8 December 2022

Mark Feather
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**Submitted via website:** NetworkPolicy@aer.gov.au

Dear Mark,

**Flexible export limits issues paper**

CitiPower, Powercor and United Energy (CPU) welcome the opportunity to respond to Australian Energy Regulator's (AER) consultation on its flexible export limits issues paper.

**Executive summary**

Our submission wishes to make the following points:

- We support the introduction of flexible exports limits. They have the potential to allow additional customer energy resources (CER) to be connected across the network whilst managing network constraints and system security risks.
- Flexible export limits should not be mandatory. They are not the only tool available to distributors to manage network constraints. Further, we believe it is important flexible export limits are more broadly accepted by the community. Mandating them is likely to only result in a negative perception of them.
- Capacity allocation methodologies should be determined by the distributor (who best understand the network) and the jurisdiction (who best understand and are responsible for social policy). . We do agree distributors should transparently present their capacity allocation methodologies.
- If flexible export limits are introduced by a distributor, they should be based on an 'opt out' model. Adoption of an 'opt in' model, in our experience, will result in a low take up of flexible export limits. This is our experience in Victoria with more cost reflective tariffs.
- We support the application of flexible export limits through connection agreements. Future agreements may need to be customised allowing for different access arrangements. Future connection agreements are unlikely to be enduring and will require the flexibility to accommodate changes in customer preferences, location and contract term. We support the standardisation of certain terms and conditions within connection agreements so long as distributors can also retain the ability to set specific requirements relative to their network conditions and customer needs.
- Traders present a barrier to the successful implementation of flexible export limits. The absence of any relationship between traders and distributors, their potential operation outside of the current energy regulatory framework, and possible financial incentives not to comply with a flexible export limit pose a risk to customers and distributors. Traders need to be licenced and subject to a use of system agreement to protect both customers and distributors. We also strongly advocate for a greater role for jurisdictional consumer bodies in managing trader activities.

Should you have any queries, please contact Brent Cleeve on [redacted] or [redacted].

Yours sincerely,

[redacted]

Renate Vogt
**General Manager Regulation**
**CitiPower, Powercor and United Energy**

# Appendix

## 1. Benefits of flexible export limits

We support flexible export limits. Flexible export limits provide another tool network operations and planners can apply efficiently and effectively to manage system minimum demand, network voltage and thermal constraints across the network in order to maintain a secure, safe, reliable and efficient network. They are however only one tool and need to be considered in concert with other tools.

The concept of dynamic operating envelopes, reflected in the design of flexible export limits, is central to the design and development of both high voltage (HV) and low voltage (LV) distributed energy management systems. These systems provide essential capability for networks to manage the two-way flow of energy, now typical across the energy market.

Flexible export limits have a further benefit in that they enable joint management of network constraints and system minimum demand. Their ability to manage multiple issues can lower costs for our customers compared to other more bespoke minimum demand management solutions. Flexible export limits can also facilitate customer energy resources (CER) participating in the wholesale market, frequency control ancillary services (FCAS) and community schemes by enabling increased exports at various times throughout the day and seasons. The ability to directly manage a group of customers' flexible export limits for a specific period can also provide the least cost solution for management of network contingencies.

Whilst we are not committed at this stage to the introduction of flexible exports limits, we will be actively trialling them and developing capabilities to offer flexible export limits to customers over the remainder of this regulatory period to test customer acceptance and their effectiveness from a network management perspective. If customers are positive in acceptance of flexible limits, and we find them effective from a network management perspective, we will consider rolling them out at scale in the next regulatory period. The ultimate timing will depend on need influenced by minimum demand trends, rooftop solar adoption rates and the increased deployment of community batteries and other forms of energy storage on our LV networks.

## 2. Capacity allocation principles

We are supportive of the DEIP Working Group export hosting capacity allocation principles.

There is however a conflict in the second principle that seeks to maximise the use of network hosting capacity whilst seeking fairness. A similar conflict arises in the fourth principle in allocating capacity to small customers irrespective of their size of type of CER.

Fairness is an important principle for our customers. Through our reset stakeholder engagement program, and flexible export services customer research program, customers have told us of their concerns the energy transition is only benefiting customers who can afford CER and leaving behind those who cannot. We agree with our customers and stakeholders, and do not accept capacity allocation principles that potentially discriminate in favour of customers who, for example, happen to be located closest to the street transformer or benefits customers located closest to a feeder exit point from the zone substation or provide unfair access to customers who can afford larger rooftop solar systems.

We believe the role of monitoring compliance with the DEIP Working Group export hosting capacity allocation principles, and how capacity is allocated, is best determined by the jurisdictions through engagement with stakeholders. We do not see a role for an economic regulator adjudicating on an issue that may not result in network hosting capacity being maximised. Social policy rightly belongs with the jurisdictions who are better able to balance the trade between fairness and cost.

Principle five requires in the near-term flexible export limits should be opt-in. Accepting opt-in, as a principle, risks low take up of flexible export limits based on experience with take up of other opt-in products such as time of use tariffs. Low take up reduces the effectiveness of flexible export limits as a viable network tool. Therefore, careful consideration needs to be given whether adopting an opt-in model could 'blunt' the use of flexible export limits as a tool. Feedback from solar installers, and our own research with customers, has indicated a high level of interest in the potential positive benefits of flexible export services including financial and environmental outcomes. Based on this feedback, we expect flexible export limits will be of interest to the majority of new CER customers, rather than the minority. Establishing opt-out arrangements therefore potentially reduces administration related costs.

An opt-in arrangement will also limit the ability for flexible exports to be effectively utilised for managing minimum demand scenarios. These situations depend upon the deployment of large-scale measures to achieve an immediate effect in order to sustain network security. The efficacy of flexible exports as a mitigation option will be strengthened if large volumes of CER are engaged simply and automatically, enabled through an opt-out arrangement.

Finally, we agree that legacy customers can remain on existing static offers unless they choose a flexible export limit offer or until such time they replace their CER or alter their connection arrangements consistent with the connection agreement they have agreed to.

### 3. Capacity allocation methodology

There should not be a mandated approach to developing a capacity allocation methodology. Doing so would artificially reduce network hosting capacity for the sake of simpler regulation.

The capacity allocation methodology will vary by distributor due to topography, network visibility and approach to application of flexible export limits. Some distributors face thermal constraints whilst others voltage constraints. Rural networks contain extensive single wire earth return (SWER) networks. Victorian distributors have greater visibility of their LV networks due to the availability of smart meter data, whilst South Australia has more operational experience in administering flexible export limits. For these reasons there is no 'one size fits all' that maximises hosting capacity for all networks. Additionally, over time the capacity allocation methodology will evolve based on operational experience and better data. This is a natural progression that should not be impeded.

Distributors are best placed to determine the capacity allocation methodology. The AER is not a technical regulator and further does not have sufficient knowledge or understanding of individual networks. Allowing the AER to approve the capacity allocation methodology could unintentionally reduce network hosting capacity or result in misleading amounts of capacity being presented to customers.

Transparency is essential for community confidence in flexible export limits. We therefore agree the capacity allocation methodology should form part of the CER integration strategy. Integration of the methodology within the CER integration strategy will also assist in ensuring a comprehensive approach is taken to investment assessment at regulatory determinations.

### 4. Consumer participation in flexible export limits (opt-in or opt-out)

Our customers have made it clear they want flexibility and choice. Providing this is key to customer satisfaction and reducing the risk of the industry 'getting the transition wrong' and increasing the already low levels of mistrust with the energy industry, government, and regulators.

We support choice too but would like the starting point for that choice to be opt out. This is because we have observed the failure of customers to adopt time of use tariffs in Victoria under an opt-in model. If this is to occur

for flexible export limits, they would be useless as a tool for network management and less efficient solutions would need to be instituted that will cost customers more in the future. Even if the AER closes the door on an opt-out model for residential customers, consideration should be given to an opt out arrangement for industrial and commercial customers. Managing their export will provide the greatest network benefit and may obviate the need to introduce flexible export limits to residential customers. Export of energy is discretionary. It is different to consumption. Before mandating opt in arrangements this needs to be taken into consideration

Whether an opt-in or opt-out model is selected, it is important that the AER considers the end-to-end customer journey from when they start to explore CER options to installation, operation, maintenance and churn.

Solar installers are an important contact point in this journey. Within our processes, the solar installer typically applies for a solar export pre-approval at the quotation stage with the customer. Customer details are provided with this application and thereafter, we communicate directly with both the customer and installer. In the case of offering flexible export arrangements, we intend to work directly with the customer, as well as the solar installer, on obtaining explicit customer consent. We believe the same should be true if an existing customer engages a trader who seeks to amend the customer's existing product offering. For example, if that customer then decides to participate in a virtual power plant offer.

Customers have advised us of their experiences with some solar installers (and traders) presenting over inflated business cases using opportunistic assumptions that maximise a return to the customer. Flexible export limits will unfortunately enable this practice to continue through potential exaggeration of how and where flexible export limits may apply to customer. It is important jurisdictional customer bodies or ombudsman monitor the behaviour of solar installers and traders, especially as it pertains to presenting network access. It is critical the industry comes together to have consistent communication. All market players should be responsible and involved in ensuring consistent, clear, and fair communication to customers. The AER should consider the appropriate governance arrangements to enable this during its consultation process.

## 5. Connection agreements

Transparency and trust are essential to achieving take up of flexible export services. Therefore, we are supportive of the rights and obligations nominated by the AER for inclusion in the flexible export limits connection agreement.

Future connection agreements will need to be flexible to accommodate customer preferences, locations and contract terms. For example, future connection agreements may need to accommodate customers seeking higher levels of access to the network or the changing preferences of customers as the move in and out of locations. In the case of Victoria, these changes will be complex and jurisdiction specific due to role deemed distribution contracts play.

We do not support the AER's option of standardising connection agreements but do see a role for common terms and conditions. It is understood that the Energy Security Board is considering templated terms and conditions for CER connections but recognises the need for certain specific conditions to be set by distributors. The templated terms are understood to incorporate plain English explanations of legal terms and conditions and the setting of minimum standards of information provision. We support this.

## 6. Governance arrangements for flexible export limits

We do not agree with the AER customers should not be responsible for compliance with flexible export limits. In the end, it is the customer that owns and connects the CER to the network and chooses to engage a trader to control their CER. In the same way, we have treated smart inverter setting compliance as a customer obligation,

we notify both the customer and their solar installer when there is a non-compliance. This has worked effectively for our networks and achieved high levels of compliance.

The role of traders is more problematic and if not addressed poses a threat to the effective use of flexible export limits.

The solution we support is for traders to be licenced by the jurisdictional regulator as a retailer and registered as a National Electricity Market (NEM) participant. This would allow the introduction of a use of system agreement between traders and the distributors, the same arrangements that exist between retailers and distributors today. A use of system agreement would allow for more efficient management of situations where a customer has engaged a trader who then operates the customer CER outside flexible export limits. It is also appropriate given the traders are seeking to use the distribution network to transport their goods.

In the absence of a use of agreement, traders have limited incentive to comply with flexible export limit. Traders stand to make significant returns in the wholesale, FCAS or reliability and emergency reserve trader (RERT) markets. The complexity of these markets creates the potential for a sizeable portion of any benefit derived by traders not being returned to customers. As such, any penalty applied for failure to comply with a flexible export limit will be trivial compared to the profits available in these markets. Therefore licencing is important as a breach of a use of system agreement can be a trigger for a loss of licence, which would act as a more credible threat to traders.

Compliance of traders will be complex to monitor. Under the Australian Energy Market Operators (AEMO) proposed flexible trading arrangements, traders may sit behind a parent meter National Metering Identifier (NMI) owned by a retailer. The retailer, whilst having a direct relationship with the distributor, will be stuck in the middle even though it has no control of the behaviour of the trader.

Caution needs to be exercised in developing a whole regulatory framework to facilitate traders. Our engagement with customers and South Australia's lived experience suggests many customers are not comfortable with third party control of their devices. We are aware of cases in South Australia where the trader has traded out all the customers energy storage resulting in the customer again paying electricity bills (where they previously were not) and paying the trader for the service.

### 7. Notification period for exercise of a dynamic limit

To manage network constraints effectively (business as usual, unplanned outages, weather changes etc) we need the flexibility to manage flexible export limits dynamically. Whilst we recognise the need for notification periods for activation of a dynamic limit, it is important to recognise that network safety, security and stability needs to have priority. Any decision the AER makes on notification periods needs to trade off the more notice required before their activation, the less effective the flexible export limit will be. This is because the distributors will need to become more conservative the further out it is required to notify the customer

It will take several more years to develop the necessary capability to provide the notification periods the AER may seek. Forecasting is a new function required for distributors to function as distribution system operator and will require new systems and people to be developed and trained. We are developing our forecasting capability to foreshadow activation of flexible export limits to traders and customers. However, any forecasts will be an estimate only and subject to changes to the network and external conditions. The closer you get to real time, the more certainty the forecasts will have.

If we are locked in to forecasts way in advance, we will out of necessity be required to be conservative which may be equally detrimental to traders and customers.

## 8. Monitoring flexible export limit performance and information provision

The issue of monitoring export limit performance and provision of information is closely related to the AER's export service performance review and many of our comments are the same as those in that submission.

We are staunch supporters of incentive-based regulation and believe the best way to deliver efficiencies and performance for our customers is by allowing the option for us to design bespoke incentives with our customers. This will allow for the different circumstances of distributors, including customer preferences, base levels of export and data availability. Reputational incentives could provide visibility for stakeholders to evaluate network export services performance and influence export service outcomes.

A one size fits all financial incentive mechanism is not appropriate. This is due to the difficulty in measuring the distributor's contribution to export curtailment in the absence of reliable and measurable metrics, and the low materiality of export service constraints. There will also be difficulty in accounting for the different circumstances of distributors with respect to customer preferences, data availability, current export service performance and other mechanisms available to manage export services.

Guaranteed service levels can provide inconvenience payments in recognition of customers receiving service levels below a minimum standard. We note these arrangements would be inconvenience offerings for customers and a transfer of equity rather than effective incentive arrangements.

Involuntary export curtailment and export service levels achieved are appropriate longer-term network performance reporting metrics.

Finally, many roof top solar units come with applications that provide customers detailed data. The AER needs to consider whether utilising these applications may be a more efficient tool for providing customers the data they need rather than additional reporting costs on distributors that must be paid by all customers.

## 9. Device capability to respond to flexible export limits

We are supportive of a CSIP-Aus mandate. CSIP-Aus will not however be initially available to the existing 335,000 legacy customers we have across our networks. Therefore, a transition is necessary to allow customers to progressively exchange their inverter and/or solar panels.

Our experience is mandates are ineffective in the absence of a robust compliance and enforcement framework supported by regulators. Many of the participants who are responsible for ensuring inverters are CSIP-Aus compliant, will not be NEM participants and outside the reach of energy sector regulators.

Even where mandates have been instituted, compliance levels are low (for example, inverter compliance). Therefore, the AER must be conscious in determining the role for mandating any standard that compliance is likely to be low if it does not develop effective compliance and enforcement arrangements. If there are ineffective compliance and enforcement regimes, it is important for the AER to acknowledge and expect that distributors will need to develop alternate technical solutions to accommodate less than 100 per cent compliance. We would advocate that it would be in the energy market's interests that distributors are empowered with compliance roles given they will be the most motivated party to address compliance issues.

## 10. Mandating flexible export limit interval length

There is no need to mandate interval length where it involves activation of a flexible export limit. Export of energy is discretionary. It is not load.

Flexible export constraints in any event, are unlikely to ever exceed more than 6-8 hours given excess solar energy production would be the trigger for a flexible export limit to be applied.

### 11. Demonstrating investment need

The AER's Distributed Energy Resources integrated expenditure guidance note, the Customer Export Curtailment Values (CECV) methodology and the Expenditure forecast assessment guidance provide ample guidance on the preparation of regulatory proposals.

More support however is required from regulators for compliance and enforcement of flexible export limits. There has been a lot of work conducted by the Energy Security Board and Australian Energy Markets Commission on establishing standards but a strong reticence to deal with compliance and enforcement of those standards. For example, compliance with the Australia A invertor standards across networks remains low. This is a legacy of no clear accountability for compliance or enforcement. The absence of this controls will result in unfair usage of export capacity by non-compliant customers to the detriment of other customers, the bring forward of augmentation to accommodate baseline export levels for all customers, and the distortion of investment assessments for additional export capacity.

The ultimate findings of this review will impact investment requirements. Any unnecessary restriction placed on the operation of flexible export limits will diminish them as a network management tool and impact future investment proposals.

### 12. Protecting consumers

As noted, our primary concerns relate to the role of traders and are discussed in the governance arrangements for flexible export limits section.

### 13. Data protection and privacy

For Victorian distributors this is not an issue given ownership of the metering and communication infrastructure for data resides with distributors.

### 14. Consumer understanding and interest

Over the period 2021-22, we have invested heavily in understanding our customers perception of flexible export limits. We have done this because we consider customer trust and acceptability the key to the successful application of flexible export limits. Demonstrating 'social licence' to manage CER through a fair, equitable and transparent flexible export limit framework will improve customer trust in the product. To that end we are committed to customer research and undertaking a practical customer centric trial to better understand what flexible service offerings generate the greatest value for our customers.

#### We have undertaken research to understand and explore customer preferences for flexible export products

CitiPower, Powercor and United Energy undertook customer research focused on understanding how customers perceive flexible export products, including design preferences, trust considerations and perceived benefits and concerns of the new product.

**Two phases** of customer research were undertaken. **Phase one** was a *qualitative* phase of customer research to understand customer sentiment, and how we best communicate with customers on flexible export limits. What was clear from the discussion across the networks is that while customers could see some benefits in the flexible export limits, customers had several concerns that would require addressing before they would actively consider one. Primary amongst these concerns were potential costs they may incur in opting for a flexible export limit, who is selling them the product and some cynicism around the business case for flexible export limits given many customers experience with business cases provided by installers for roof top solar. We also found that customers wanted to understand why the introduction of flexible exports was required.

**Phase two** of the customer research sought to *quantify* customer attitudes to flexible export limits by recording how customer preferences changed amongst static export limits verse flexible export products when certain design levers were amended. The results showed that customers were highly motived by an increase in maximum export levels, and whether there was a financial deterrent applied to the static export limit. Customer preferences for flexible exports also increased when the responsible manager was an entity the customer felt like they could trust.

The customer research findings have provided a rich evidence base of how to design, communicate and roll out flexible export products with the goal of increasing customer uptake through increase in trust and customer understanding. We will draw on our customer research findings to enable the design of our flexible exports trial.

**Integration with export pricing**

There is no need for further controls to be placed around export tariffs by the AER. Sufficient guidance is already provided under the Export Tariff Guidelines.

In Victoria, the jurisdiction has effectively governed the rules around network tariffs as opposed to the AER. It is understood the Victorian Government remains unsupportive of export tariffs at this time hence any further guidance would be purely academic. Further the current position prevents any link between flexible export limits and network tariffs.

In the lead up to the 2026-2031 tariff structure statement, we will continue to consult with customers and Victorian Government on the possibility of new tariffs to support flexible export limits. These reforms could include tiered access offerings or application of an export tariff for customers on static offers where the intrinsic hosting capacity is lower than their maximum export limit. Whilst these are not export tariffs per se, they will offer customers greater choice and flexibility.

Finally, we would appreciate an understanding of the AER's motivation for export tariffs. Are they envisaged as a tool for redistributive equity, a stick for curtailing solar exports or an incentive to 'right size' solar installations?

### 15. Compliance and enforcement of technical standards that facilitate export limits

The low rate of compliance with existing CER technical standards flows from manufacture to installation to ongoing maintenance of inverters.

Prominent levels of non-compliance have necessitated us to apply commissioning sheet as a temporary measure for new CER to drive higher compliance. It is not planned to be a permanent solution and does not address legacy systems or invertors that fall out of compliance through time.

Distributors are best placed to monitor compliance of invertors, experience the largest impact of non-compliance, and are arguably in one of the best position to enforce or assist in enforcing compliance.

### 16. Efficient communication of flexible export limits at scale

We have no comment to make on this issue currently.