet’s communication team also did not have the capacity to respond to each customer enquiry that came through social media. While this was mitigated by alternative processes, such as the theming of key customer concerns, resourcing constraints forced the communications team to function in a reactive manner. This led to missed opportunities to improve the customer experience, for example through greater in-person engagement in regional and remote communities. It also led to fatigue as the team worked long shifts for consecutive days throughout the event.

Gaps in AusNet’s summer preparedness campaign meant that customers did not have a comprehensive understanding of how to seek help during a widespread outage.

AusNet ran a summer campaign during the second half of 2023 to inform customers on how they can best prepare for outage events. The campaign is known as a ‘summer preparedness’ campaign due to the increased likelihood of severe weather events over the summer months. While this was a valuable initiative, customers still showed a lack of preparedness in ways that could have been mitigated.

A notable gap in customer preparedness was frequent unfamiliarity with their NMI numbers. Customers had to provide their NMI as an identifier in the IVR’s call waiting queue or to search for their outage in the interim Outage Tracker solution. Customers also needed their NMI to apply for the PPOP program. Customers’ common unfamiliarity with their NMI numbers was a notable gap in the customer preparedness campaigns led by AusNet over the summer in anticipation of severe weather events and corresponding unplanned outage events.

AusNet’s customers also lacked understanding about the roles and responsibilities of the parties involved in the response effort. Customers feedback from the Mirboo North community engagement summary cited that the effectiveness of the initial local response was marred by the additional complexities when local government and authorities were involved. Further education on the roles and importance of key parties during the restoration process would alleviate customer confusion.

RECOMMENDATION 6:

Further develop communication methods that provide information on the ground for heavily impacted communities, uplift leverage of social media and clarify and train staff on the single spokesperson rules.

Action 6.1: Engage AEMO to review the SISP and agree with distribution businesses and other stakeholders its effective application in relevant scenarios.

3–12 months
(by 30 June 2025)

Under the SISP, AEMO subsumes control and coordination of major state-wide media and functions as the single industry spokesperson during a major unplanned outage event. AusNet should, alongside other distribution businesses, clarify the role of distribution businesses under the SISP. AusNet should also reflect this clarification within SPIRACS and train relevant staff accordingly.

This action would deliver the following benefit(s) for customers:

- Customers can access information regarding a major unplanned outage via local media as early as possible.

Action 6.2: Develop a communication approach with local governments and community groups during major unplanned outage events, especially for when telecommunications are lost.

3–12 months
(by 30 June 2025)

During a response to an unplanned outage event, AusNet's communication with its customers in remote areas may be affected by the loss of telecommunications and power. AusNet should identify strategies to increase the reach of its messages through channels that do not depend on power and internet. This should include greater planning and coordination with local governments. Elements of the strategies include correspondence with regional and local media, signage and attendance at emergency centres, and town hall meetings. The strategy should be properly documented and referenced in SPIRACS.

This action would deliver the following benefit(s) for customers:

- Customers can access information from channels that are resilient to telecommunications and electricity outages.
- Customers who cannot or prefer not to use the Internet can access information through more alternative channels.
- Customers receive more tailored and relevant messaging thanks to improved engagement with local governments who provide local context.

Action 6.3: Develop a mechanism to scale up media and communications capacity to provide surge capacity for communications, media response and enquiries.

0–3 months
(by 30 September 2024)

A major unplanned outage event causes a surge in requests for information from media outlets and affected customers. AusNet should develop a strategy to scale up the capacity of its communications team to accommodate the volume of media and customer enquiries. AusNet should incorporate resourcing considerations and the use of technology as part of this strategy.

This action would deliver the following benefit(s) for customers:

- Customers receive more frequently updated information thanks to increased capacity for AusNet to share information through its channels, including through the media or by responding to customer enquiries.
- Customers receive more consistent messaging thanks to increased capacity for AusNet to remain aware of and control information being shared across channels.

Action 6.4: Review preparedness campaigns to help customers understand best courses of action and sources of information during an outage.

3–12 months
(by 30 June 2025)

AusNet should undertake a preparedness campaign to inform customers about the sources of information and courses of action available to them during an outage. For example, the preparedness campaign should educate customers on how to use AusNet’s communication platforms, what to do when fallen power lines are obstructing roads or properties, and the possibility that defects to customers’ own electricity equipment is preventing restoration of power.

Use of AusNet’s communication platforms sometimes requires a customer’s NMI, yet many customers are not aware of what this is. For example, while general outage information can be accessed from Outage Tracker or call centre using a customer’s postcode or street address, more specific information, such as that relating to single customer outages, requires the customer to provide their NMI. The preparedness campaign should raise awareness of NMIs to ensure customers have this information to hand. One method may be distributing artefacts that contain customers’ NMIs in an easy-to-find place, such as a fridge magnet.

Customers should be informed through the preparedness campaign about the safety risks that fallen power lines pose and the best course of action when fallen power lines are an obstruction.

Finally, the preparedness campaign should raise awareness that defects to customer-owned electricity equipment may prevent restoration of power. It should make clear the division of responsibilities between customers and distribution businesses and emergency response agencies for resolving these defects and what, if any, action is required from the customer to restore their power.

This action would deliver the following benefit(s) for customers:

- Customers can more easily access information during an outage, as they can readily provide an NMI to seek information via the call centre.
- Customers experience fewer safety concerns during an outage, as they understand the risks and best course of action when fallen power lines are an obstruction.
- Customers experience shorter outages when customer-side electrical defects are preventing power restoration, as they understand the best course of action to resolve this.

7 Community Engagement and Support


7.1 Overview

This section assesses AusNet’s delivery of additional support to customers and communities to mitigate the impact of outages.

Assessment framework

Support and community engagement considers additional support for life support customers, face-to-face engagement with communities, often through local governments to deliver support services, and lastly, delivery of financial compensation and relief. Figure 17 outlines our assessment framework and the key questions this section seeks to answer.

Figure 17 | Community engagement and support assessment framework

 COMMUNITY ENGAGEMENT AND SUPPORT		
FOCUS: Accessible, timely and reliable information to enable customer decision-making.		
<i>Categories of analysis for this customer experience pillar:</i>		
Life Support	Community Support	Financial Support
Provision of additional support and prioritisation (where appropriate) for life support customers.	In-field communication and support for heavily impacted communities.	Administration of financial relief to compensate customers and strengthen resilience.
Key questions for this component <ul style="list-style-type: none"> Does the information in AusNet’s life support customer register enable prioritised restoration of power (where appropriate) and welfare checks for these customers? Is the information in AusNet’s life support customer register kept sufficiently up-to-date to enable AusNet to fulfil obligations under the Electricity Distribution Code of Practice? 	Key questions for this component <ul style="list-style-type: none"> Did AusNet have clear processes and plans for regional engagement during the event? Did AusNet have resources available, and were these resources used effectively, to support regional engagement? Did AusNet utilise established regional relationships to facilitate tailored community support? 	Key questions for this component <ul style="list-style-type: none"> Did AusNet have effective technology systems for processing PPOP applications? Were AusNet staff sufficiently trained to provide customer support for PPOP applications? Were PPOP payments administered through processes that were efficient, simple and clear for customers?

There were many successes in AusNet’s community engagement and support during the February outage event.

The steps AusNet took to support its customers affected by prolonged outages made a noteworthy, positive difference to those customers’ experiences. These included efforts to provide additional support to life support customers, maintain a physical presence in hard-hit communities and support customers through financial relief.

One way in which AusNet provided additional support for life support customers was through its 24/7 priority phone line. This gave these customers an avenue to seek advice and support. Despite the limitations of their life support customer data, AusNet provided this information to local authorities, such as the Department of Health, in line with agreed protocols. Where possible, given inconsistencies in the completeness and currency of the information, state services were able to consider life support customers in their response and to provide welfare checks in person and via the phone.

AusNet engaged with hard-hit communities to provide information and assurance to customers. In some communities where outages were longest, AusNet stationed representatives in person and maintained an extended presence. This presence included attending community meetings, relief centres and pop-ups and providing representatives to some, though not all, regional emergency response teams, including the Dandenong Incident Control Centre, the Southern Metro Regional Emergency Management Team and the Eastern Metro Regional Emergency Management Team. AusNet maintained a particularly strong presence in Mirboo North, delivering six community engagement hours a day on average at their community relief centre from 19 to 27 February. In total, AusNet engaged with 18 local governments to understand their circumstances and generator needs.

AusNet also facilitated and provided support to customers and communities financially. AusNet successfully administered Prolonged Power Outage Payments (PPOPs) on behalf of the Victorian Government to more than 3,800 customers.⁵¹ This was achieved despite challenges posed by the influx of about 45,000 PPOP applications and the eligibility criteria expanding once the PPOP program had begun to encompass the second storm event as well as the first.

As well, AusNet voluntarily established an additional \$10 million Energy Resilience Community Fund.⁵² The Energy Resilience Community Fund is a valuable initiative aimed at compensating heavily impacted individuals and small businesses and improving resilience in advance of similar unplanned outage events. Communities have been vocal in their need for resilience investment and the fund has been well received by its target groups.

7.2 Issues and recommendations

The areas for improvement in AusNet's community engagement and support are explored across life support, financial support and community support.

7.2.1 Incomplete and outdated life support data hinders AusNet's ability to enable welfare checks by authorities and adapt restoration priorities

Two main flaws in AusNet's life support customer register inhibited support to these customers during the February outage event. The first was that the absence of reliable and meaningful categorisation of the 19,500 customers in the register means there is incomplete information to inform the triage and prioritisation of welfare checks. The second was the lack of rigour in the deregistration process, meaning the life support customer register is often outdated.

There is incomplete information in the life support customer register to inform the triage of welfare checks.

Incomplete information in the life support customer register prevents the prioritisation of welfare checks informed by the life support customers' criticality. AusNet, as a distribution business, is required by the Electricity Distribution Code of Practice to maintain a register of life support customers in addition to other responsibilities.⁵³ While AusNet must maintain a register, it shares the responsibility for collecting this information with energy retailers. Whichever business (retailer or distributor) the customer contacts to inform they require life support protections owns the process to register the customer. That business must then notify the other of the life support customer registration. In practice, it is almost always energy retailers that collect the life support customer information and share it with AusNet: only 12 of AusNet's 19,500 life support customers initially registered with AusNet. The Essential Services Commission strengthened and clarified protections for life support customers in 2019.⁵⁴ In response, AusNet built an automated and thorough process to capture information from life support customers driven by their call centre. However, the dependency on retailers limits AusNet's control of the completeness of information

⁵¹ Internal AusNet PPOP data

⁵² (AusNet, 2024)

⁵³ (Essential Services Commission, 2023)

⁵⁴ (Essential Services Commission, 2019)

in its life support register. During an unplanned outage event, AusNet provides its life support customer register to Victoria Police and the Department of Health, who use this information to triage welfare checks.⁵⁵ However, the information collected from life support customers is limited. Therefore, these welfare checks can be prioritised based on only two facts: whether or not the customer provided medical confirmation of their life support needs and the type of equipment deemed life support equipment. When a significant proportion of responses to the latter are 'other', this comprises local authorities' ability to effectively prioritise life support customers by criticality. This happened during the February outage event.

AusNet life support customer experiences

"I have a child with a serious medical condition who requires machines for care. AusNet provided absolutely no assistance or information regarding anything."

"I felt like communications, particularly around life support customers, wasn't appropriate. I received an initial message asking if I needed help ... but there was no re-check throughout the duration of the event."

AusNet customer survey

A lack of rigour in the deregistration process means the life support customer register is oversubscribed.

There is currently no thorough process to deregister life support customers, leading to an oversubscription to the life support customer register. It is not a requirement of the Electricity Distribution Code of Practice for energy distributors and retailers to systematically verify that customers still qualify for inclusion in the life support register.⁵⁶ As a result, life support customer details provided to local authorities are at times outdated. This further compromises prioritisation by misdirecting limited relief efforts away from those in need.

The outdated and incomplete nature of the life support customer register meant that the safeguarding of vulnerable Victorians managing the loss of electricity to their life support equipment was not as effective as it could have been.

⁵⁵ The Victorian Department of Health is privy to the customers with the most complex and critical reasons for power dependence and acts accordingly. The department does not, however, share this list with AusNet.

⁵⁶ (Essential Services Commission, 2023)

RECOMMENDATION 7:

Coordinate with retailers to collect better data from life support customers and to systematically deregister customers, when appropriate.⁵⁷

SYSTEM ACTION

[Action 7.1](#): Improve visibility of high priority equipment for life support customers.

3–12 months
(by 30 June 2025)

This action cannot be delivered by AusNet in isolation, as it requires collaboration with entities across the system.

Improving the triage of life support customers based on their support needs should begin with better data collection on the type of power-dependent life support equipment they use. AusNet should coordinate with retailers to ensure life support information collection forms are consistent and thorough in the options for life support equipment that can simply be ticked. These equipment types should be those that would identify the customer as a priority for welfare checks during an unplanned outage event. Customers should be followed up with if they select 'other' and do not specify further. Finally, free text responses associated with 'other' should be cleaned to ensure the data is easily analysable to support triage.

This action would deliver the following benefit(s) for customers:

- Life support customers with the greatest need for support are more likely to receive welfare checks from local authorities and are more likely to receive prioritised restoration during unplanned outage events.

SYSTEM ACTION

[Action 7.2](#): Coordinate with retailers to ensure the life support register is regularly verified.

3–12 months
(by 30 June 2025)

This action cannot be delivered by AusNet in isolation, as it requires collaboration with entities across the system.

This action requires developing a deregistration process that goes beyond obligations under the Electricity Distribution Code of Practice. Currently, customers tend to be deregistered from the life support customer register only at the customer's request, which is not always provided, leading to an oversubscription to the register. The deregistration process should, instead, implement regular systematic verification of customers' need for life support protections. The date when the customer was last verified may be further information useful for prioritisation during an unplanned outage event.

This action would deliver the following benefit(s) for customers:

- Life support customers with the greatest need for support are more likely to receive welfare checks from local authorities and are more likely to receive prioritised restoration during an unplanned outage event.

7.2.2 The improvised nature of the regional engagement response resulted in an inconsistent experience in the level and type of support received across hard-hit communities

During a major unplanned outage event, AusNet may deploy on-the-ground personnel to support communities and the emergency response at a local level. The regional support personnel step into this role during the emergency and, where possible, should have business as usual roles that are closely aligned, such as community engagement managers. However, the greater the scale of the outages, the more individuals are required as regional support personnel and the less aligned the business as usual roles of these individuals may be.

The two main roles of regional support personnel are engaging with customers in person to provide support and information and representing AusNet as an EMLO in regional emergency centres, like the Dandenong Incident Control Centre. The process for deploying regional support personnel to fulfil one or both of these roles during a major unplanned outage event is not described in SPIRACS. Engagement with

⁵⁷ While AusNet nearly always receives life support customer data from retailers, rather than collecting it itself, it should coordinate with retailers to make essential improvements, regardless of which business is responsible for actioning.

communities and local governments during an unplanned outage event is not a regulated requirement for distribution businesses like AusNet. Instead, AusNet's community engagement during unplanned outage events and in business as usual is a voluntary choice that supports its 'social license to operate'. This refers to the acceptance of business practices and procedures by stakeholders, including customers.

The improvised nature of AusNet's community engagement, including the organisation of personnel and other resources, meant it achieved inconsistent results across communities.

AusNet's inconsistent approach to community engagement was due to regional support personnel receiving minimal instruction and being varied in their preparedness to fulfil the role. Through their own initiative, the regional support personnel commendably provided support to communities and the emergency response in the absence of direction. For example, AusNet engaged with communities in Mirboo North, Belgrave, Cockatoo, Emerald, Grantville, Gembrook and Yarra Junction, the worst affected areas. However, the improvised approach taken by regional support personnel meant that some communities felt AusNet's presence was limited and some regional emergency response teams, such as the Hume Regional Emergency Response Team, saw no AusNet representatives for the event's entirety.

Regional support personnel were also not equipped in a systematic way with resources that could enhance their engagement, such as refrigeration facilities or mobile device charging equipment. These resources and community engagement are not part of AusNet's obligations but make a positive difference to AusNet's social license with stakeholders. The nature of AusNet's approach meant there were missed opportunities for AusNet to better engage with communities on the ground and support the emergency response.

During consultations AusNet staff reflected that there was not a clear reporting relationship for regional support personnel. This meant that regional support personnel's on-the-ground insights could not effectively inform AusNet's emergency response or guide customer communications. Insights regarding the impact of mass outages in communities can be useful for the CEOT in prioritising its response efforts and for the customer and communications team to tailor communications based on the customer experience. The lack of clear reporting relationships to the CEOT or customer and communications team limits the value that the regional support personnel can provide.

AusNet customer experiences

"The AusNet CEO visited the town hall and gave community context and really spent the time. It was very helpful and best part of the day."

– Customer in Mirboo North, South Gippsland.

"Our community has been deeply impacted by the utter lack of communication, care, and compensation from AusNet... We are the forgotten Hills communities and we are forced to stand alone".

– Customer in Emerald, Yarra Ranges.

Limited relationships with local governments resulted in missed opportunities for AusNet to provide community support and support local emergency responses, including temporary generation.

Local governments are a valuable resource for providing tailored and in-person support to communities as well as insights, informed by the local context, to AusNet. This means they are well positioned to facilitate AusNet's emergency response and community support. However, AusNet had not taken steps to prepare local governments to do so systematically.

When the staff who fulfil a regional support personnel role during a major unplanned outage event have existing relationships with local governments built during business as usual, the engagement can run more smoothly and deliver better outcomes for customers. But during the February outage event, the ad hoc,

relationship-dependent approach resulted in inconsistent customer outcomes. AusNet made a positive difference to customer experiences by attending a 500-person community meeting in Mirboo North; however, this occurred through the initiative shown by AusNet’s regional support personnel rather than an agreed process with the South Gippsland Shire Council or a Mirboo North community emergency management planning committee. Local governments were not consistently or readily able to notify AusNet of community events where their presence would be valuable, provide a list of priority buildings and assets for temporary generation, identify a suitable community hub location or support communication to communities through non-power dependant channels.

There is greater opportunity for AusNet to leverage relationships with local governments during major unplanned outage events and to support the development of Municipal or Community Emergency Management Plans for these emergencies, depicted within the emergency plan hierarchy in Figure 18.

AusNet customer experience

“The town needs to know what’s happening, and who we can contact through multiple avenues. We don’t hear much from the council.”

– Customer in Mirboo North, Gippsland.

Figure 18 | Emergency management plan hierarchy



RECOMMENDATION 8:

Define and train staff in processes to effectively deliver community support during an unplanned outage event, working with local governments where possible.

Action 8.1: Define regional emergency roles and equip these roles with points of contact and training.

3–12 months
(by 30 June 2025)

Regional support personnel need well-articulated expectations, training in their role and clear points of contact in the field operations and customer and communication teams to perform most effectively during unplanned outage events.

AusNet should better articulate the role that regional support personnel play during unplanned outage events and the relevant processes, including how and when these individuals are deployed and which individuals should step into an EMLO role at regional emergency centres, like the Dandenong Incident Control Centre set up during the February outage event. The SPIRACS details the role of an EMLO, but it does not recognise the differences in how this role plays out at a state-wide level, representing AusNet at the SCC, versus a regional level, representing AusNet in communities and in regional emergency response teams.

The staff who fulfil a regional support personnel role should receive suitable training to ensure they deliver consistent outcomes. This should ensure staff are sufficiently informed to answer potential queries, such as what compensation is available to them (including Guaranteed Service Level payments); what to do if they see downed powerlines; or what to do when defects in their own electricity equipment prevents restoration of their power.

AusNet should establish clear reporting relationships for regional support personnel that include the field operations team and customer and communication team. This is to ensure that insights gathered on the ground can be shared when relevant to inform prioritisation of the emergency response and tailored communication to customers. Clear points of contact for regional support personnel also ensures that the communication team approves of messages being shared during community engagement.

Regional support personnel should better mitigate customer impacts through clear expectations of the role, and they should have clear points of contact to ensure alignment with other teams involved in the response.

This action would deliver the following benefit(s) for customers:

- Customers experiencing prolonged outages see a greater presence from AusNet in their communities.
- Customers receive tailored communications that reflect that their experiences are being heard.
- Customers are less likely to receive communications from local AusNet representatives that conflict with communications from AusNet via other channels.
- Customers experience restoration of power in an order that is more likely to consider the circumstances of local communities.

Action 8.2: Equip on-the-ground support with response vehicles and tailored engagement plans.

3–12 months
(by 30 June 2025)

Regional EMLOs' community engagement should be guided by tailored customer engagement plans. These plans would ensure greater consistency in the support delivered by AusNet. Guidance in the plans would vary based on customer segments (such as major customers or community groups), the duration and reach of the outages and the available support services that regional EMLOs can offer. Ensuring community engagement is tailored effectively and methodically to the local context will help to mitigate negative customer experiences and foster confidence in AusNet's ability to manage such events.

AusNet's regional EMLOs should have resources that aid their engagement with communities during unplanned outage events. Mobile emergency response vehicles with a range of support equipment should be provided to regional EMLOs so they can offer services that help with typical complications that arise from outages. This includes public lighting, mobile device charging stations and antennas to enable cellular reception. The vehicles would also make AusNet's presence more visible so that it is easier for community members to seek support. The vehicles would complement the support AusNet already provides, such as stationing representatives in a clear meeting place to answer questions regarding the status of customer outages or access to financial relief. AusNet has already begun the process to invest in mobile emergency response vehicles in line with the recommendations above.

This action would deliver the following benefit(s) for customers:

- Communities experience tailored engagement that accounts for their local contexts, such as major customers in the community or community demographics.
- Communities can access services that help with typical complications that arise from unplanned outages.

Action 8.3: Strengthen relationships with local governments and support their development of emergency action plans.

**12–24 months
(by 30 June 2026)**

AusNet should support local governments to prepare emergency plans for major unplanned outage events. This is useful at a municipal and community level, especially in communities that experience prolonged outages most often. AusNet should ensure these plans maintain useful information, such as which buildings and assets to prioritise for generation and preferred locations for community hubs. The plan should also set out clear processes and points of contact in AusNet. For example, an effective emergency plan should ensure that local governments notify a dedicated point of contact in AusNet of community meetings during unplanned outage events where AusNet's attendance would be valuable.

Secondly, AusNet staff who fulfil a regional EMLO role during a major unplanned outage event should actively build relationships with local governments during business as usual. During an unplanned outage event regional EMLOs should engage in communities where they have built these relationships. Stronger relationships will facilitate response efforts by ensuring clear points of contact and leveraging an existing understanding between AusNet and local governments.

This action would deliver the following benefit(s) for customers:

- Customers receive temporary generation, if appropriate, and in-person representation from AusNet earlier and with greater proficiency thanks to facilitation by local governments.

7.2.3 Inadequate systems, a lack of training and inefficient coordination between DEECA and AusNet slowed payments to customers

Technology systems were not well equipped to process applications despite known challenges from previous events.

Limitations of technology systems contributed to delays in the assessment of PPOP eligibility and processing of payments. Over 100 complaints were made to the Energy and Water Ombudsman Victoria relating to the PPOP. Ill-equipped technology systems were behind many of the themes in the complaints.⁵⁸ For example, customers reported not being able to verify their identity. AusNet uses their existing pool of customer data to validate customer identities to receive PPOP payments. This workaround resulted in slower application processing than would have been possible with a dedicated identity verification tool.

AusNet experienced this same issue with identity verification when processing PPOP payments on behalf of the government following the 2021 storm events, but it had not since introduced a fit-for-purpose solution. This is despite the known challenge and the precedent set in 2021 by the Network Resilience Review, that distribution businesses would fulfil this payment processing role for government in future.⁵⁹

Staff were insufficiently trained to handle PPOP applications and queries, contributing to delays in payments.

While AusNet had clear documentation of the process to support customer applications and queries regarding the PPOP program, it was the first time that the call centre team had implemented these processes. AusNet's call centre had transitioned to an outsourced model since the last time AusNet facilitated the Victorian Government's PPOP program in 2021. Staff were therefore learning the processes to support customer applications, such as assessing eligibility and managing escalations, as the PPOP program was being implemented. This played a part in processing delays and in the confusion that arose regarding eligibility and escalations.

⁵⁸ (Energy and Water Ombudsman Victoria, 2024)

⁵⁹ (Department of Energy, Environment and Climate Action, 2022)

Processes for information sharing and coordination between DEECA and AusNet were inefficient, slowing down payments to customers.

Two significant factors that slowed payments to customers were AusNet and DEECA's coordination on eligibility criteria and back-and-forth, manual information sharing regarding customer complaints and queries.

Firstly, PPOP payments were delayed, in part, by the time required for AusNet and DEECA to coordinate on and finalise the eligibility criteria. This was necessary twice: firstly to enable applications to open, and again when the second storm hit and eligibility criteria needed to be updated to capture this. The eligibility criteria were similar to the last PPOP program, which was administered by AusNet on behalf of the Victorian Government in 2021, but the process to coordinate on eligibility criteria had not been streamlined.

Secondly, the manual escalation process from AusNet to DEECA created inefficiencies due to back-and-forth information sharing. Under the initial arrangements, DEECA was to manage escalations from customers regarding eligibility but would request relevant customer information from AusNet. However, the volume of escalations quickly made this unfeasible, and customers experienced slow response times. Partway through, AusNet began managing these escalations instead. This change in responsibilities helps explain customer feedback that the process to escalate complaints and queries was confusing. In some instances this confusion regarding the appropriate entity to escalate queries to led customers to escalate their complaints to the Energy and Water Ombudsman Victoria or their local member of parliament. Inadequate coordination between DEECA and AusNet and unclear processes further frustrated the customers who were among the most disrupted by the February outage event.

AusNet customer experience

"Have attempted to submit a PPOP online only to get a message stating details could not be verified... Emailed the storm relief [sic] email address 3 times and yet to get an automated response, or even a written response - 24th Feb, 4 Mar & 11 Mar. Again, 2 weeks has passed and no email response or telephone call from AusNet. Telephoned the AusNet storm relief phone number to be only told they can only help with submissions, not assessment and told me to send another email. If I can take the time to contact AusNet, I should expect a response in return. If I can take the time to complete this survey, AusNet should be able to respond, not again leave us in the dark..."

– Customer in Woodside, Gippsland region.

AusNet customer survey

RECOMMENDATION 9:

Prepare to fulfil an ongoing relief payments processing role for government by investing in fit-for-purpose technology systems, rolling out dedicated training and planning for efficient coordination with DEECA.

Note: This recommendation (with three associated actions) assumes that distribution businesses will continue to administer government financial relief payments. However, Nous does not consider this to be the most streamlined or cost effective option.

The current arrangement requires each distribution business to develop and maintain their own payment processing systems and introduce training to their customer-facing teams. A preferable alternative would be designating a single government body to administer the payments. These capabilities already exist at scale across government. Distribution businesses are the best placed entity to monitor and advice on eligibility (duration of outage) and should continue to play this role. Data could be transferred from distribution businesses or retailers to this centralised body, as necessary.

The following actions are provided for AusNet to undertake under the assumption that their role continues to include processing payment of PPOP payments or other related government programs.

Action 9.1: Address gaps in the technology systems supporting PPOP payments.

3–12 months
(by 30 June 2025)

AusNet should investigate the main sources of friction in the technology systems that support the processing of financial relief payments. Among the known elements that contributed to delays were the identity verification system and a payment processing solution that was designed to pay fewer, large customers rather than thousands of smaller customers. AusNet should invest in fit-for-purpose technology given its ongoing role in processing relief payments on behalf of government following widespread, prolonged outages.

This action would deliver the following benefit(s) for customers:

- Customers will experience fewer delays in receiving their PPOP application outcomes and payments.
- Customers are less likely to experience errors in submitting their application or to receive follow-ups for further information.

Action 9.2: Roll out a training program for processing PPOP applications and enquiries.

3–12 months
(by 30 June 2025)

Strong documentation of customer support and application assessment processes regarding the PPOP program was not enough to streamline the implementation. Instead, AusNet should ensure that its call centre staff receive regular training in the processes to avoid learning through implementation during a major unplanned outage event. This training is important, as it is likely that staff will be implementing these processes for the first time during the event, given the infrequency of PPOP programs and the natural turnover of the staff.

This action would deliver the following benefit(s) for customers:

- Customer queries are resolved and their PPOP applications assessed with greater speed and proficiency.

SYSTEM ACTION

Action 9.3: Engage with DEECA to establish PPOP eligibility and improve information sharing.

12–24 months
(by 30 June 2026)

This action cannot be delivered by AusNet in isolation, as it requires collaboration with entities across the system.

While the circumstances and customer impact of a PPOP payment may vary, there remains room to coordinate with DEECA in advance to agree known aspects of the process. This may include reaching agreement on eligibility criteria based on a range of scenarios or levels of impact. Planning that can be done ahead of time to reduce the number of decisions required during a major unplanned outage event will improve efficiency.

Efficient and effective information sharing processes between AusNet and DEECA should be established prior to the unplanned outage event. DEECA and AusNet should be able to independently access all necessary information regarding a customer application to fulfil their respective roles in the program. This could be achieved by giving DEECA access to AusNet systems as necessary, or by implementing an automated solution that sends all necessary information on request. Information sharing processes should ensure that the shared responsibility for financial relief payments between AusNet and government appears seamless from a customer perspective. For example, there should be only one channel for customers to register a complaint or query, and there should be a clear process for the information to be provided to and actioned by the right entity, whether that is the Victorian Government or AusNet.

This action would deliver the following benefit(s) for customers:

- Customers have clarity on where to submit queries and complaints regarding future PPOP programs.
- Customers receive faster application outcomes, responses to complaints and queries and payments.

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Appendix A Glossary

Table 3 provides a brief description of key terms and abbreviations used throughout the report.

Table 3 | Glossary

Term	Description
ADMS	Advanced Distribution Management System
AEMO	Australian Energy Market Operator
AMI	Advanced Metering Infrastructure; AusNet's internal system that integrates information from smart meters
CEOT	Customer Energy Operations Team
CAOiC	Control Agency Officer in Charge
DEECA	Department of Energy, Environment and Climate Action
Electricity distribution	The local delivery of electricity at reduced voltages from substations to residential, commercial, and industrial customers.
Electricity transmission	The high-voltage transfer of electricity from generation facilities over long distances to substations for subsequent distribution to end users
EMLO	Emergency Management Liaison Officer
ESV	Energy Safe Victoria
ETA	Estimated Time to Assess
ETR	Estimated Time to Restore
February storm events	The storm events that occurred on 13 and 22 February 2024, which led to the outage event
February outage event	The period from when the outages began to when power was restored for all customers impacted by the two storms (13 to 26 February 2024)
Field delivery team	All field delivery crews involved in the restoration of power

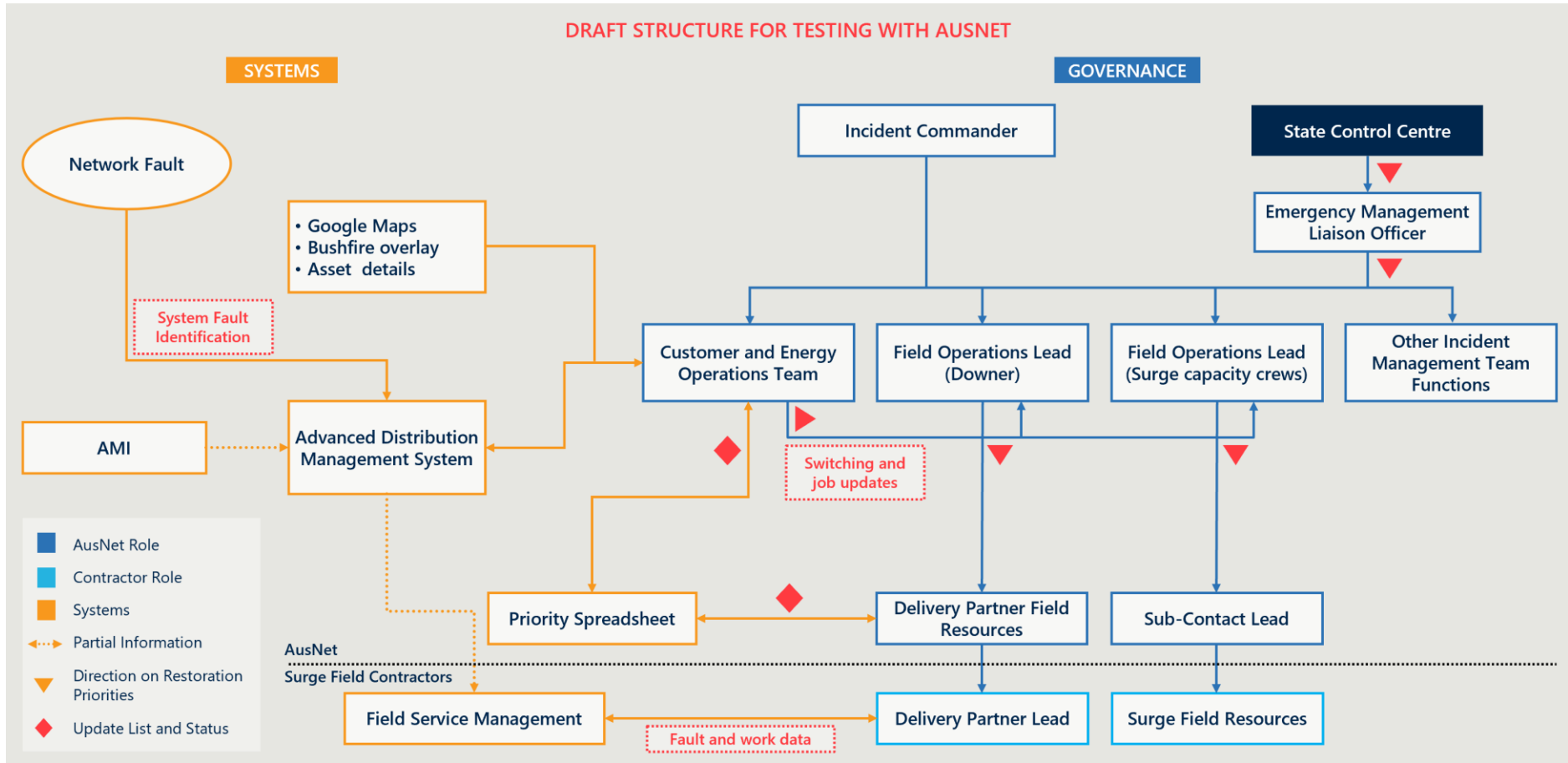
Term	Description
FSM	Field Service Management, the proprietary system used by AusNet's primary delivery partner to receive and update repair and restoration jobs
ICC	Incident Control Centre
IMT	Incident Management Team
Fault	A defect or malfunction in the electrical system that disrupts the normal flow of electricity, potentially leading to an unplanned outage or equipment damage
IVR	Interactive Voice Response
NMI	National Meter Identifier
OMS	Outage Management System
PPOP	Prolonged Power Outage Payment
Primary delivery partner	The field delivery partner with which AusNet has a standing agreement to provide in-field services, including during emergencies
REFCL	Rapid Earth Fault Current Limiter
PIR	Post incident review
Planned outage event	A scheduled interruption of electricity supply to facilitate maintenance, upgrades or repairs on the power network, communicated in advance to affected consumers
SCC	State Control Centre
SISP	Single Industry Spokesperson Protocol
SPIRACS	Strategic Plan for Integrated Response & Contingency System
Surge capacity crews	Additional field crews temporarily contracted by AusNet to support a major unplanned outage event
Unplanned outage event	An unexpected interruption in the supply of electricity without prior notification due to factors such as equipment failure, extreme weather or accidents, resulting in a loss of power to consumers

Term	Description
USAIDI	Unplanned System Average Interruption Duration Index

Appendix B AusNet operating structure during February prolonged power outage

Figure 19 provides an overview of AusNet’s governance structure and systems during the February 2024 storm events. The overview includes AusNet’s correspondence with surge field contractors.

Figure 19 | AusNet structure and systems during the February 2024 storm events



Appendix C Summary of the Network Outage Review scope

Table 4 outlines the alignment of the assessment framework of this report to the [Network Outage Review](#). The final report for the Network Outage Review will be released in August 2024.

Table 4 | Alignment of the relevant functions of the 'Network outage review – systems response to the 13 February storms' to the assessment framework of this report

The functions of the 'Network outage review – systems response to the 13 February storms' (relevant to distribution businesses) are to provide recommendations that address the following:	Alignment to the assessment framework of this report:
The process for enacting State emergency management restoration priorities in accordance with the Emergency Management Act (primacy of life, communications, etc).	All
The efficacy of control room operations and escalation model to manage and direct the business wide response to the event.	Service & Operations
The availability and number of field crews and technical expertise, fleet and equipment, operating depot size and locations and comparative benefits in the operating model of energy network companies, including through insourced, outsourced or shared service provider models, and consequent speed of deployment.	Service & Operations
Whether there were material opportunities to enable more rapid restoration of supply to customers through the use of mutual aid and resource sharing within Victoria, or from interstate resources, and the extent to which there was adequate contingency planning for mutual aid, including the ability to incorporate surge capacity into the response.	Service & Operations
The tools and systems to communicate proactively with customers and external authorities, including SMS, call centres and effective information platforms and services, such as outage trackers	Communications & Information
The capacity to provide support and resources to offer in-field communication and support to heavily impacted communities (via mobile community response vehicles or community centres).	Community Engagement & Support
Preparedness to administer the Prolonged Power Outage Payment program and other forms of Relief and Customer Support.	Community Engagement & Support
The extent to which customers who were affected by the 13th February storms should be and were adequately prioritised in subsequent outages.	Service & Operations
In light of the above, the identification of best practice systems, resources and technologies for managing extended outages, and the need for industry wide adoption.	Service & Operations