

**THE ELECTRICITY OUTAGES AFFECTING FAR WEST NSW IN OCTOBER
2024**

Organisation: Essential Energy
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11 February 2025

Mr Clayton Barr MP
Chair
NSW Legislative Assembly Committee on Environment and Planning
Parliament of New South Wales
6 Macquarie St
SYDNEY NSW 2000

Dear Mr Barr

SUBMISSION TO THE INQUIRY INTO THE ELECTRICITY OUTAGES AFFECTING FAR WEST NSW IN OCTOBER 2024

Essential Energy manages over 183,000 km of powerlines, covering 95 per cent of New South Wales, including the Far West, as well as parts of southern Queensland. The network serves more than 890,000 customers across regional, rural and remote communities, including homes, hospitals, schools, businesses, and community services.

Essential Energy acknowledges the significant impacts of the electricity outages on Broken Hill and other communities in the Far West in October 2024. This was a challenging period for local businesses and households, with far-reaching economic and social consequences.

While acknowledging this impact, the event demonstrated how various stakeholders, including NSW Government agencies, Broken Hill City Council, and local representatives, worked co-operatively to support Far West communities until power was ultimately restored.

In addition to the investigation being undertaken by the NSW Independent Pricing and Regulatory Tribunal (IPART) and the Australian Energy Regulator (AER), this Inquiry provides an important opportunity to review and assess electricity industry responses and compliance with their obligations, and make improvements to enhance resilience in the Far West region.

This letter provides a summary of Essential Energy's response to the Inquiry. Further detail is appended to this letter, addressing a number of aspects of the Inquiry's terms of reference.

Far West Incident

Broken Hill and surrounding areas are supplied by a single transmission line, being Transgrid's 220 kilovolt (kV) line (X2 line) from Buronga. Just after midnight on 17 October 2024, an extreme storm approximately 50 km south of Broken Hill resulted in seven collapsed and two damaged towers on the X2 line. Power to Broken Hill was disrupted. The storm also resulted in some damage to an Essential Energy 66 kV line supplying areas outside of Broken Hill, including Menindee, White Cliffs, Wilcannia and Tibooburra.

Back-up power is provided by two diesel-powered gas turbine generators in Broken Hill, owned and operated by Transgrid. At the time of the incident, one gas turbine generator was operational, while the

other was under repair. The single gas turbine generator available was not sufficient to meet consumer demand from Broken Hill and surrounding areas.

From 12:29 am on 17 October 2024, approximately 12,700 premises across an area of 70,000 square kilometres lost power supply. For the following two weeks, until the Transgrid X2 line was restored using temporary tower structures at 10:32 pm on 31 October 2024, customers in Broken Hill and surrounding areas experienced continued and intermittent disruptions to supply. There was an additional incident on 3 December 2024 at 9:42 am, affecting the same region due to an interruption on Transgrid's shared transmission network, with supply restored later that day at 11:36 am. A full timeline of supply interruptions can be provided to the Committee if requested.

Customer and community focused response

Once the outages on 17 October 2024 occurred, Essential Energy's focus was on supporting the communities of Broken Hill and the Far West. Essential Energy's staff live and work in the communities they serve. When power outages occur, they understand firsthand the impact, and the importance of working to restore power as quickly as safety allows, while also explaining to affected communities what is happening and what is involved in restoration.

70 Essential Energy operational staff were deployed to assist with the event on the ground, including 23 local staff onsite in Broken Hill and an additional 47 staff from around the state were dispatched to assist. These staff attended from depots across NSW at short notice, with many travelling long distances by air and road. Many corporate and support staff were also directly involved in the response remotely.

During the outage in the Far West, Essential Energy empowered its workforce to work directly with local stakeholders to address challenges as they arose, including openly and regularly informing the community on the response effort. Essential Energy worked with NSW Government agencies on the ground, including with NSW Health on prioritising the supply of emergency generators to life-support and other vulnerable customers affected by the outages.

This approach also enabled Essential Energy's teams, working closely with partners including generator supplier Energy Power Systems, to design, install and operate a temporary, islanded microgrid at Essential Energy's Pinnacles Place Substation. This microgrid provided supply to approximately 1,900 customers in Menindee, Wilcannia, White Cliffs, Tibooburra and surrounding communities whilst Transgrid's transmission network was not available and its back up gas turbine generator could not meet all consumer demand. The infrastructure installed to enable the Pinnacles Place microgrid will remain until Transgrid has confirmed it has adequate generation operational and available for contingency of supply for an outage of either the X2 line or the current single gas turbine generator.

Communication was core to Essential Energy's response

Clear and timely communication was fundamental in helping local households and businesses to manage the impacts of the outages. This was particularly important during events in the Far West, where outages were prolonged and intermittent, and efforts to restore power could be aided by the participation of the community to manage the return of supply in a safe manner.

Essential Energy's customers have consistently advised that they would like to see clear and simple communications across multiple channels. Throughout the outages, Essential Energy used direct communications with customers via phone and SMS, particularly to the 577 registered life support customers in the region, to provide updates on their expected time for supply restoration. A total of 161

SMS notifications were sent out across the period of 17 to 31 October 2024, with a total of 352,017 individual messages sent.

Public communication was also a critical component of Essential Energy's communications strategy, with updates provided daily or multiple times during the day via media, including through press conferences and radio interviews, social media, and the Essential Energy website. Live radio interviews, with informed and knowledgeable spokespersons, were particularly beneficial. These provided accessible and practical information to affected communities; answering direct consumer queries live on air helped create confidence and eased community concerns.

Essential Energy is working to improve reliability of supply in the Far West region

Prior to this event, Essential Energy was already progressing the delivery of a more resilient and reliable power supply to the communities outside of Broken Hill. In Tibooburra, an auto-start generator was approved in May 2024 and installed in December 2024 to provide backup supply to the local township, with work underway to install a solar and battery microgrid to further improve reliability. While outside the area impacted by the October 2024 incident, a similar generator has been commissioned to provide power to Ivanhoe during unplanned outages, with a battery storage system to be installed in 2026. There are also plans to provide more power resilience to Packsaddle and Milparinka by installing battery storage to work in conjunction with existing solar installations at the Packsaddle Roadhouse and Milparinka Hotel in 2026. These projects were already in planning and delivery before the October 2024 incident.

Essential Energy has previously identified additional activities and programs to enhance reliability and resilience in the Far West region as part of \$204.8 million of resilience-related investment approved by the AER for Essential Energy's 2024-2029 regulatory period. These initiatives include the installation of Stand-Alone-Power-Systems (SAPS) and microgrids, or community-scale energy systems, which link individual solar systems and potentially large-scale solar farms with community batteries. These can function in isolation if required, enhancing reliability outcomes for some remote customers impacted by outages due to weather.

Essential Energy is also investing in mobile backup supply, enhancing its capacity to assist communities during and after interruptions caused by extreme weather and natural disasters.

Essential Energy continues to seek additional investment in the form of grants to support the expansion of its resilience program. Thus far, Essential Energy has been successful in attracting Federal Government funding for the Power for Towers program, which will provide deployable backup supply for some remote telecommunications sites. Essential Energy is also proposing microgrids in remote communities under grant funding by the Australian Renewable Energy Agency (ARENA).

Essential Energy welcomes the opportunity to provide additional information or evidence at the Committee's request. Please contact Mitchell Hume, Head of Stakeholder Engagement via

[REDACTED] or [REDACTED].

Yours Sincerely

[REDACTED]

Annie Pearson
Chief Corporate Affairs Officer

APPENDIX: RESPONSES TO THE TERMS OF REFERENCE

A. THE PREPARATION AND MITIGATION STRATEGIES IN PLACE BY ELECTRICITY PROVIDERS IN FAR WEST NSW IN THE EVENT OF A MAJOR ELECTRICITY OUTAGE

Preparation and mitigation strategies in Far West NSW

As the electricity distributor servicing the Far West of NSW, Essential Energy's supply to customers in Broken Hill and surrounding districts relies entirely on the upstream supply via Transgrid's X2 transmission line from Buronga. In the event of outages of the X2 line, electricity supply responsibility rests with the transmission system operated by Transgrid via a diesel-powered gas turbine generation set owned and operated by Transgrid.

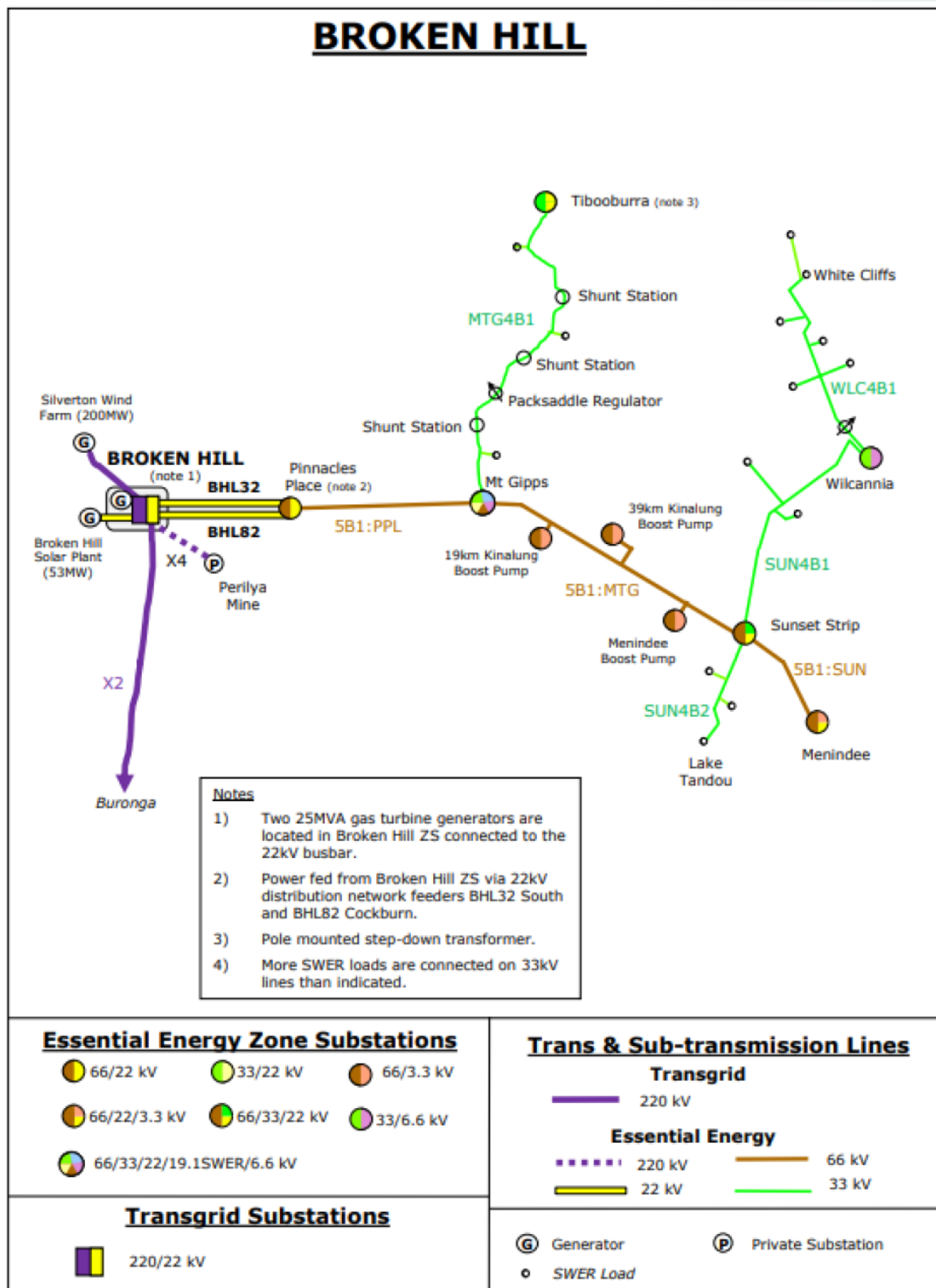
The generation set:

- ▶ consists of two 25-megawatt (MW) simple cycle distillate fuelled gas turbines located at Broken Hill Zone Substation, and
- ▶ provides Transgrid with N-1 redundancy and planned maintenance support so that it can meet its reliability obligations under its transmission licence.

Following a sale process, which included a detailed technical due diligence, Transgrid purchased the generation set from Essential Energy. The sale process completed in May 2022. Prior to the sale of the generation set Essential Energy maintained the generation set to assist Transgrid in meeting its reliability obligations.

Essential Energy's customers downstream from the X2 line (or supplied by the back-up gas turbine generation at Transgrid's Broken Hill substation) are serviced by four 22kV feeders supplying the Broken Hill township and Silverton, while customers in the rural and regional communities surrounding Broken Hill are served by two 22kV feeders supplying Pinnacles Place substation where the voltage is stepped up and distributed at 66kV as shown in Figure 1.

Figure 1: Normal configuration of Far West network, prior to October 2024 outages



In accordance with its Distribution Licence, Essential Energy manages its distribution assets via an ISO 55001 accredited Asset Management System and manages network safety risks under an Electricity Network Safety Management System (ENSMS) which identifies and manages network related aspects of public safety and the impact of loss of supply risks to so far as is reasonably practicable.

In determining the risk threshold across the network, Essential Energy must demonstrate if the cost of doing so in terms of time, effort or cost would be grossly disproportionate to the risk reduction that would eventuate from taking that action.

Essential Energy's Electricity Network Safety Management System

The ENSMS directs Essential Energy's approach to managing the network-related aspects of Public Safety, Worker Safety, Environment, Bushfire, Loss of Supply, and Protection of Property risks, all of which have detailed formal safety assessments (FSAs).

The FSA process is a structured and detailed approach to identifying the hazards that could result in an adverse event, and the potential treatments (controls) that could be implemented to reduce the risk. The key steps in the FSA process are:

- ▶ The treatment options are assessed for practicability, and cost estimates are undertaken to quantify the time, resourcing and cost associated with implementing the treatment
- ▶ The risk-benefit realised is also determined using existing business performance experience, data and models and supported with broader industry performance data where applicable and available
- ▶ A treatment effectiveness assessment is undertaken to help determine the projected level of risk reduction that could be realised if the particular treatment were implemented, and
- ▶ The costs are then compared to the benefits. Treatments that illustrate strong benefits relative to costs will be prioritised for implementation.

Essential Energy is practised in responding to outages on the Essential Energy distribution network due to weather events and other unforeseen circumstances. The business has systems, procedures and equipment in place to deploy teams and support to restore power and support communities through such events. This approach was undertaken in response to the Broken Hill outage in October 2024, even though the outage was on Transgrid's shared transmission network.

On 27 October 2024, a Contingency Plan for maintaining electricity supply to Broken Hill and surrounding areas was endorsed by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), Transgrid and Essential Energy. The Contingency Plan establishes a joint agency response in the event that Transgrid's 22 kV, 25 MVA gas turbine generator at its Broken Hill substation is incapable of providing largescale backup generation. This Contingency Plan was developed as part of the response to the Broken Hill outage, and provides a useful resource in the event of further electricity outages in the region.

B. THE OVERALL EFFECTIVENESS OF THE PREPARATION AND MITIGATION STRATEGIES

Summary of Essential Energy's response to the electricity outages

As soon as the scale and impact of the extreme weather on 17 October 2024 were apparent, Essential Energy mobilised its workforce and resources to restore power and minimise disruptions to the local communities as quickly as possible and in a manner consistent with previous practice. Damage to Essential Energy's 66 kV line, supplying areas outside of Broken Hill, including Menindee, White Cliffs, Wilcannia and Tibooburra, was repaired by 6:06 pm on 18 October 2024.

The services provided by Essential Energy in response to the outages extended beyond its legal obligations but were done with Essential Energy's customers front of mind. The forms of emergency support provided by Essential Energy's staff and contractors include:

- ▶ Installation and operation of the Pinnacles Place islanded microgrid, comprising five 1.75 MVA mobile generators (four of these generators were connected, with one additional generator onsite for contingency) and load banks at the Pinnacles Place Substation in Broken Hill, providing supply to 1,900 customers in Menindee, Wilcannia, White Cliffs, Tibooburra and surrounding communities. This infrastructure will remain in place until Transgrid has confirmed it has adequate generation operational and available for contingency of supply for an outage of the X2 line or the current single gas turbine.
- ▶ Mobilisation of specialist support resources to Broken Hill and surrounding areas, including 47 staff dispatched from Cobar, Nyngan, Warren, Tamworth, Albury, Narromine, Dubbo, Orange, Jindabyne, Blayney, Bourke, Molong, Leeton and Wellington.
- ▶ Mobilisation of 26 Essential Energy owned mobile generators (ranging from 20 kVA to 500 kVA in capacity), 70 small portable 2.2 kVA customer generators and 31 hired generators (ranging from 15 kVA to 1.75 MVA in capacity), plus several load banks, and 20 fuel pods.
- ▶ Provision of support to establish emergency generation to a number of government and community organisations, including Fire and Rescue NSW and NSW Ambulance, as well as coordination with NSW Police, NSW Department of Education, NSW Health, NSW Rural Fire Service and Broken Hill City Council.
- ▶ Communication with customers and communities, including radio, social media etc.
- ▶ Daily updates with Government and other key stakeholders on efforts to restore power and provide support to customers and communities, and
- ▶ Coordination with Transgrid operations.

These services came at significant additional cost to Essential Energy. The current ongoing costs for the temporary generators and equipment hired at Pinnacles Place substation is in the order of approximately \$20,000 per day excluding GST. Essential Energy is recovering costs from Transgrid for the operational and generation support provided in response to the Broken Hill outages, as well as ongoing costs.

Fulfillment of Essential Energy's obligations

Essential Energy is subject to obligations under the National Electricity Rules and its Distributor's Licence, issued under the *Electricity Supply Act 1995 (NSW)*. These obligations include providing reliable supply to customers connected to its distribution network.

Essential Energy considers the interruptions related to the Broken Hill incident to be largely excluded interruptions under its Distributor's Licence. This included multiple interruptions from failure of the shared transmission network and load shedding as directed by the transmission system operator, Transgrid, which are exclusions in accordance with clause 7.1(b)(ii)(D) and (C) of the Licence.

The full list of supply outages recorded by Essential Energy, including rationale for their exclusion, are available to the Committee on request but have been provided to IPART as part of its investigation in the to the outages in the Far West NSW from 17 to 31 October 2024. In summary, the outages were caused by:

- ▶ A disruption to the upstream shared transmission network operated by Transgrid, with Essential Energy identifying the commencement of this incident from 12:29 am on 17 October 2024
- ▶ Daily load shedding from 18 to 24 October 2024 as directed by Transgrid
- ▶ One of Transgrid's back-up generators being shut down for maintenance and unavailable for use at the time of the outage, and
- ▶ Transgrid's remaining back-up generator experienced faults on 21 and 25 October 2024 and it was not sufficient to manage the customer load in Broken Hill and surrounding areas.

There were also minor interruptions to supply for customers connected to the Pinnacles Place microgrid from 23 to 29 October 2024, caused by faults in the temporary generation facilities. Essential Energy considers that the minor interruptions resulting from connection of temporary generation equipment, to support customers and relieve load from the permanent transmission network generators during the event, are also excluded interruptions. Initial connection, commissioning and disconnection of the temporary generation equipment resulted in small interruptions which were required to establish a microgrid within the area affected by the wider transmission network interruptions. This temporarily islanded section of network relieved load from the permanent transmission connected generating equipment and also protected customers within the Essential Energy islanded microgrid from subsequent transmission outages.

Load Shedding

In line with its obligations as an electricity distributor, Essential Energy carried out daily load shedding under direction from Transgrid over the period 18 to 24 October 2024. Transgrid advised that these arrangements were necessary to manage demand and maintain the broader security of the local network. Rotational load shedding – where the areas temporarily disconnected are rotated to share the impacts of outages – was undertaken where feasible. However, Essential Energy's capacity to carry out rotational load shedding in a way that shared the impacts across the community was limited by factors such as the need to ensure continuity of supply for priority customers and short periods of notice between when the need to shed load was advised and when it was required to be carried out.

Effectiveness of strategies to manage the risk of outages

The single 220kV X2 shared transmission asset from Buronga for supply of Broken Hill and surrounding areas is inherently vulnerable, particularly with more frequent extreme weather events likely in a changing climate. Notwithstanding this, the electricity outages over the period of 17 to 31 October 2024 clearly highlight scope for improvement in the resilience of electricity supply systems in the Far West region.

As detailed separately in this submission, Essential Energy has initiated measures across the network to support greater reliability and resilience, including in the Far West region.

C. THE ROLE OF RELEVANT NSW GOVERNMENT AGENCIES AND LOCAL GOVERNMENT IN PREPARING FOR AND RESPONDING TO MAJOR ELECTRICITY OUTAGES

Essential Energy engaged with numerous NSW Government agencies as part of the response to the power outage.

NSW Energy & Utility Services Functional Area (EUSFA)

EUSFA was extremely effective in coordinating the response by Essential Energy and Transgrid. The involvement of EUSFA provided an effective communication and collaboration channel between the major stakeholders – Essential Energy, Transgrid and the NSW Government.

NSW Health

Throughout the event, Essential Energy needed to ensure adequate support was provided to customers using life support equipment as these customers generally require access to continuous power. Support provided included welfare checks, additional SMS notifications and the provision of small generators where possible.

While these customers should register their premises with their distributor (such as Essential Energy) or their retailer, this does not always occur, or their details may not be up to date. This means that some vulnerable customers who require power may not be visible to energy providers and therefore may be at risk of serious health impacts.

In recognition of this risk, Essential Energy engaged with NSW Health to identify those customers with critical health needs and required continuous power. Most, but not all, customers were already registered as life support customers. There is scope to improve the current life support provisions in the energy industry so that those customers most at need can be identified and prioritised accordingly.

Essential Energy, alongside SA Power Networks, has initiated a formal rule change request to the Australian Energy Market Commission (AEMC), proposing reforms to existing life support provisions to enhance protections for the most critical customers. The electricity outages in Far West NSW highlighted the importance of progressing with these reforms. The absence of reliable information on life support customers with critical needs readily available to Essential Energy, and the lack of preparedness of many of these customers for extended outages, provided a major challenge in the response to the Far West outage. This was overcome in this instance through collaboration with NSW Health to identify customers with critical needs, and with the assistance of other NSW Government agencies to carry out the emergency supply of generators to identified customers.

Events like the Far West outages demonstrate the need for energy providers to prioritise support to customers who need it the most. Essential Energy considers the proposed reforms would help achieve this and reduce the likelihood of more serious impacts on customers with critical health needs. Essential Energy would welcome support from Government and this inquiry for the rule change request, including requesting the AEMC expedite consultation and review of the critical reforms this request proposes.

Better Protections for Life Support Customers – Rule Change Request

In August 2024, Essential Energy and SA Power Networks submitted a rule change request to the AEMC, proposing to increase safeguards for customers who rely on life support equipment. In particular, the focus of the proposed reforms is on those customers classified as having a critical need for medical equipment that requires the supply of energy to sustain their life, while retaining all the existing

protections for registered life support premises offered in the current Retail Rules. Critically, the number of homes with registered life support customers with critical needs is unknown.

This rule change request is the result of over two years of collaboration by the Energy Charter, a unique coalition of like-minded energy organisations committed to better customer and community outcomes. The Energy Charter's #BetterTogether Life Support Customers initiative was an outcome of the 2022 Australian Energy Foundation (AEF) report, which raised concerning findings around life support customers based on the survey results of 4,000 Life Support Customers. The AEF report found that 59% of life support customers used their life support equipment to sustain their life, while 41% use equipment to make their life more comfortable. Of great concern is that the research found many customers registered for life support were underprepared for outages: 54% did not have a plan in place if the power were to go out, 68% mistakenly expected priority power restoration within two hours and only 7% had access to back-up power.

This rule change request introduces a Critical Life Support Customer definition, where critical energy-based life support needs are determined by a Registered Medical Professional, and non-critical life support customers are then defined as an Assistive Life Support Customer. Importantly, energy retailers and distributors would then be able to identify the subset of registered Critical Life Support Customer premises for whom power is critical to sustaining their life or mitigating lifelong irreversible injury. Providing visibility of this subset of Critical Life Support Customer premises will allow energy providers to more effectively triage customers during unplanned power outages and appropriately target service enhancements. The rule change request proposes a number of other forms of targeted support for all life support customers.

The AEMC has not yet initiated this rule change request.

NSW Government agencies

The Rural Fire Service (RFS) and NSW Police worked with Essential Energy to conduct health checks on life support and vulnerable customers.

Essential Energy also observed RFS providing assistance particularly in the smaller, remote communities outside of Broken Hill. This assistance included moving small generators to where they were required.

The NSW Department of Education was particularly proactive in recognising the need for and then organisation of additional generators as required, which was important as the NSW HSC was in progress during the outages.

D. THE IMPLEMENTATION OF RECOMMENDATIONS FROM PREVIOUS ELECTRICITY OUTAGES IN FAR WEST NSW

Essential Energy is not aware of any specific recommendations from previous inquiries or other processes related to electricity outages in Far West NSW. A previous outage in 2009, caused by a storm damaging five towers approximately 200 km south of Broken Hill, was not subject to a formal review, but lessons from this outage were applied by the organisation, which was known as Country Energy at the time.

Separate inquiries into agencies' responses to emergency events, such as the 2020 NSW Bushfire Inquiry report and the 2022 NSW Flood Inquiry, provide an important source of information to guide and enhance Essential Energy's preparedness for, resilience to and recovery from future events of this nature.

Consistent with the recommendations from these inquiries Essential Energy has:

- ▶ Commenced delivery of \$204.8 million in proposed resilience-related capital expenditure, approved in Essential Energy's latest regulatory determination covering the 2024 to 2029 period, including major investment in the deployment of SAPS in remote parts of the grid
- ▶ Supported the inclusion of distribution network resilience in the National Electricity Rules following a rule change request submitted to the AEMC by the Victorian Government, with the goal of this reform to place a positive obligation on the AER to consider resilience in its assessment of regulatory proposals, and
- ▶ Consulted widely with customers and communities to understand how Essential Energy can support enhanced resilience in remote areas and mitigate the risks and impacts of natural disasters.

As detailed separately in this submission, Essential Energy continually seeks to implement measures to enhance resilience in Far West NSW and across its footprint, including applying lessons from previous electricity outages.

E. RECOMMENDATIONS ON FUTURE ALTERNATIVE POWER SUPPLY EMERGENCY RESPONSE AND EFFECTIVE REDUNDANCY

A continued focus of Essential Energy is on enhancing the resilience of its distribution network, including the capacity of assets to withstand and recover from the impacts of extreme weather and natural disaster events. As part of these efforts, Essential Energy will invest \$204.8 million in resilience-related projects over the 2024 to 2029 regulatory period. Initiatives for which Essential Energy has received regulatory approval include:

- ▶ Taking a forward-looking view to modelling the risk to Essential Energy's assets including the impacts of climate change to deepen understanding of resiliency of the network and informing the approach to projects
- ▶ Mobile backup supply to assist communities during or after major weather events, including generators, portable SAPS units, portable solar streetlights, a portable depot, and a communications van
- ▶ Procurement of a suite of portable and adaptable assets, such as mobile switchboards and multi-winding transformers, to speed up restoration of service to customers following large events that affect zone substation assets
- ▶ Risk-based pole replacement, with between 10,000 and 11,000 timber poles in vulnerable areas to be replaced with composite poles to improve the resilience of the network to bushfire.
- ▶ Undergrounding infrastructure at locations most at risk of exposure to bushfires and storms, with approximately 40 kilometres of assets to be undergrounded in total, and
- ▶ Six community microgrids, which will reduce outage duration and the impact of major weather events, including one microgrid at Tibooburra.

These investments were identified and approved to enhance network resilience over the 2024 to 2029 regulatory period, following engagement with customers and review by the AER. This was informed by detailed analysis of not only investment needs across Essential Energy's network, but also incorporated a forward view of risk by modelling the impacts of climate change.

Essential Energy continues to seek funding to accelerate network resilience. This includes grant applications through the Australian Renewable Energy Agency (ARENA) and the Federal Government.

Microgrids

The proposed Tibooburra microgrid, approved for rollout in the 2024 to 2029 regulatory period, involves supplementing a diesel generator that was put in place in December 2024 following two substantial upstream network outages in 2022. It is proposed to supplement the diesel with solar generation and battery storage, both of which will operate as a microgrid during outages (in line with current regulations). Community consultation has commenced at Tibooburra, and construction has been tentatively planned for early FY26 pending the negotiation of access to Crown Land for the location of the supporting solar.

Additionally, Essential Energy previously received regulatory approval for a microgrid at Ivanhoe in the 2019 to 2024 regulatory period. This project will add a battery to supplement the current Ivanhoe generator and allow for additional household solar installations and exports, reducing reliance on the diesel generator that was installed in 2024 to enhance resilience. Network design has been completed for this project, and Essential Energy is currently going to market for a battery supplier.

Essential Energy continues to explore options for additional microgrids and is seeking funding through ARENA's Regional Microgrids Program to accelerate their delivery. This includes plans to develop microgrids in Far West NSW at:

- ▶ **Menindee/Sunset Strip:** Essential Energy proposes to install solar generation and a battery energy storage system (BESS) to enhance the resilience of these communities to outages caused primarily by lightning strikes and high winds on the 96 km connection to the nearest depot. The microgrid would substantially reduce the frequency and length of outages experienced in this very remote location, supporting the provision of essential services.
- ▶ **Wilcannia:** This project is in early development and would involve the delivery of a microgrid featuring solar generation and BESS to enhance resilience for local communities and decrease emissions by reducing reliance on diesel generation. This project is being developed in partnership with the NSW Aboriginal Land Council.

Stand Alone Power Systems (SAPS)

Essential Energy also plans to install SAPS at up to 400 locations over the 2024-2029 period, initially targeting areas that are hard to access and have a high cost-to-serve. While the primary driver of this investment is in reducing costs per customer in remote areas, these systems will also help to enhance climate resilience for these remote customers by reducing risks of disconnection due to upstream outages.

Telecommunications

Backup electricity supply for telecommunications infrastructure is a point of failure for communication with customers, particularly in remote locations. Essential Energy recognises that there is much work in progress in this area following findings from the NSW Bushfire Inquiry (2020). Essential Energy, with some support from the Federal Government, is delivering backup power and storage solutions to critical radio sites across the state.

In terms of telecommunications resilience, Essential Energy has received regulatory approval to invest in backup supply, in the form of solar and batteries, across 50 radio sites in remote areas. Essential Energy was also successful in securing a grant for our Power for Towers project through the Federal Government's Telecommunications Disaster Resilience Innovation (TDRI) Program. This grant will provide 50% of the funding to procure six rugged deployable power solutions known as emergency response SAPS and complete enabling works to accept plug in backup supply at a minimum of 12 radio sites, which also contain other emergency services telecommunication assets. Essential Energy will provide the remaining 50% of funding for this initiative.

F. THE EFFECTIVENESS OF PROVIDERS' COMMUNICATIONS STRATEGIES REGARDING ELECTRICITY OUTAGES AND RESPONSES

A range of communications strategies were used by Essential Energy. Over the course of the event, Essential Energy tailored its communications strategy for customers and the community to reflect feedback and changing circumstances. This included ramping up all forms of communication as customers and stakeholders responded well to receiving more information, including plain English information that explained technical concepts. This helped customer and stakeholder understanding of about the barriers to achieving unlimited power supply.

Essential Energy found that all approaches were useful as there was no one-size-fits-all channel which all customers preferred. Different communications channels were also used to complement other channels, such as social media posts linking to the website.

Media

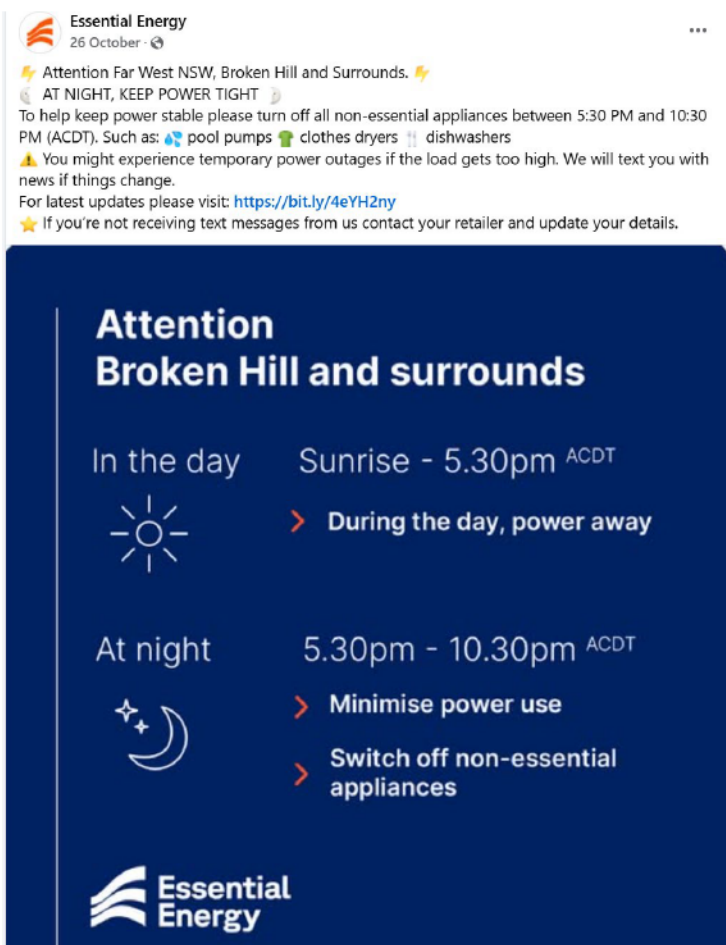
From the start of the event on 17 October 2024, Essential Energy's initial approach was to direct media inquiries about the outages and damage to Transgrid's network to Transgrid for comment. This included publishing Transgrid statements on our communication channels. As the incident progressed, to address increasing demand for detailed and timely updates, Essential Energy provided more detailed information directly to media, in addition to social media posts, to ensure customers were updated regularly with as much useful information as possible.

Essential Energy staff provided regular morning updates and interviews on ABC Radio. This proved to be a highly effective medium to provide updates, relay important information to customers, and explain some technical factors in the situation (such as network configuration and how, why, when and where load-shedding occurs) in a plain English approach.

Regular press conferences established by the NSW Government also proved to be an efficient and effective way of communicating information to the media and the public. Essential Energy participated in these conferences to contribute information about the distribution network and explain activities and decision taken by Essential Energy.

Social Media

Essential Energy's social media pages proved to be a useful channel for customers and stakeholders. They allowed Essential Energy to provide targeted updates within the region, manage daily customer enquiries and respond to public posts. Updates provided by Essential Energy included information about power restoration times and potential for load shedding events, posts requesting customers to consume power during the day and then limit their power consumption during evening peaks and sharing information on NSW Government financial assistance. An example of a social media post is provided below:



A number of external parties also engaged (through reactions, posts, comments and shares) on Essential Energy's posts including Transgrid, Members of Parliament, ABC Broken Hill and Police.

Commentary on social media posts – both for Essential Energy and external organisations connected to the response – primarily related to the desire for accountability, compensation, support or information regarding the duration and frequency of supply interruptions.

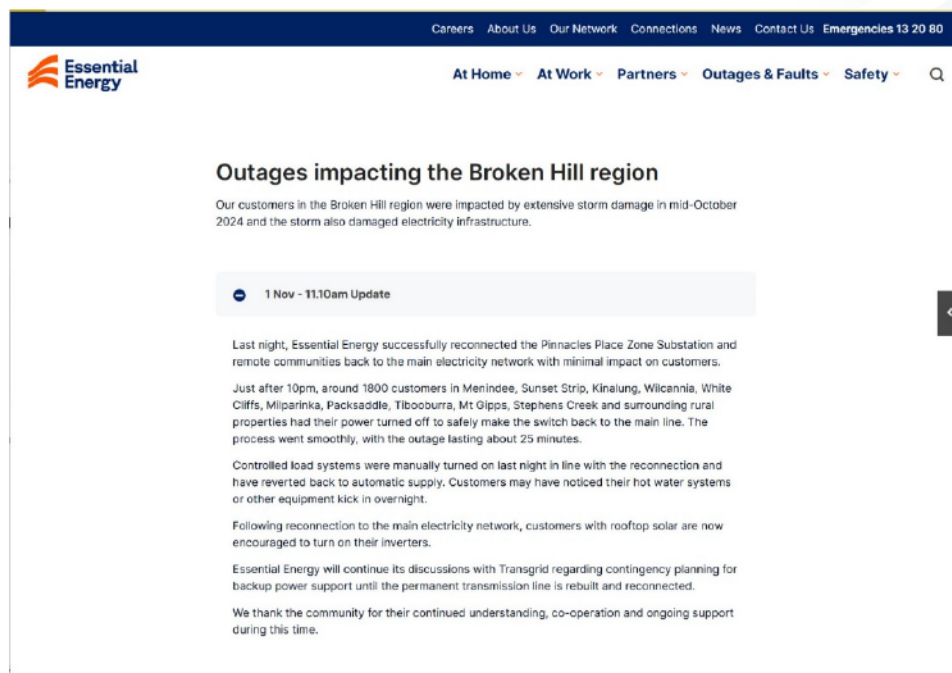
Overall Essential Energy's social media posts on Facebook and Instagram saw more than 20,000 impressions, with almost 2,000 engagements (interactions).

Essential Energy Website

In order to provide timely and accurate information directly to the community and stakeholders, and noting the ongoing nature of the event, Essential Energy initiated a dedicated page for regular updates on the Essential Energy website from the first day. Overall, there were more than 13,000 views of this page from almost 6,000 unique users.

This page included information about outages such as unplanned outages or load shedding, explanations about how Essential Energy was managing the power system and why we were asking customers to use more or less energy or turn off their inverters. Updates were provided as required with at least one per day, with two updates given in the early days of the event.

The webpage also provided background information as a resource for media as media interest increased.



Direct Customer Communications

SMS to customers

The main channel Essential Energy used to provide regular updates to affected customers was through sending SMS notifications. These notifications were used to notify customers about outages (including restoration times), load shedding events, and any other updates on the event as it progressed.

In total, more than 350,000 individual SMS notifications were sent to customers in the Far West during the event. Additional SMS notifications were sent to life support customers, including a direct number to contact Essential Energy to receive further updates.

Essential Energy found that a majority of customers preferred regular updates, however a small minority complained that they were receiving too many updates via SMS. These were generally customers who were registered as life support customers, and thus received many more notifications than other customers, as Essential Energy's system was set up to notify all life support customers about all power supply outages and restorations. Essential Energy is currently making changes to its systems to address this issue for life support customers.

G. ANY OTHER RELATED MATTERS

Essential Energy does not have any further matters to raise.