

30 September 2021

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Dear Ms Knights,

RE: Consultation on *Electricity (General) (Technical Standards) Variation Regulations 2021*

The South Australian Council of Social Service (SACOSS) is the peak body for non-government health and community services in South Australia with a mission to advocate for the interests of vulnerable and disadvantaged people across the state. We thank the Department for Energy and Mining (the Department) for the opportunity to comment on its proposed variations to the *Electricity (General) Regulations 2012* contained in the *Electricity (General) (Technical Standards) Variation Regulations 2021* (the Draft Regulations).

The purpose of the Draft Regulations is to introduce a new role for the Technical Regulator to prepare and publish:

*‘technical and operational standards that must be applied so that electricity infrastructure and electrical installations are installed, maintained and operated in a manner that facilitates the taking of effective emergency action (**emergency standards**)’.*¹

‘Emergency action’ is defined under the Draft Regulations to mean:

‘action (whether by the Minister, AEMO or any other person or body) for the purposes of preventing or responding to significant disruptions (or risks of significant disruptions) to the supply of electricity to part of or all of South Australia.’

Under the Draft Regulations, the ‘emergency standards’ may:

¹ Draft Regulation 55H(1) in the *Electricity (General) (Technical Standards) Variation Regulations 2021*

‘specify requirements and standards for electricity infrastructure and electrical installations, including in relation to the nature or operation of such infrastructure or installations’.

A ‘relevant entity’ must:

*‘(a) comply with the provisions of the emergency standards applying to the entity; and
(b) provide, in accordance with any requirements of the emergency standards, information and assistance to the Technical Regulator for the purpose of preparing and maintaining the emergency standards.’*

A ‘relevant entity’ is defined under the Draft Regulations to mean the holder of a relevant licence, and a ‘relevant licence’ means a licence authorising:

- the generation of electricity
- the operation of a transmission or distribution network
- system control over a power system.

The effect of the Draft Regulations then, is to create new functions and powers for the Office of the Technical Regulator (OTR) to allow for the development of additional jurisdictional standards known as ‘emergency standards’ to apply to generators and network service providers in South Australia, over and above the obligations contained in National Laws and Rules. The scope of the powers under the Draft Regulations is relatively broad, and we understand the proposed standards are intended to address grid system security issues created by increasing levels of Distributed Energy Resources (DER) in the system in South Australia.

As part of its Regulatory Proposal for 2020-25, SA Power Networks proposed an Electricity System Security contingent project to address potential issues in the under-frequency load shedding (UFLS) scheme. Contingent projects are ‘significant network augmentation projects, of uncertain timing’,² and capital expenditure (Capex) associated with a contingent project does not form a part of the Australian Energy Regulator’s approved expenditure in its Regulatory Determination, but rather is linked to ‘unique investment drivers’ triggered by a defined ‘trigger’ event.

SA Power Network’s Electricity System Security contingent project was on the basis that:

‘AEMO modelling suggests that due to increasing levels of DER, the existing UFLS scheme will be ineffective. To address this risk, SA Power Networks anticipates that AEMO, as part of its responsibility to maintain power system security, will require a redesign and rebuild of the existing UFLS scheme and to establish capability to shed DER.’

² [Attachment 5: Capital expenditure | Final decision – SA Power Networks 2020–25](#) p.5-54

The AER accepted the Contingent Project on the basis that SA Power Networks receive formal notification or confirmation from AEMO that:³

(a) the findings of AEMO’s Power System Frequency Risk Review undertaken in accordance with the requirements of Rule 5.20A; or

(b) other relevant system security findings from AEMO, or where relevant the Reliability Panel,

i. requires SA Power Networks to implement any of the following options in order to comply with its applicable regulatory obligations or requirements:

ii. changes to, or in connection with, any emergency frequency control scheme; and/or

ii. any other measures that AEMO determines are required to ensure AEMO’s continued ability to maintain security and reliability of supply within South Australia with increasing levels of distributed energy resources, in a timeframe that necessitates investment within the 2020–25 regulatory control period, where those changes or measures are required at or in relation to:

i. one or more specific zone substations (e.g. the replacement of under-frequency load shedding (UFLS) relays); or

ii. central systems that control any UFLS scheme; or

iii. systems to control specific large-scale embedded generators; or

iv. any other specific components or elements of the distribution network; or

v. any combination of the above

- *Successful completion of the Regulatory Investment Test-Distribution, or an equivalent economic evaluation, in relation to the required investment including details of the need to undertake the works, an assessment of credible options, and the identification of the preferred option.*
- *SA Power Networks commitment to proceed with the project subject to the AER amending the distribution determination for the 2020–25 regulatory control period pursuant to the NER.*

The AER found it was important to ensure the trigger for the Contingent Project was capable of objective verification, and required AEMO undertake a *Power System Frequency Risk Review* (PSFRR) in accordance with the requirements of Rule 5.20A of the National Electricity Rules. The AER also highlighted the benefits for stakeholders of the transparent process required under Rule 5.20A, stating:⁴

‘If AEMO believes that there is a cost-effective way of managing any of the risks it identifies in its PSFRR, it can recommend changes to emergency frequency control schemes (such as the South Australian UFLS scheme) or request that the Reliability Panel declare a risk as a protected event, In 2018, AEMO undertook its first PSFRR and did not identify any need to modify the South Australian UFLS scheme.’

³ [Attachment 5: Capital expenditure | Final decision – SA Power Networks 2020–25](#), p.5-60

⁴ [Attachment 5: Capital expenditure | Final decision – SA Power Networks 2020–25](#), footnote 162, p.5-59

SACOSS understands SA Power Network’s revised forecast expenditure for Electricity System Security contingent project no longer meets the 5 per cent materiality threshold of \$39.1 million. SA Power Networks initially proposed two options which did meet this threshold:

- Option 1 using existing protection relays wherever possible with an expected cost of \$40.1 million, and
- Option 2 upgrading all relays to the modern standard with an expected cost of \$79.2 million.

In addition, it is unclear whether the triggers required for the Contingent Project have been met. AEMO’s PSFRR Stage 2 Final Report found:⁵

‘AEMO considers it preferable to manage the identified risks of Heywood separation under the NER protected event framework. This would allow AEMO to implement the same constraints, and possibly take additional pre-defined actions (to be determined based on analysis proceeding at present) whenever the non-credible separation could lead to an under-frequency event that has a material risk of cascading failure. AEMO is currently investigating the specific actions to be proposed, and the estimated costs and benefits of those actions. AEMO is targeting a submission to the Reliability Panel in early 2021, seeking the non-credible synchronous separation of South Australia from the rest of the NEM be considered a protected event under certain conditions.’

Table 37⁶ in the PSFRR Stage 2 Final Report summarises AEMO’s plan and implementation timeline for the various measures to slow the decline in UFLS effectiveness and restore emergency frequency response in South Australia.

SACOSS understands the new emergency standards made by the OTR under the Draft Regulations will operate as a new jurisdictional regulatory obligation which network service providers will be required to meet, obviating the need for a contingent project application or AEMO’s (and the Reliability Panel’s) assessment of UFLS requirements. It is unclear whether SA Power Networks will have to satisfy a RIT-D test in relation to any expenditure to meet the new emergency standards.

SACOSS is urging caution around empowering a local regulator to set specific jurisdictional standards requiring unknown amounts of network expenditure on infrastructure and operational requirements to fix a problem that could possibly be addressed in other (more affordable) ways, bearing in mind that *all* South Australian energy consumers will pay for the additional infrastructure and operating expenditure through their energy bills. We are also concerned about the departure from established national frameworks, and are seeking confirmation that the identified problem cannot properly be addressed through those existing frameworks, which include important checks and balances and are aimed at ensuring the efficient operation of the networks in the long-term interests of consumers.

⁵ [AEMO 2020 | Power System Frequency Risk Review – Stage 2 Final Report](#) p.4

⁶ [AEMO 2020 | Power System Frequency Risk Review – Stage 2 Final Report](#) p.73

As referred to above, additional regulatory obligations created by the new ‘emergency standards’ will require regulated networks to be allowed additional capital expenditure for infrastructure as well as additional associated operating expenditure, over and above that allowed under the AER’s regulatory determination (for SA Power Networks, RD 2020-25). The AER has noted the relationship between standards and increased capex requirements in its *Capex Assessment Outline for electricity distribution determinations*:⁷

*‘In considering whether the total capex forecast reasonably reflects the capex criteria, we need to consider whether the forecast will allow the distributor to meet expected demand and comply with relevant regulatory obligations. Demand and regulatory obligations (specifically, service standards) are key capex drivers. **More onerous standards or growth in maximum demand will increase capex.** Conversely, reduced service obligations or a decline in demand will likely cause a reduction in the amount of capex the distributor requires.’*

SACOSS is concerned to ensure the system security need for these new ‘emergency standards’ is transparently and independently established, and the required capital expenditure to meet the new standards is prudent and efficient. Noting the required capital expenditure will be added to the Regulatory Asset Base, and will be recovered from *all* South Australian consumers into the future.

Also, SACOSS is keen to understand whether there could there be some assessment of the impacts on SA customer’s bills from the creation of these additional emergency standards. The National Frameworks currently provide for the robust review of expenditure proposals and the cost impacts for customers, and we believe the Department should consider the broader implications (including the costs to consumers) of departing from the current recommendations of the AER, which were made in accordance with the national regulatory frameworks, outlined above.

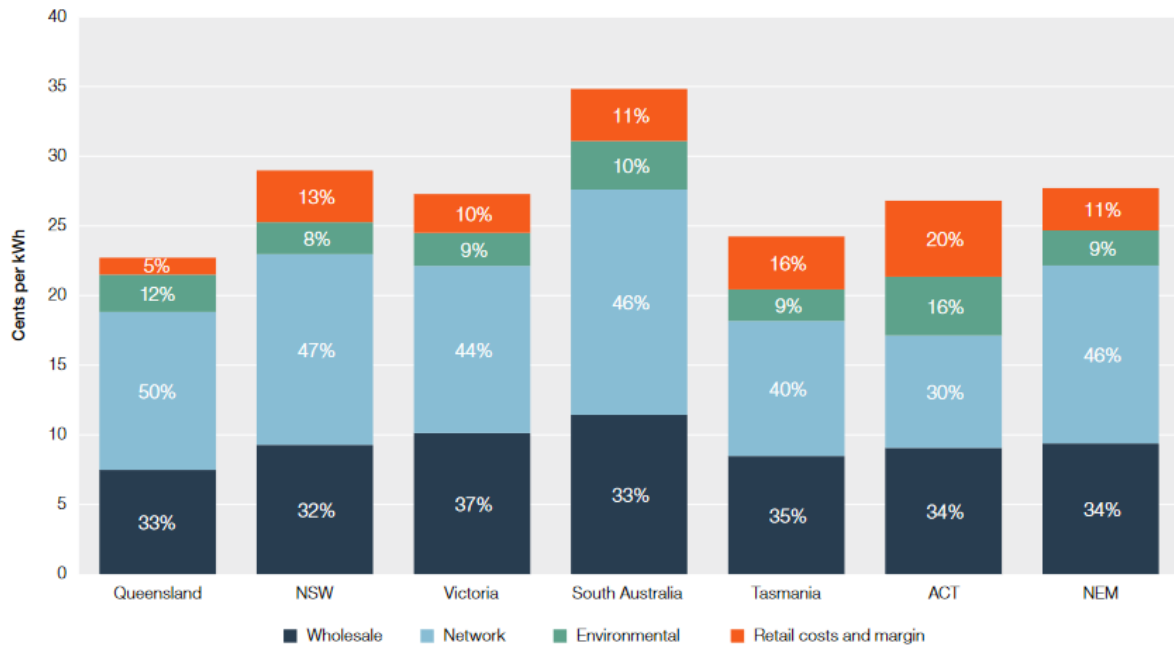
We acknowledge the developing issue of system security, but consider it is important to emphasise that energy affordability continues to be a primary concern for South Australian energy consumers, particularly low-income consumers. The AER’s recent *State of the Energy Market Report*⁸ shows that while South Australia has the second lowest electricity use in the NEM, electricity prices were 16–49% higher than other NEM regions. Importantly, low-income households in SA spent around 5.5% of household income on energy bills, this is the highest electricity bill to income ratio in low income households in the NEM, after Tasmania (see Figure 6.13, below).⁹ Importantly for this consultation, network costs currently represent 46% of a residential electricity bill in SA, a significant proportion of the highest average energy bill in the NEM (see Figure 6.8, below).

⁷ [AER capex assessment outline | electricity distribution determinations | February 2020](#), p.9

⁸ AER, [State of the Energy Market 2021](#), June 2021, p. 275

⁹ AER, [State of the Energy Market 2021](#), June 2021, p. 274

Figure 6.8 Composition of a residential electricity bill

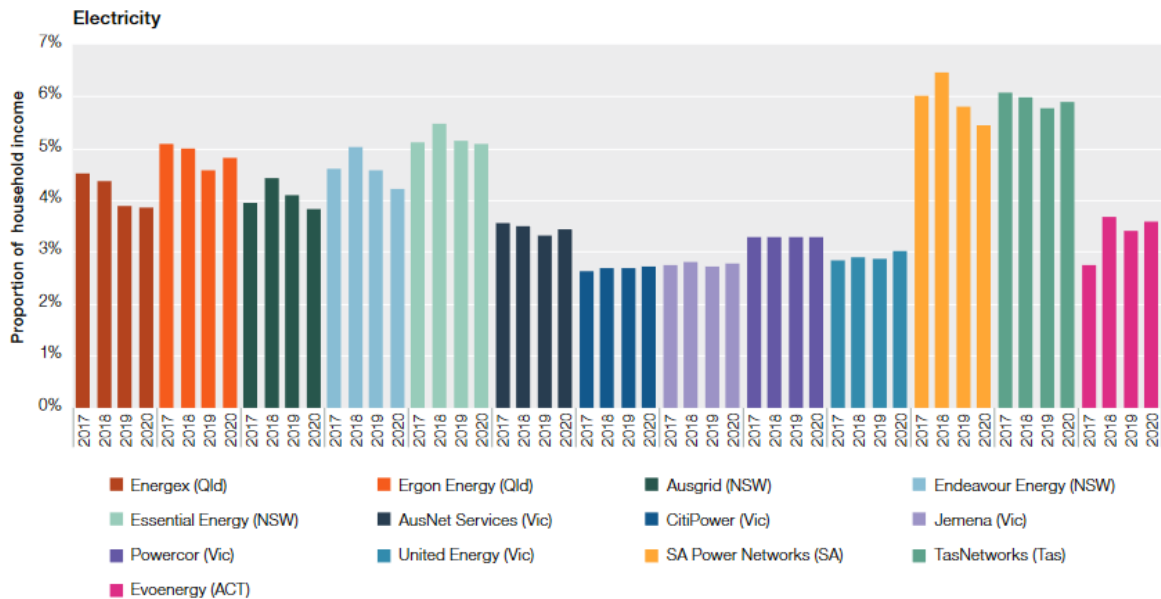


kWh: kilowatt hour.

Note: Data are estimates for 2020–21. Average residential customer prices excluding GST. Percentages may not add to 100% due to rounding.

Source: AEMC, Residential electricity price trends 2020, Final report, December 2020.

Figure 6.13 Energy bill burden on low income households



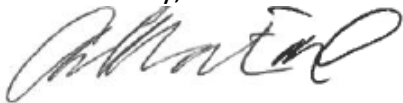
Against this background, SACOSS is very concerned about the impact of additional network expenditure on the price and affordability of electricity and we submit the Draft Regulations could more explicitly provide for a requirement that a balance be found between the need for, and level of, the ‘emergency standards’ to achieve system security and the costs to consumers. The higher the standards, the greater the cost. We consider evidence of long-term consumer benefit should be required to be established by the OTR in the setting of the new standards under the Draft Regulations. Underpinning the need for consumer benefit to be established is the acknowledgement that the ‘system security’ problem to be fixed by the emergency standards has been created by increasing rooftop solar customers, but will be

paid for by *all* customers, including low-income customers and renting customers, most of whom do not have the option of accessing and accruing the benefits of solar.

More broadly, SACOSS is also seeking clarification on whether an amendment to Regulations is the appropriate pathway to provide the OTR with additional functions and powers of this nature, or whether this should more properly be dealt with through an amendment to section 8 of the *Electricity Act 1996*. We note section 8(d) of the Electricity Act provides for 'any other functions prescribed by regulation', but we consider the power to prepare, monitor and enforce 'emergency standards' should be provided for in a similar manner to ESCOSA's powers to set and review SA Power Networks' reliability standards (established under the Electricity Act and consistent with the Commission's primary objective under the *Essential Services Commission Act 2002*). We note that unlike ESCOSA or the AER, the OTR is not required to exercise its powers in accordance with an overriding objective to protect the long-term interests of consumers. This could possibly be because the existing functions of the OTR under section 8 of the Electricity Act mainly relate to monitoring, regulation, investigation and administration – as opposed to the development or creation of standards and obligations (leaving aside the switching manual function under the Regulations). In circumstance where the OTR's functions and powers branch into the creation of new standards requiring network expenditure to meet those obligations (and consequent costs to consumers), we consider the interests of consumers should be a factor in the development of those standards.

If you have any questions in relation to this submission, please contact Georgina Morris at georgina@sacoss.org.au or 8305 4214.

Yours sincerely,



Dr Catherine Earl
Director of Policy and Advocacy
South Australian Council of Social Service