Ref: 20200515MC:CB

15 May 2020

Mr Brett Everett
The Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop NSW 1240

By online submission

Dear Mr Everett

Submission to IPART Issues Paper - Review on Distribution Reliability Standards

Essential Energy welcomes the opportunity to respond to the Issues Paper released as part of the Independent Pricing and Regulatory Tribunal (IPART) Review of distribution reliability standards.

The terms of reference for this review are premised on improving the affordability of electricity for customers in NSW, through changes to distributor reliability standards or other measures.

Essential Energy has brought about significant reductions to network prices since 2012-13, and this is without sacrificing customer reliability, which has continued to improve. Through regular customer engagement, customers have confirmed that they are satisfied with the current levels of reliability.

Affordability remains a concern, however, lowering the minimum reliability levels in the NSW licence conditions is not expected to provide savings, due to predominant reliability targets in the national framework.

Essential Energy is keen to trial and implement non-network solutions for enabling more efficient solutions to supply electricity, particularly to edge of grid customers. This benefits all customers in terms of cost and network resilience, however, there are regulatory hurdles. Distributed energy resources (DER) are an enabler of a more efficient grid, but the transition to two-way flows is causing some issues as the grid and the regulatory framework is premised on a one-way flow – additional work on the optimisation of DER integration is welcome.

Essential Energy is also supportive of reducing the administrative and regulatory burden, if possible, by reducing the frequency of IPART reporting, and directing the focus of compliance toward exception based reporting.

Further information on Essential Energy's measures toward improving customer affordability is included in **Attachment 1**, along with responses to specific questions from the Issues Paper.

If you would like to discuss this feedback further, please contact Mary-Clare Crowley, Network Regulation Manager, on [redacted] or mary-clare.crowley@essentialenergy.com.au.

Yours sincerely

[redacted]

Chantelle Bramley
General Manager Strategy, Regulation and Corporate Affairs

Attachment 1

Essential Energy's Response to the IPART Issues Paper on the Review of distribution reliability standards

May 2020

Table of Contents

Executive Summary

- Essential Energy has made great strides in placing downward pressure on network prices since the peak of network prices in 2012-13, and this is without sacrificing customer reliability, which has continued to improve.
- Reliability is now maintained at a level that customers are satisfied with.
- Affordability remains a concern, however, easing the minimum reliability levels in the NSW licence conditions is not expected to provide savings, due to tighter reliability targets and associated incentives in the national framework.
- Essential Energy is keen to trial and implement non-network solutions for enabling more efficient solutions to supply electricity, particularly to edge of grid customers. This benefits all customers in terms of cost and network resilience, however, there are regulatory hurdles.
- Distributed energy resources (DER) are an enabler of a more efficient grid, but the transition to two-way flows is causing some issues as the grid and the regulatory framework is premised on a one-way flow.
- Essential Energy is supportive of reducing the administrative and regulatory burden, if possible, by reducing the frequency of reporting, and directing the focus of compliance toward exception based reporting.

1. Introduction

This submission is provided to the Independent Pricing and Regulatory Tribunal ("IPART") to assist in their review of distribution reliability standards.

Essential Energy appreciate that the terms of reference for this review require IPART to recommend any changes to the existing reliability standards that could deliver bill savings to NSW electricity customers. On the face of it, whilst a reduction in NSW reliability standards may imply an associated reduction in costs, Essential Energy does not believe this would eventuate for four main reasons:

> the reliability standards in the national framework and the associated incentive scheme would remain in place;

> it would be impractical, inefficient and costly to 'undo' past reliability expenditures; and

> only a small amount of expenditure is now being spent on improving reliability and this is only to improve the reliability experience for Essential Energy's worst-served customers.

Essential Energy has significantly reduced its operating and capital expenditure since 2012-12 and proposes to make further reductions. These lower levels of expenditure will support Essential Energy in achieving its objective to deliver real reductions to network charges in the current and next regulatory period. It is critical that Essential Energy is able to continue its transformation without intervention or impediment.

To begin with, this submission will present information on Essential Energy's reliability performance to date in the context of the national and jurisdictional regulatory framework that supports this performance. Expenditure on reliability measures will then be discussed particularly targeting of poor performing feeders. An outline of the initiatives currently underway and proposed by the business, to support bill savings will also be provided. Finally, responses will be supplied to the specific questions posed by IPART in the Review of distribution reliability standards Issues Paper (the Issues Paper).

2. About Essential Energy

2.1 Our business objectives

Essential Energy's core business objectives are:

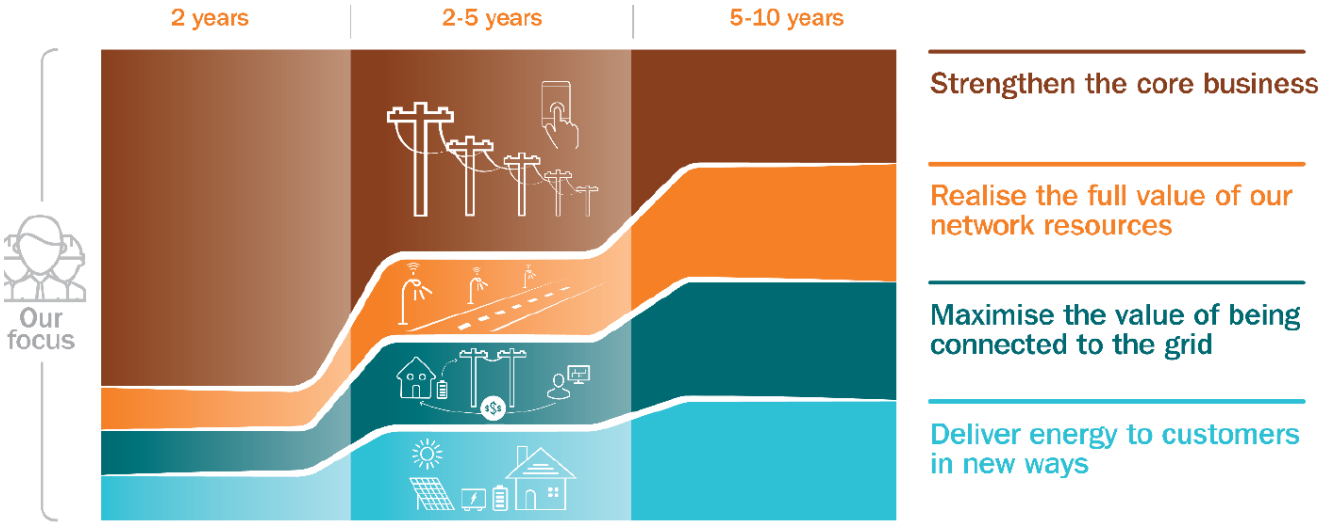
- Continuous improvement in safety culture and performance
- Operate at industry best practice for efficiency, delivering best value for customers
- Deliver real reductions in customers' distribution network charges
- Deliver a satisfactory return on capital

2.2 Our corporate strategy

Essential Energy's corporate strategy is a road-map for Essential Energy' s future direction.

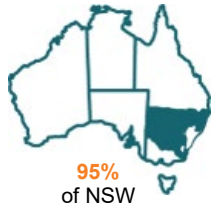
The Strategy prioritises the transformation of Essential Energy's core business which aims to deliver on Essential Energy's business objectives. It informs our activities and investment for the next 10 years and will ensure Essential Energy can continue to meet our customers' changing needs.

It is important that our business can adapt to the future energy market, whatever form it may take. As such, our Strategy does not dictate a particular future state. Instead, it provides a pathway to ensure we will always be ready for change and capable of providing the services our customers require.



2.3 Our service territory and key challenges

Essential Energy is responsible for building, operating and maintaining one of Australia's largest electricity network, covering 737,000 square kilometres – delivering essential electricity services to 95 percent of regional, rural and remote NSW and parts of southern QLD.

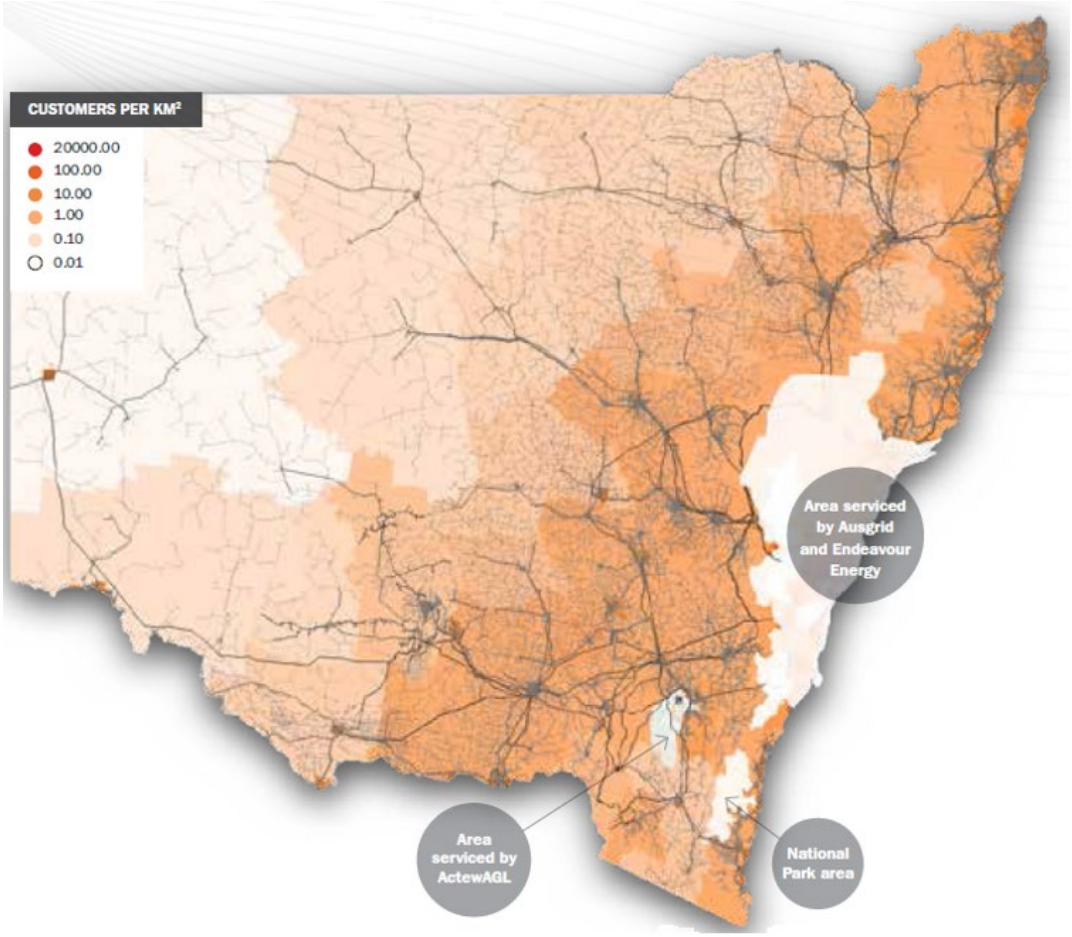


95%
of NSW
landmass

737,000
km^2 total
network area

1,381,758
Power
poles

183,612 km
of overhead
powerlines



Essential Energy provides essential services to our communities and is a key enabler of economic activity in regional, rural and remote NSW. It delivers power to more than 170 hospitals, 1,250 schools and over 855,000 homes and businesses via a network that includes over 1.3 million power poles, over 370 zone substations and enough overhead powerlines to travel around Australia thirteen times. The length of our longest powerlines is 1,905km and it services 335 customers.

Essential Energy is on call 24/7 to fix power outages, maintaining the poles and wires to meet customers' needs and looking at innovative and cost-effective ways to empower the communities it serves.

The geographic spread of our network and demographics of the communities we serve, sets Essential Energy apart from other electricity distributors. Essential Energy has about one third the number of customers per kilometre of powerline compared to the average customer density across the National Electricity Market.

A distribution network with a low customer density requires more poles and wires to reach customers than other networks with a higher customer density. This significantly impacts the cost to serve our customers. Relatively sparsely populated networks also provide significant challenges for achieving reliability and service quality targets.

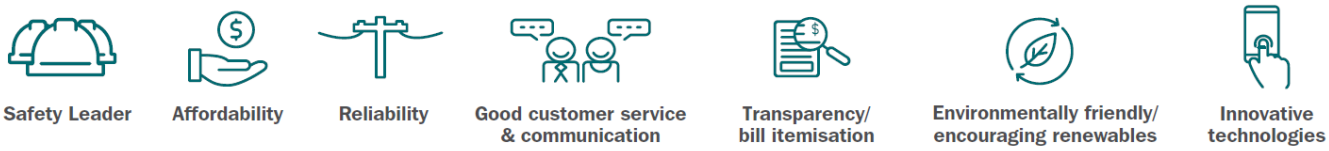
Furthermore, disruptive change in the sector and increasing competition from DER, are also key challenges which amplifies the imperative for Essential Energy to adapt and evolve.

- More than 180,000 of our residential and small business customers (20 percent of our customers) have small scale renewable energy generation systems, mainly solar, connected to Essential Energy's network.
- Recent statistics show there is approximately 1,600MW of installed renewable capacity on our network (includes large scale renewables).
- Relative to the peak demand of just over 2500MW recorded in January 2019, there is the potential ability for around 60 percent of peak demand to be served by renewables, if conditions are favourable.

Despite the challenges our service territory presents, coupled with increasing solar and battery penetration, the reliability of supply of Essential Energy's network has continued to improve, with today's performance approximately 20 percent better than ten years ago.

2.4 Our customers

Customers' views on how we meet our business objectives on an ongoing basis are very important to us. During the development of our 2019-24 Regulatory Proposal we actively engaged with customers and Stakeholders to develop the Proposal. Our customers told us that the following priorities were most important:



Customers viewed safety as fundamental for Essential Energy to be able to operate. A relative ranking of the priorities above revealed that affordability and reliability were by far the two most important factors, after safety.

We sought further views from customers on the reliability of the network during phase one of our customer engagement program with key insights identified as follows:

- customers were satisfied with the current reliability of the network;
- there was no clear preference on the frequency and duration of outages – roughly half would prefer more outages of shorter duration and half would prefer fewer outages but longer duration indicating the current situation is optimal;
- the vast majority of customers were not willing to pay more to reduce their outage duration; and
- due to the current satisfaction with reliability, in the community deliberative forums, two thirds were willing to accept slightly lower levels of reliability for a lower cost. The online participants did not have the benefit of the information and discussion given in the forums, and without this knowledge they slightly preferred maintaining the status quo.

During phase two of our customer engagement program we explored the value of reliability further and identified:

- there was little support for extending unplanned outages in rural/remote areas;
- forum participants were empathetic towards the situation of others and were unlikely to support changes that might negatively impact others (especially farmers, home run businesses, the elderly, and those with a lower income);
- there was little support for changing duration of planned outages when compared to current practices; and
- there was strong support to improve network performance in areas with lower reliability.

During phase three of our customer engagement program, some stakeholders requested that we reduce our reliability in order to reduce costs, as two thirds of customers in our phase one forums supported a slight increase in the number of outages for a lower cost. 91 percent of customers who attended our phase three forums and surveys supported an improvement by 25 percent in some of the worst performing parts of our network.

Given the wide ranging and differing feedback received, Essential Energy submitted its Regulatory Proposal to the Australian Energy Regulator (AER) to maintain current reliability levels on average across our network, with targeted reliability improvement for our worst performing areas. The Regulatory Proposal also included further cost reductions in addition to the substantial reductions already delivered in the previous regulatory period (discussed further in **section 3** below). Stakeholder groups were supportive of our plans stating that Essential Energy's 2019-24 regulatory proposal was capable of acceptance by the AER. Essential Energy's 2019-24 Regulatory Proposal was subsequently accepted in full by the AER.

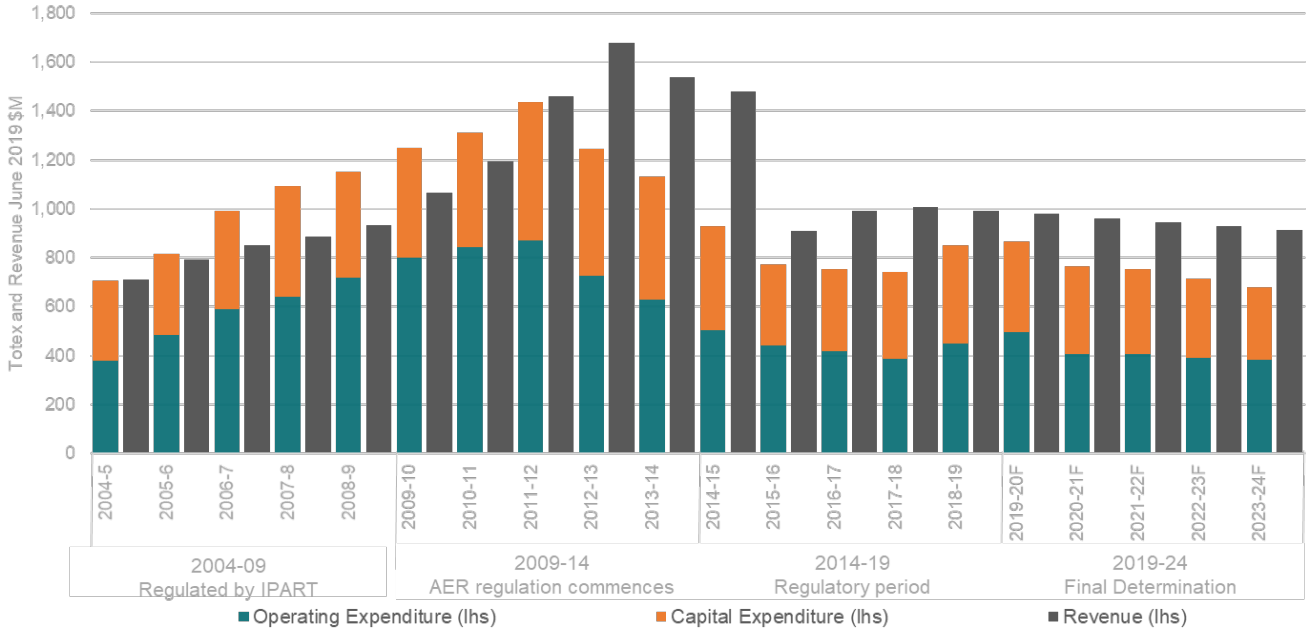
3. Improving affordability for our customers

Our customers across regional and rural NSW told us throughout our 2019-24 regulatory engagement process, that an affordable electricity bill remains a primary concern. Essential Energy must continue its focus on reducing network charges. The AER's recently produced report on Affordability in Retail Energy Markets 2018-19, explains that while all customers are paying relatively more of their incomes on energy bills than in 2014, low income customers are particularly impacted – in NSW they are paying close to 10 percent of their disposable income on electricity bills on a median retail standing offer. The energy market as a whole needs to improve their value to end-users.

The inevitability of change and imperative for reform were incorporated into our Regulatory Proposal to the AER for the 2019-2024 period. The Regulatory Proposal outlined how Essential Energy is transforming to deliver better value to customers and was supported by extensive customer consultation and thoroughly discussed with consumer groups, government, unions and employees.

We have already seen significant sustainable reductions in our operating expenditure and capital expenditure whilst also ensuring our obligations in inspection, maintenance and vegetation management have been met. The Regulatory Proposal reflected the outcomes of our customer consultation process by locking in these efficiency gains for the long-term benefit of customers.

The diagram below summarises our business transformation achievements so far. As our business becomes more efficient, the resulting savings will directly benefit customers in the future.



Our transformation has impacted all aspects of our operations and the way we think about balancing risk and expenditure. By 2023-24 we plan to reduce operating costs to the lowest levels in 20 years and reduce capital costs to their lowest levels in 19 years.

- Reduced operating expenditure to $299M by 2023-24, a reduction of 19% compared to 2018-19. The total operating expenditure allowance for 2019-24 is $70M (4%) lower than for 2014-19.
- Reduced capital expenditure to $381M by 2023-24, a reduction of 20% compared to 2018-19. The total capital expenditure allowance for 2019-24 is $270M (12%) lower than for 2014-19.

These lower levels of expenditure will support Essential Energy in achieving its objective to deliver real reductions to network charges in the current and next regulatory period.

Essential Energy's proposed workforce changes to deliver reduced operating expenditure, have been carefully targeted to align with current and future business needs - positions critical to maintaining safe and reliable network operations have been identified and workloads assessed to determine the optimal number of employees required

to perform those important tasks. The workforce reductions reflect areas where overall work volumes are lower. These reductions have not impacted Essential Energy's long standing capability to mobilise crews from surrounding areas to address any significant unplanned outages. The national regulatory incentive framework for reliability is the Service Target Performance Incentive Scheme (STPIS). The operation of this scheme means that Essential Energy is financially penalised if there are decreases in reliability, therefore, the business has carefully planned its workforce capacity to ensure that reliability will not deteriorate due to workforce changes.

Essential Energy's customers benefit from these reductions because money is being kept in regional communities to stimulate economic growth:

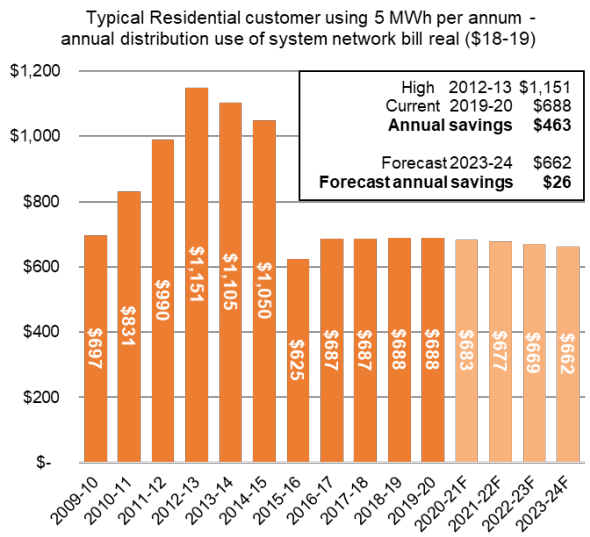
- In the ten years from 2013-14 to 2023-24, reduced network charges are estimated to deliver a cumulative benefit to regional and rural NSW of over $5 billion.
- If the cumulative savings impact for customers is calculated from the peak of network charges in 2012-13 then the benefit extends a further $2 billion to $7 billion.

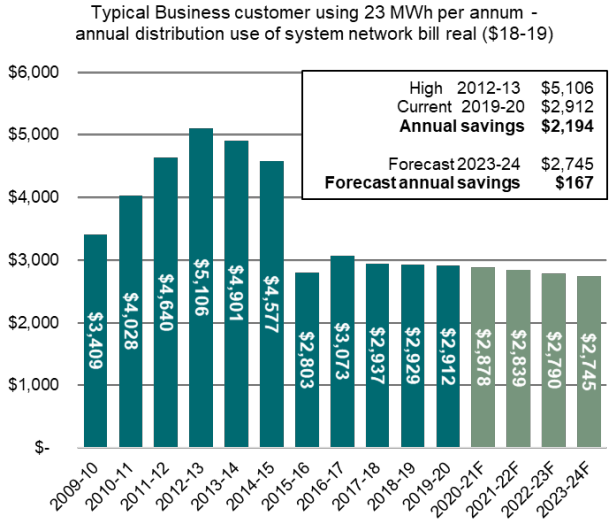
It is expected that the investment Essential Energy is making in more efficient processes, data analytics and new technology will allow for more effective decision making about required network investment and will allow for a reduced cost base. These investments form part of Essential Energy's transformation program and are discussed in more detail in **section 5**.

It is critical that Essential Energy is able to continue its transformation without intervention or impediment. The past and future investments in improving the efficiency of Essential Energy has led to lower network charges for Essential Energy's customers:

- From 2012-13 to 2019-20, a typical residential customer has achieved an annual savings of $463 (40%) on their network charges and a small business customer saved $2,194 per annum or 43% on their network charges.
- Going forward, a residential customer can expect a further 4% reduction in network charges by 2023-24, meaning they will be another $26 better off and a typical small business customer $167 better off.

The diagrams below summarise the savings in network charges a typical residential customer and typical small business customer have experienced in the period to 2019-20 and are forecast to experience to 2023-24.



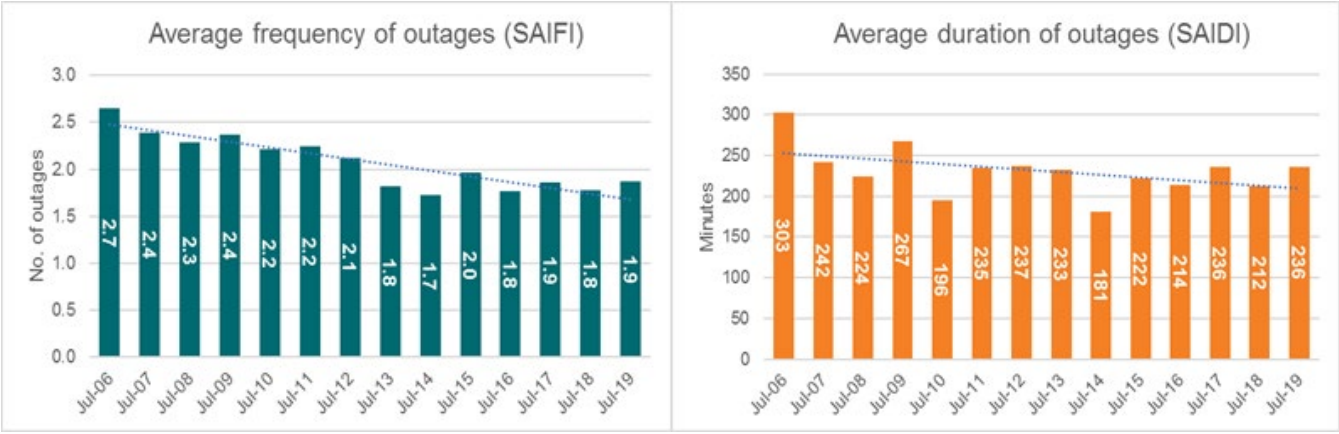


4. Reliability performance

Essential Energy's residential customers experienced a 45 percent reduction in real network charges (47percent for small business) since 2012-13, and these were achieved without impacting the reliability of the services provided, or the safety of our employees or the public. A further eight percent reduction in prices is forecast through to 2024 – this is equivalent to more than $700M per year being retained in regional communities.

4.1 Essential Energy performance

Essential Energy's reliability improved following significant investment in the network from 2005 to 2012 – it is now more than 30 percent better than it was 15 years ago. As can be seen in the charts below for System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI), performance has been relatively stable in recent years, and while 2018-19 (Jul19) was favourable to the long-term historic trend in network performance, it compares unfavourably to the short-term trend.



2018-19 was an abnormal year with Essential Energy experiencing seven Major Event Days during that year and elevated storm activity. This is above the average experienced over the previous five years and was the result of several severe storm events in December 2018 and January 2019, in which Essential Energy's crews worked tirelessly to restore supply over the Christmas period.

Whilst the business' performance in 2019-20 is not yet finalised, reliability across Essential Energy's network has been severely influenced by multiple bushfires which began impacting in September 2019, and continued from the North Coast down to the South Coast through to February 2020. As well as directly impacting reliability for customers in the firegrounds, there was a flow-on effect to reliability performance in other parts of the network. This was mainly due to the mobilisation of crews from across the state to assist in a safe and speedy recovery of power supplies to bushfire affected areas. This meant that unplanned outages in other parts of the network sometimes took longer to repair with lower levels of staff on hand to assist.

Whilst Essential Energy' reliability performance for 2019-20 is well within Essential Energy's licence conditions for overall reliability performance, it is likely Essential Energy will experience a substantial penalty under the AER's service target performance incentive scheme (STPIS). The penalty is estimated to be in excess of $30 million.

This STPIS penalty is in addition to the cost to repair the damage caused by bushfires to Essential Energy's network which has been significant. Essential Energy is currently working through the process of collating and analysing the data on the financial impacts to date of the 2019-20 bushfires, as well as future costs related to the event. The current estimate of the additional costs incurred by the business relating the 2019-20 bushfire season is in the order of $144 million.

4.2 Comparison to other NSW distributors

In the most recent AER benchmarking analysis, Essential Energy's SAIDI performance was 3 times higher (worse) than that of Ausgrid and Endeavour Energy. On average over a year, Essential Energy's customers experienced over two hours more off-supply and one extra outage than Ausgrid and Endeavour Energy customers.

This is a predominantly a function of the geographic and topographical spread of Essential Energy's distribution network (as discussed in **section 2.3**), which requires a radial configuration rather than a meshed one. Essential Energy has more than 192,000 kilometres of network to maintain and a customer density of 4.6 customers per kilometre. Both Ausgrid and Endeavour have networks which are around 80 percent smaller than this network length and customer densities of 41.3 and 26.8 respectively.

Despite the extent of the network, power availability for Essential Energy customers was 99.96 percent on average in 2018, compared to 99.99 percent being experienced for both Ausgrid and Endeavour customers.

4.3 Benchmarking

Essential Energy was benchmarked 10th out of 13 distributors in the AER Benchmarking report released at the end of November 2019.

Productivity improved 1.2 percent last year and two percent since 2012 – the second most improved of all distributors. The business is now ranking a steady 6th out of 13 for opex efficiency over the 2012-18 period and importantly for reliability outcomes, in the last year Essential Energy's customer minutes off supply improved by nine percent. However, this Benchmarking report is based on data up to 2017-18, so it excludes the reliability performance impacts from 2018-19 and the 2019-20 bushfires discussed in **section 4.1** above.

4.4 Plans to maintain reliability, following improvements to reliability levels

As discussed in **section 2.4**, during customer engagement for the 2019-24 regulatory period, the common theme was that, after safety, affordability was most important to customers, closely followed by reliability. The 2019-24 regulatory proposal reflected these customer and stakeholder values by improving affordability and maintaining reliability.

In addition to this customer engagement, Essential Energy undertakes regular customer satisfaction surveys. Over the last two years these quarterly surveys have shown that customers have rated Essential Energy's reliability and quality of electricity supply, over the previous 12 months, at between 8.5 - 8.8 out of 10. The most recent survey[1] to the end of March 2020, had average satisfaction at 8.8, despite the higher incidence of unplanned outages over the period of the survey, due to bushfires.

Through a more sophisticated approach to risk based asset management, Essential Energy is forecasting to spend less on maintenance but still plans to deliver network performance that aligns with customer expectations. Planned preventative work will be better targeted through the use of improved intelligence on the network and surrounding environments.

4.5 Poor performing feeders

As discussed in **section 2.4**, the customer engagement undertaken as part of the 2019-24 regulatory proposal, questions were asked about the value of reliability and there was strong support shown to improve the network performance in areas with lower levels of reliability.

The table below shows the most recent Individual Feeder Performance outcomes as reported to IPART.

Individual Feeder Performance	**Feeder type - quarter ending 31/03/2020**			
	CBD	Urban	Rural Short	Rural Long
Feeders (Total Number each Type)	N/A	302	918	246
Feeders Reported During the Quarter as Exceeding the Standard (Total Number)	N/A	12	64	33
Percentage exceeding the Standard	N/A	4%	7%	13%

[1] Essential Energy Network Customer Satisfaction Index (CSI), Ipsos, January – March 2020 (n = 450 residential customers).

Some of the poor performances are due to bushfire impacts, or consequent to bushfires, i.e. changes to planned work from crew mobilisation due to bushfires in other areas. It is also expected that the COVID-19 pandemic will result in a higher number of feeders exceeding the standards, due to risk-assessed reductions in planned maintenance.

4.6 Interaction with IPART reliability standards

Given the operation of the national regulatory incentive framework, specifically STPIS, Schedule 2 in the current licence conditions provides virtually no incentive for Essential Energy to adjust reliability levels. It is also important to note that the STPIS works in conjunction with other schemes under the national regulatory incentive framework to ensure customer outcomes are balanced. A summary of the incentive schemes that apply to Essential Energy is below:

Incentive scheme	How does it work?	How does it affect a customer?
Efficiency Benefits Sharing Scheme (EBSS)	Encourages us to improve efficiency of operating expenditure.	Rewards and penalties are shared around 70 percent with customers and 30 percent with us and lead to long-term cost reductions.
Capital Expenditure Sharing Scheme (CESS)	Encourages us to improve efficiency of capital expenditure.	Rewards and penalties are shared around 70 percent with customers and 30 percent with us and lead to long-term cost reductions.
Service Target Performance Incentive Scheme (STPIS)	Encourages us to meet reliability and customer service targets through rewards and penalties.	If reliability and customer service improves, your bill will increase and if they decline, your bill will reduce.
Demand Management Incentive Scheme (DMIS)	Encourages us to investigate alternative solutions to manage network demand.	New alternative technologies can be implemented on the network leading to long-term cost reductions.
Demand Management Innovation Allowance (DMIA)	Encourages trials of innovative technologies to manage network demand.	Stimulates research and development opportunities that will lead to lower network charges.

The Issues paper states "*Given that STPIS was effective at 2.5%, we expect that doubling the incentives will lead to the networks prioritising meeting the STPIS targets*". It is important to note that STPIS cannot be viewed in isolation or separate to the national economic regulatory framework it is a part of because:

- STPIS reliability and customer service targets, including the size of the revenue at risk incentive, are set by the AER in conjunction with operating and capital expenditure allowances for each regulatory period;
- The AER scrutinises operating and capital expenditure proposals to ensure expenditure is in line with the operating and capital expenditure objectives, criteria and factors as set out in Chapter 6 of the National Electricity Rules (NER), meaning that only prudent and efficient expenditure is catered for in regulatory allowances;
- Exceeding regulatory allowances set by the AER will lead to penalties under the EBSS and CESS which may offset any reward earned though STPIS by over investing in reliability improvements;
- There is no evidence to suggest that a 5 percent revenue at risk incentive for STPIS has led to other distribution network service providers (DNSPs) operating in the NEM prioritising meeting the STPIS targets;

- NSW was one of the last jurisdictions to move to the full 5 percent revenue at risk incentive rate and there was very strong stakeholder support for this to happen in 2019-24; and
- Since the commencement of STPIS in 2015-16, Essential Energy's penalties received under the scheme far outweigh the rewards, with 2019-20 looking to deliver the largest penalty so far for a single financial year.

Despite the STPIS performance and Essential Energy not meeting the reliability targets implied by STPIS, Essential Energy is well within the reliability targets set within Schedule 2 of the licence conditions. Given STPIS, in conjunction with other incentive mechanisms, provides powerful incentives for Essential Energy to deliver on service levels in a prudent and efficient manner, it is Essential Energy's view that Scheduled 2 could be removed because it is not necessary. The SAIFI and SAIDI standards for Urban, Short-rural and Long-rural feeders are already specified in STPIS, are significantly tighter than the NSW overall reliability standards, and are linked to an incentive framework. The removal of this Schedule 2 from the NSW licence conditions would remove a level of potential redundancy and additional reporting.

Essential Energy, however, believes that Schedule 3 which covers individual feeders standards, and Schedule 8 for individual customer standards are important and should be retained, as these standards are not replicated in the national framework. The reporting against these standards provides a concrete measure of when customers are receiving poor reliability and allows DNSPs to target investment where it is feasible to improve performance, it also allows DNSPs to justify circumstances where rectification is not economically feasible – e.g. the cost to rectify is excessive. In these circumstances, each instance is reported to the relevant Minister and the reasons for continued poor performance explained. Essential Energy recommends that IPART consider whether introducing targeted incentives that encourage remediation of extremely poor reliability performance for customers into the licence conditions is warranted, this is discussed further in **section 6.12**.

5. Other ways to reduce customer bills

5.1 Delivering transformation benefits

Essential Energy is undertaking work to reduce the cost base sustainably by investing in innovative and enabling technologies. The transformation program has already delivered enhanced capabilities, particularly for emergency responses, which were of great benefit during the 2019-20 bushfires.

Fleet support has been brought back in-house to Essential Energy over the past year. The fleet teams were relocated to the bushfire hubs to provide a fleet servicing arrangement for the teams which ensured the fleet was checked for defects, serviced (fuelled and cleaned down) and ready for the start of next day for the field crews. This arrangement worked overnight allowing teams to drop off fleet at end of shift and collect at start of shift. This meant the crews could focus on getting their work done. It improved work efficiency (less breakdowns, less time refuelling, faster response to issues) and overall safety (vehicles are up to standard). It is one of the most visible and commented on improvements

New technologies supporting operations

FIAS, an in-house designed and built application has been developed to record fleet defects. This allows teams to undertake a daily pre-operational inspection of fleet prior to commencing the day's activities.

The **Field Portal** is another in-house developed app - this makes it easy for any staff to locate and confirm the part of the network they are operating on, as well relevant customer contact details and safety hazards such as dogs and presence of naturally occurring asbestos. This is extremely useful for those operating away from their home depot.

Network bandwidth has been improved in the depots, improving the ability to access and use electronic tools.

A fleet of **iPADs and iPhones** have been rolled out to the business over the past 2 years. They allow teams to access policies, applications and email in the field. It is a consistent technology and enables the introduction of plug and play technology to the field such as Drones, Thermal Imaging Cameras, and cameras which improve safety outcomes and drive productivity.

Drones have also been introduced across the organisation over the past 2 years. They are used to fly over inaccessible areas and identify damaged assets (such as from bushfires) and are used in daily work tasks for asset inspection and zone substations/ telecommunications. They have also been used to assist in the delivery of lines across inaccessible areas, reducing costs and improving safety.

Standardised toolbox talks have been rolled out to all depots over the past year. This collaborative and informative discussion is supported with a consistent template that drives the right discussions daily, and ensures our teams collectively identify and understand the potential hazards that the teams may encounter that day, and that these are managed.

In addition to these benefits, our transformation program aims to invest in a new Enterprise Asset Management and Enterprise Resource Planning system, supported by improvements in data access and quality. There are eight workstreams in our transformation program that aim to deliver a number of opportunities and enhance our people, process and system capabilities required to improve efficiency and allow Essential Energy to respond to the changes in the energy sector. By 2023/24, this multimillion dollar program is expected to deliver approximately $84m in recurring benefits to the business and will represent a significant uplift in Essential Energy's service delivery and ability to make informed investment decisions.

The following diagram provides an overview of the opportunities and benefits that Essential Energy's transformation program aims to deliver. By focusing on safety, reliability and affordability, the proposed business improvements will create future value for all Essential Energy's stakeholders, avoid pricing spikes for our customers, and help us to build a sustainable distribution network.

Our initiatives aim to invest $130M to deliver benefits of $273M during 2019-24. The ongoing annual expenditure reductions peak at $84M by 2023-24

> Deploy modern core systems	> Build advanced data analytics capability	> Enable transformation with technology and data

TECH AND DATA ENABLER FOR...

OPPORTUNITY	VALUE DELIVERED		
Capital projects	> Optimised risk-based approach to asset management > Review and improve governance > Consider alternative technologies	✓ Improved safety ✓ Improved affordability ✓ Maintain reliability	$4M by 2024
Maintenance and replacement	> Optimised risk-based approach to maintenance strategy > Integrate works planning and despatch > Improve and utilise data and analytics to inform decision-making	✓ Improved safety ✓ Improved affordability ✓ Maintain reliability	$14M by 2024
Vegetation management	> Review and optimise delivery methodology > Use big data and advanced analytics to improve decision-making > Improve the health of the vegetation clearance envelope	✓ Improved safety ✓ Improved affordability ✓ Maintain reliability	$14M by 2024
Outage response	> Improve control room systems and processes > Better schedule planned outages > Continue to refine and enhance rostering	✓ Improved affordability ✓ Maintain reliability	$1M by 2024
Field force productivity	> Scheduling and dispatch automation > Reduce time in depot > Optimise fleet and propert management	✓ Improved safety ✓ Improved affordability ✓ Maintain reliability	$27M by 2024
External spend	> Continually review procurement processes and delivery model > Enhance data analytics	✓ Improved affordability	$7M by 2024
Support functions	> Improve processes > Align operating model to serve the field > Leverage new technology to improve customer service	✓ Improved affordability ✓ Improved customer performance	$17M by 2024

Numbers may not add due to rounding. All figures relate to the Standard Control component only.

5.2 Innovations

Essential Energy's network consists of a radial pattern of poles and wires covering 95 percent of NSW, with an installed circuit length of over 192,000 kilometres. This type of network means that the costs of operating are higher, and there are lower levels of reliability than for a meshed urban or CBD network.

Approximately half of one percent of Essential Energy's customers require around 17 percent of the length of the installed network to service their electrical needs. Serving customers in densely forested areas or remote rural locations often comes at a cost significantly higher than the recovered revenue due to managing vegetation clearance, and maintaining and renewing long feeders to areas with low numbers of customers.

Essential Energy has been working on ways to improve the reliability for customers particularly at the edge of the grid, and at the same time reduce the costs for all customers, through the use of Stand Alone Power Systems (SAPS) – we provide more information on this and current regulatory challenges in our response to IPART's Question 7 – see **section 6.7**.

In response to the South Coast bushfire event, Essential Energy has provided SAPS to 11 sites (including a large telecommunications tower with four customers) to restore supply. Initially these SAPS are provided on a temporary basis. Feedback so far from customers shows that they are very happy with these arrangements and are willing to accept a change to their power supply via a SAPS on a longer-term basis. Over the course of the longer-term work to rebuild and potentially redesign our network in these areas, we may wish to provide some of the impacted customers with SAPS on a more permanent basis. There may be additional opportunities for SAPS as properties that have been destroyed by bushfires are rebuilt and customers seek reconnection.

SAPS are an increasingly viable solution to permanently supply power to some bushfire impacted communities. This would have dual benefits. First, the cost to supply these customers will fall, leading to a reduction in network charges for the entire customer base. The cost of rebuilding the lines to reconnect these customers to the grid, as well as ongoing maintenance, vegetation management and costs to restore power after a fault on the network are likely to be considerably higher than a SAPS solution.

Second, there are significant benefits from removing network infrastructure from higher risk areas in the form of reduction in bushfire risk and enhanced network resilience. By removing network infrastructure from bushfire prone areas there is a reduced chance that fires will be started in the first place. Off-gridding customers in those areas means that even if a fire event does occur, it is likely that fewer customers will be left without power, less network repairs will be required and the cost of responding to the natural disaster will be lower.

The recent experience in the deployment of SAPS in response to bushfires, has highlighted some of the regulatory barriers to enhancing the resilience of electricity networks in remote and regional areas. There is an expectation for Essential Energy to be able to deploy appropriate solutions quickly, and at scale, during its disaster response. The regulatory framework that would allow distribution networks to transition customers to off-grid supply via a SAPS is currently being designed by the Australian Energy Market Commission (AEMC). The work conducted so far has not considered the issue of network resilience in any detail. Essential Energy believes that regulated networks should be permitted to take customers off-grid using systems such as SAPS in order to realise the benefits mentioned above and that there should be:

- Flexibility in the regulatory arrangements governing SAPS provision to account for the wide variety of circumstances where a SAPS may be a viable alternative to traditional poles and wires;
- Customer-focused rules that put customer experience and preferences at the centre of service provision;
- Cost-reflective price signals so that SAPS are effectively utilised and costs are minimised; and
- A pragmatic approach that recognises the realities of SAPS provision in remote areas or parts of the network where access is difficult due to vegetation or terrain.

Essential Energy considers that the regulatory arrangements proposed by the AEMC will not lead to the best customer outcomes for regional and rural customers and are likely to slow the deployment of SAPS in areas of NSW where they could be most beneficial.

In advance of the changes to the national framework to include SAPS, the NSW government needs to ensure that the right jurisdictional arrangements are in place so that SAPS can be deployed as soon as changes to the National Electricity Law are passed. This includes changes to the NSW Electricity Supply Act that are currently under consideration by the Department of Planning, Industry and Environment. The NSW government framework should be agnostic to any future service delivery model and include:

- extension of consumer protections to SAPS customers, regardless of whether a retailer is involved;
- price protections for SAPS customers through a mechanism not related to retailers;
- jurisdictional reliability standards that are appropriate for SAPS customers;
- ability for DNSPs to recover the efficient costs of SAPS provision (regardless of whether the SAPS is owned by the network or provided by a third party); and
- appropriate safety and technical standards.

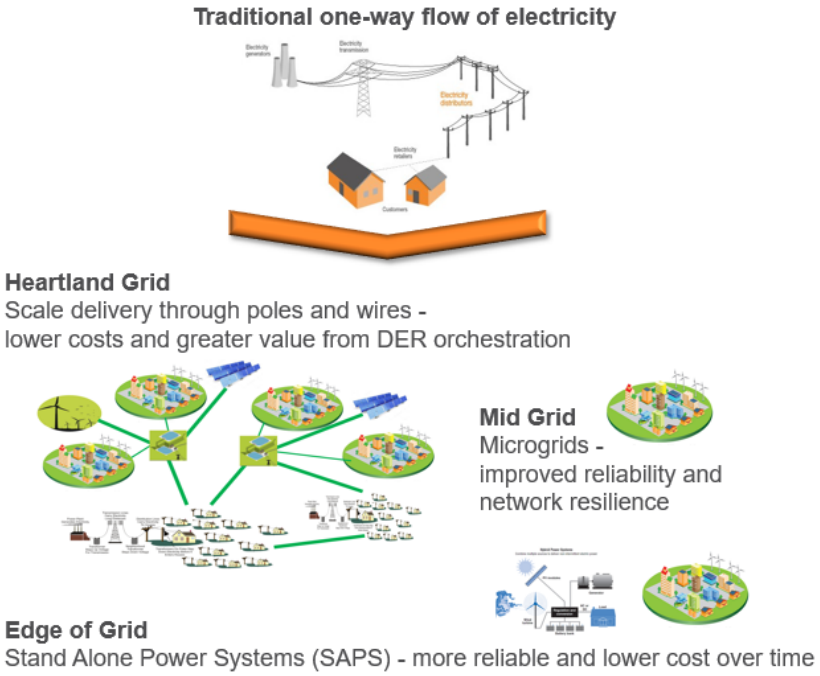
In addition, the current work by the AEMC has been requested by the COAG Energy Council's Senior Committee of Officials (SCO) Stand-alone and Embedded Networks Working Group on embedded networks and SAPS. This forum may provide an opportunity for NSW to advocate for appropriate changes to the package of law and rule changes to address any NSW-specific issues.

We are also involved in microgrid trials at Lockhart and Byron Bay, grid scale storage trials at Byron Bay, working with the NRMA on electric vehicle (EV) charging, as well as with third parties in Northern NSW on the use of solar panels and batteries to manage voltage fluctuations.

Essential Energy has a large proportion of customers already participating in DER such as solar panels and batteries – more than 20 percent of Essential Energy's customers have solar panels, and there was a 22 percent increase in solar panel capacity in FY19.

Around 50 percent of average network demand is now met by renewable generation – at this stage there is around a 50:50 split on Essential Energy's network, between behind the meter and large scale renewable generation sources.

The current network was not designed to deal with two way flows of generation. Networks need to ensure the system is future-proofed to be able to automatically adjust to these flows, support the growth in DER in our communities, and be a network of the future.



5.3 Risk value framework for investment decisions

Essential Energy links risk-based asset management strategies to asset management decisions to deliver benefits to customers.

Investment decisions are based on a value framework which incorporates a probabilistic risk model as well as the value of customer reliability measures (VCR) - this ensures we undertake the most efficient investments that deliver the highest net benefit to customers. In other words, our investment decisions cater for other factors in addition to reliability, for example, public safety, bushfire risk etc. The risk value framework plays an important role in ensuring that a holistic view of value, risk and investment is taken to avoid investments being based on a single driver.

Essential Energy cautions against the blanket application of the methodology that was used in the transmission reliability standards review in 2016. Unlike transmission, the distribution networks are already using probabilistic methods and VCRs for efficient investments. IPART needs to ensure it is not over-engineering solutions unnecessarily that may not add value to customers.

6. Responses to IPART Questions

6.1 Question 1

Do you agree that SAIDI and SAIFI measures should continue to be used in the reliability standards, defined in line with the AER's Distribution Reliability Measures Guideline?

Essential Energy agrees with the continuation of the current measures, in the absence of a better reliability metric. This also aligns with the AER's STPIS metrics which simplifies reporting.

6.2 Question 2

Do you agree that we should convert our estimate of the efficient level of expected unserved energy to allowances for the duration and frequency of interruptions? How could we convert the efficient level of expected unserved energy to allowances for the duration and frequency of interruptions?

From a principles perspective, the method needs to reflect customer preferences and the different values they place on duration versus frequency for interruptions. These preferences may well differ between NSW distributors due to different customer demographics and/or values. A one-size-fits-all approach is unlikely to satisfy these differing customer preferences. **Section 2.4** above discusses the complexities of consumer preferences in Essential Energy's service territory.

6.3 Question 3

Do you agree that the excluded events in the distributor's licences should be consistent with the AER's Distribution Reliability Measures Guideline and Service Target Performance Incentive Scheme? Are there any additional events that should be excluded by the licence or any events that should not be excluded?

Essential Energy agrees that exclusions should match the AER's, as reporting is difficult otherwise.

Efficiency would, however, be improved (for both IPART and DNSPs) if the licence conditions referenced the AER's STPIS exclusions rather than being included in a separate document. Two sets of documents can lead to misalignment if the AER's exclusions change (the AER guideline allows for a methodology change to be proposed and accepted but IPART does not) and keeping two sets of data for this purpose is impractical.

Essential Energy is also keen for IPART to reconsider the exclusion of Major Events (such as the 2019-20 bushfires) from reliability measures, rather than just relying on individual Major Event Day calculations. Essential Energy's experiences indicate that this is major gap in accurately reflecting reliability performance that is within the control of the DNSP. There is an appreciation of the difficulty in the measurement and definition process to capture Major Events accurately, but we urge IPART (and other regulators) to continue working towards resolving this issue.

6.4 Question 4

If there is a risk that the frequency of severe weather events will increase, how should the costs of providing a resilient network and the value customers place on this resilience be balanced and what requirements should be placed in the distributors' licences?

Resilience should always follow a probabilistic and value based approach. In some instances, a traditional network solution may not be viable, and alternatives are required. Currently there are regulatory hurdles for alternative solutions, such as SAPS which can limit a DNSP's ability to provide cost effective resilience solutions. Further customer engagement would be required to understand willingness to pay prior to any licence requirement being made on the DNSP. This willingness to pay could be factored into the value generated by a project.

The increased risk of climate change impacting reliability, and the cost of building network resilience to mitigate this, is an issue that needs to be addressed with engagement between regulators, customers, and networks. The value that customers place on reliability, and willingness to pay for strengthening it due to increasing climate change risk, needs to be assessed. It is equally important to weigh this up against the cost of inaction. Essential Energy believes that technologies such as SAPS and microgrids provide a natural fit to assist with this issue – they will result in a more resilient network and at a lower cost in the long run. The regulatory frameworks, however, need to be supportive of this transition.

The recent bushfire crisis has highlighted the need to review how power supply is restored in the face of increasingly frequent and severe fire and storm activity. Essential Energy wants to avoid rebuilding lines and other infrastructure which will be in place for many decades when another technology is available, which is capable of delivering a more reliable, resilient supply of electricity at a lower cost.

During the 2019-20 bushfires, Essential Energy provided generators to power evacuation centres, local council critical infrastructure such as water and sewerage supplies, as well residential and business customers (they were also provided with fuel vouchers). This type of activity does not strictly fit within our role as an electricity distributor or the regulatory framework. It is clear there are changing societal and political expectations for Essential Energy to deploy appropriate power restoration solutions quickly, and at scale, during disaster response.

The bushfire crisis represents an opportunity to consider network resilience in a practical manner and highlights some of the regulatory barriers to enhancing the resilience of electricity networks in remote and regional areas.

As discussed in **Section 5.2**, SAPS have been trialled by Essential Energy in the South Coast bushfire restoration and SAPS are also an increasingly viable solution to permanently supply power to some bushfire impacted communities. However, this will require a supporting regulatory and market framework.

6.5 Question 5

Do you agree that payments under customer service standards should reflect the cost to a customer of an outage? How would this best be measured or estimated?

We believe the current payment arrangements under the customer service standard (CSS) are effective. Customers are compensated through a reduction in network charges via the AER STPIS scheme where network reliability is not maintained.

Essential Energy has a robust claims process in place enabling customers who are impacted by outages to claim for costs. This is aligned to our deemed standard connection contact and claims are assessed on an individual basis. This allows Essential Energy to be flexible and proactively apply our Customer Support Policy for customers experiencing hardship.

If there was a move toward true cost reflection, Essential Energy believe the CSS should be removed, and allowing customers to simply make a claim for costs (currently capped at $5,000 per claim), for which Essential Energy already has a mechanism in place.

6.6 Question 6

Should payments under customer service standards increase as the duration (or frequency) of an outage (or outages) increases? Should payments be automatic or continue to require application by a customer? If payments become automatic, should exclusions be based on the major event day measurement that currently applies to the other reliability standards or continue to be defined causally (ie, with reference to extreme or severe weather as defined by the Bureau of Meteorology).

We believe that these payments should remain fixed, as not all customers will be impacted by outages equally. For example, a customer may experience outages at their unoccupied holiday home and not be materially impacted.

These payments should not be automatic, and customers should continue to apply for a CSS to ensure only those impacted are being considered under the scheme. All customers automatically benefit from the AER STPIS reliability scheme which incentivises distributors to ensure reliability is in accordance with the targets set.

Essential Energy believes that exclusions should continue to be defined causally, as this appears to have worked well to date and ensures equitable treatment of all customers. It means that if a localised storm event outside of the business' control occurs, Essential Energy does not pay the CSS and impact all customers' accounts.

6.7 Question 7

How should reliability standards cater for new technologies such as Stand-Alone Power Systems?

As discussed in **section 5.2**, Essential Energy considers that SAPS represent an opportunity to reduce overall network costs, enhance network resilience and improve reliability for customers at the fringe of grid or in heavily vegetated areas. We support the inclusion of these technologies in the regulatory framework and allowing networks to offer these solutions to customers as a regulated service under a sensible pricing model.

Essential Energy has been engaged with the AEMC's reviews of the regulatory arrangements for SAPS. One of the principles that has underpinned the AEMC's work has been that customers should be no worse off after the transition to off-grid supply. Essential Energy agrees with this principle with respect to reliability. We consider that a customer should expect the same, if not improved reliability, as a result of moving to a SAPS. One potential way to ensure that their reliability is not reduced, would be to reference the same Schedule 3 standard, that applied to that customer when they were grid-connected, to the off-grid supply via a SAPS.

The current definitions used in the reliability standards are in terms of feeder type. This would need to be amended to ensure that customers supplied via systems that are not connected to the wider network, are captured under the reliability standards – either individual feeder or customer standards.

In reality, customers that are transitioned to supply via a SAPS are likely to experience significant improvements to their reliability. This is due to the fact that some candidates for SAPS are located at the fringe of grid and are supplied by significant lengths of line which are more susceptible to frequent and/or prolonged outages. Alternatively, many other opportunities for SAPS are in heavily vegetated or high bushfire risk areas which can have poor reliability and high operating costs.

As discussed in **section 5.2**, Essential Energy is currently trialling SAPS as part of the South Coat bushfire recovery. Essential Energy also has had some experience with SAPS through our e-Grid trial at a site near Bulahdelah on the NSW Mid North Coast. In this trial, a site for a SAPS prototype was selected on the basis of its location in an area that was prone to flooding, high-bushfire risk and was surrounded by heavily vegetated national park. Reliability for this customer was poor, prior to the installation of the SAPS prototype. The (SAIDI) performance of the powerline often exceeded the standard for the relevant powerline category, due to the time it took crews to access the powerline and identify the source of faults.

Since the installation of the SAPS at this site, customer reliability has improved and there have been a number of unplanned outages in the area which have not impacted the customer's supply.

As noted, Essential Energy has been actively involved in the consultation process on new regulatory arrangements for SAPS for both DNSPs and third parties. We have some concerns regarding the reliability outcomes for customers under the proposed arrangements. These are:

1. For DNSP-led SAPS, the proposal that many SAPS generation services will be outsourced may lead to poor reliability outcomes for customers; and
2. The proposed arrangements for third-party led SAPS, are not consistent with the requirements for DNSP led SAPS and may lead to inconsistencies in customer experience.

Firstly, the proposed regulatory arrangements for SAPS require that DNSPs procure all services related to SAPS generation from the competitive market, unless a waiver application from ring-fencing requirements can be obtained or the SAPS is exempt from ring-fencing under yet to be determined criteria/thresholds by the AER in the Ring-fencing Guideline). This includes all maintenance and restoration of supply following a fault or emergency. Essential Energy considers that these requirements may lead to poorer reliability outcomes and therefore customer experience, than a more integrated service delivery model where the DNSP performs these functions.

This is because the competitive market for SAPS generation services is emerging and will take time to develop. In the meantime, there is a risk that the level of service that the competitive provider can deliver, may not be to the same standard that the network can deliver and may also come at a higher cost. This is due to the possibility that the AER will see the receipt of even just one tender to provide generation services as a sign of a competitive market and expect the DNSP to accept that bid, without giving due consideration to the competitiveness (quality and price) of that bid. Essential Energy has been privy to many examples of remote customers receiving over-priced third-party quotes to undertake other competitive services within our footprint. Such an occurrence may not only have a detrimental impact on network prices for customers (if DNSPs are forced to accept over-priced bids) but also reliability for SAPS customers in remote areas or those that are hard to access and/or heavily vegetated (if the SAPS provider fails to deliver to the standard required).

Secondly, there may be inconsistencies in the reliability outcomes to greenfield SAPS customers based on whether the SAPS service is being provided by the DNSP or a competitive third-party provider. Under the proposed arrangements for third-party led SAPS, customers will have the ability to trade off reliability and cost, and jurisdictional reliability standards may not apply. The same situation does not apply to DNSP led SAPS. Essential Energy is concerned that this may lead to inconsistent outcomes and poor customer experience for third-party led SAPS customers. It will be important that customers are aware of the reliability outcomes that they can expect from their third-party provider and have recourse to a process to rectify poor performance if these standards are not being met.

6.8 Question 8

Should network reliability standards take account of two-way energy flows and the ability of the network to allow customers to both buy and sell electricity? If yes, should reliability standards take into account the value to customers of being able to export or sell power to the grid? What might this look like in practice?

One issue that would need to be considered, is whether the ability to export constitutes an essential service or whether it is a right that needs to be defined. This would be a key consideration in determining what level of access (and therefore what requirements networks have to plan the network and invest to facilitate exports) is appropriate.

There is a risk that specifying a level of access for exports would require significant network expenditure and would increase network charges for all customers.

In addition, how networks would recover the costs of investment to facilitate exports is still an open question. Currently in the National Electricity Rules, DNSPs are prohibited from charging customers a network tariff for export. Therefore, specifying a standard for export now, may exacerbate cross-subsidies between customers with DER and those without. This is because networks would need to plan and invest to meet this standard that would benefit exporting customers but would recover the costs from all distribution customers which is levied based on consumption.

A broader look at optimisation would necessitate a review of incentives for networks to assist in mitigating constraints resulting from DER, given the limitations in cost recovery, but the reality of impacts of DER on networks particularly on voltage.

There are a number of processes ongoing that are looking into this issue in more detail, for example the ARENA-led Distributed Energy Integration Program (DEIP) access and pricing workstream. This work is still at an early stage and is considering potential options to reform existing distribution access and charging arrangements.

Any reliability standard for export would need to be consistent with national regulatory arrangements. For example, a separately specified standard for DER exports may only be required if there was an associated access right for customers to export energy. Other issues such as whether this standard is universal or set at a jurisdictional or network level would also need to be considered further, in addition to whether there should be different standards available at different costs – e.g. a plain vanilla connection versus a two-way connection.

Essential Energy is supportive of IPART looking for solutions that work on optimising two way energy flows, and using this work to inform broader, consistent and complementary regulatory reforms.

Given DER currently causes issues in only small pockets of the network, dynamic connection agreements may also provide an alternative solution to managing exports with an associated, appropriately scaled cost of compliance.

6.9 Question 9

Do you agree with our proposed approach to estimating the efficient level of reliability and basing the standard on the level that delivers the lowest social cost?

Essential Energy considers that the approach to estimate the efficient level of reliability proposed by IPART appears reasonable. However, it is worth noting that there are many other costs and impacts to the business beyond reliability which are factored into our investment programs, such as safety, bushfire risk, etc. Investment decisions are based on a value framework which incorporates a probabilistic risk model as well as the value of customer reliability measures (VCR) - this ensures we undertake the most efficient investments that deliver the highest net benefit to customers – the 'lowest social cost' is inherent in these investment decisions.

IPART is urged to consider the potential for a misalignment with the AER's reliability and investment expectations (based on the National Electricity Objective - long term interest of consumers), if modelling of standards is based on a lowest social cost.

6.10 Question 10

How should we estimate expected unserved energy across distributors' networks (for example by area, substation and/or feeders)?

Network visibility is a significant issue for our distribution network. Essential Energy has data down to a protection segment level, so there is a good understanding of the number of outages to that high voltage (HV) level. Going down a level to the low voltage (LV) network, the LV network is not currently mapped on our outage management system, as this only goes to the substation level. Therefore, Essential Energy has very limited data on outages at the LV level and these are estimated.

The further down the distribution level, the less visibility we have to capture accurate data. Essential Energy currently completes maximum demand calculations to a feeder level, going beyond feeder level can be problematic due to network configuration changes. For example, the feeder configuration may change during maintenance or capital projects, which affects the demand. The more granular the level, the greater likelihood of getting varying results due to reducing the diversification of the load. They are also time of year dependent. A profile based on each feeder would be preferable to base estimating, however the accuracy of detail needs to be weighed up against the effort to provide. The load profiles would be difficult to provide for individual customer types i.e. residential versus industrial as Essential Energy has limited access to the required data. Essential Energy could provide load profiles if requested but is currently not something readily available.

6.11 Question 11

Do you agree with our proposed approach to estimating the following inputs:
– the cost of expected unserved energy, which is a result of:
o the value customers place on reliability (VCR)
o the probability of asset failures
o the duration of outages and restoration profile
o profile of demand at each location
o number and capacity of transformers and feeders and/or non-network options
– the direct costs (operating and capital costs) of providing different levels of reliability; and
– a discount rate and asset lives to convert capital costs to an annuity.

In general, Essential Energy agrees with the approach discussed, however urges caution in the use of historical data. Specific feedback is provided in relation to the components of the cost of expected unserved energy:

- the value customers place on reliability (VCR) – Essential Energy agrees with the use of VCR for a calculation of the value of lost load
- the probability of asset failures – This is something that is currently under review by the business, however, we are not at the stage of being able to provide specific asset failure data by location at this stage. Overall network failure data would most likely be ineffective for this methodology due to the variation in asset lives due to a number of geographical impacts. We could provide this, however, it would more than likely be over a short time frame to improve the accuracy of the data.

- the duration of outages and restoration profile – We can provide the number and duration of outages to a feeder segment level (down to recloser segments).
- profile of demand at each location – as per **section 6.10**
- number and capacity of transformers and feeders and/or non-network options - We can provide the number and capacity of transformers and feeders - this data is readily available. In contrast, the capturing and measurement of non-network options is difficult presently.

Also, of note is the impact of the 2019-20 bushfires on outage and restoration profiles, as they will be at odds with previous profiles.

Essential Energy suggests that there are issues with relying on static historical data when improvements in data could provide a much more reliable indication of the future requirements.

Furthermore, Essential Energy queries the benchmarking against Ausgrid and Endeavour Energy considering the significant differences in our networks, and suggest that AER is better placed to determine efficiencies as they can more appropriately benchmark to similar networks in other states.

6.12 Question 12

What role does including reliability standards in licences play and do you agree that the standards should minimise any duplication of incentives between the NSW distributor licences and national regulatory framework?

Duplication should be minimised across any standard/licence/scheme to minimise the requirement for different reporting and decrease regulatory burden.

The use of SAIDI and SAIFI by both IPART and the AER to reflect the reliability experienced by customers, indicates that there could be some duplication. Whereas IPART use these measures to set minimum standards in Schedule 2, the AER uses them to promote a target reliability performance as part of the STPIS - see **section 4.6**.

While Essential Energy may not be currently meeting the reliability targets set in STPIS (and is penalised for this), Essential Energy is well within the reliability targets set within Schedule 2 of the Licence Conditions.

STPIS has been developed and is operated in conjunction with other incentive mechanisms, and therefore provides powerful incentives for Essential Energy to deliver on service levels in a prudent and efficient manner.

It is Essential Energy's view that Scheduled 2 could be removed because it is not necessary. The SAIFI and SAIDI standards for Urban, Short-rural and Long-rural feeders are already specified in STPIS, are significantly tighter than the NSW overall reliability standards, and are linked to an incentive framework. The removal of this Schedule 2 from the NSW licence conditions would remove a level of potential redundancy and additional reporting.

It is also important that reliability standards cater for those customers that experience very poor reliability and where there is no incentive to improve reliability performance. Reliability standards generally focus on an average performance for a group of customers, within this average some customers will experience exceptional reliability whilst others will experience very poor reliability. Customers who experience very poor reliability are generally connected to the end of long rural feeders, where both frequency and duration of outages are far higher than average reliability performance.

Throughout our ongoing customer engagement, we have heard that there is strong support to improve reliability for those customers experiencing very poor reliability. However, there are currently no regulatory obligations that compel Essential Energy to remediate this poor performance, and often, investments are very difficult to justify using traditional network solutions,

Essential Energy recommends that IPART consider whether introducing targeted incentives that encourage remediation of extremely poor reliability performance for customers into the licence conditions is warranted. These targeted incentives would complement the increased use of non-network solutions. As SAPS, and other

technologies such as batteries and microgrids become more viable, incentives would serve to address customers experiencing poor reliability and assist in justifying investment in non-network options.

6.13 Question 13

What is the appropriate compliance framework for monitoring performance against distribution network reliability standards?
Should IPART have the flexibility to determine the frequency of reporting, in response to performance?

Essential Energy believes that a compliance framework based on exception based reporting against the reliability standards is appropriate. This reduces the burden of compliance to reporting on non-compliances against the standards and ensures that the distributor and IPART are focused on relevant issues.

Essential Energy supports a move toward annual reliability compliance reporting for distribution rather than quarterly – this would align with the existing requirements for transmission reliability standard reporting. Essential Energy also supports a risk based approach to reporting. If a closer monitoring of a distributor is warranted, then it is reasonable for IPART to have the flexibility to be able to request more frequent reporting. It should also be flexible enough for IPART to be able to not require additional reporting for events such as natural disasters as per the 2019-20 bushfires, whereby additional reporting would add unnecessary regulatory burden at a time when the business is needing to focus on recovery.

Another requirement that should be reviewed is the annual audit of compliance with the reliability standards, the audit also covers service standards and incident reporting. This audit has not had any material findings for a number of years and as such adds little value to the business or to IPART. The requirement to audit should be based on a risk approach based on performance.