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9 December 2022

Mark Feather
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

Submitted via email

Dear Mark,

Flexible Export Limits – issues paper

Essential Energy welcomes the opportunity to respond to the Australian Energy Regulator's Flexible Export Limits issues paper.

We have provided responses to selected consultation questions outlined in the issues paper in Attachment A, with key messages outlined below. Our responses have been informed by our customers' and communities' perspectives on flexible connection agreements. They see the potential to better manage the network and to maximise the benefits of consumer energy resources (CER).

Key messages

- Essential Energy supports the adoption of a principles-based approach to guide development of capacity allocation. A principles-based approach allows flexibility for distributors to implement export capacity allocation that accounts for operational differences, both within and between networks, and to incorporate customer expectations.
- Essential Energy favours an opt-out model for simplification and more rapid realisation of benefits. However, Essential Energy also recognises that differences within and between jurisdictions, including network constraints and customer expectations, will play a role in determining whether one approach has advantages over another for a particular distributor.
- Distributors face strong incentives to ensure that capacity allocation and flexible export agreements provide increased customer benefits on average over the customer's investment lifecycle, than would static export limits.
- Distributors are best placed to coordinate dynamic export limits, the frequency with which limits are updated, as well as the customer notification period. Distributors have better oversight of the management and constraints of their own networks, including the required network visibility to understand powerflow within the low and medium voltage networks.
- Responsibility for compliance with flexible export limits should lay with the party with whom the connection agreement is made. In doing so, we also acknowledge the interconnectedness of this issues paper with other consultation currently being undertaken by the Energy Security Board (ESB) on interoperability and the Australian Energy Markets Commission (AEMC) on CER technical standards. These interconnected workstreams highlight the importance of the roles and responsibilities that need to be determined for the compliance and enforcement approach to be successful.

If you have any queries regarding this submission, please contact our Regulatory Strategy Manager, Adam Young on [redacted] or via [redacted].

Yours sincerely

[redacted]

Anne Pearson
Chief Corporate Affairs Officer

Attachment A: Responses to questions for stakeholder feedback

General questions

> ***Do stakeholders agree with the primary use case for the implementation of flexible export limits? [The primary use case is the efficient and increased utilisation of the shared hosting capacity on the distribution network to enable consumers to obtain the benefits of exporting their energy resources such as solar PV to the grid]***

Essential Energy agrees that the primary use case for the implementation of flexible export limits is the efficient and increased shared hosting capacity utilisation on the distribution network. Another benefit is that flexible export agreements are likely to – along with export tariffs – encourage the use of storage technologies to shift export into time periods of higher network load to avoid peak generation time network constraints and increase the availability of renewable energy outside of solar hours.

Immediate actions

> ***Comment on: In the near term, flexible export limits should be offered on an opt-in basis with capacity reserved only to make good on legacy static limit connection agreements, with efficient incentives provided for customers to transition to flexible export limits over time.***

Opt-in flexible export limits need to be attractive compared to the comparable non-flexible export limit, to encourage adoption, particularly for customers without storage.

Capacity Allocation

> ***Do stakeholders agree with the DEIP Working Group principles for capacity allocation? Why / why not?***

Essential Energy is supportive of the principles outlined for capacity allocation. However, we note that there may be situations where principles 2 and 4 collide. For example, Essential Energy has been engaging with stakeholders on the subject of flexible exports, presenting a range of options to gauge with stakeholders regarding what they consider to be fair. Feedback from these sessions indicate that customers favour options which limit, or curtail, exports from customers with larger systems before those with smaller ones. The rationale behind this is that customers with larger systems have a greater impact proportionately on the network than their smaller counterparts.

However, principle 4 needs further clarification as it could be at odds with customer expectations, if it is interpreted that all small customers be allocated the same capacity, irrespective of size or type of customer technology. Under the NER, small customers are defined within each jurisdiction's relevant electricity legislation. In NSW, a small customer is:

a. a residential customer; or
b. a business customer who consumes energy at business premises below the upper consumption threshold.[1]

This definition of small customer makes no reference to the size or capacity of a generating unit on a particular customer's premises. Therefore, if Principle 4 was interpreted as providing a single level of export capacity, irrespective of size or type of customer technology, (taking into account local network hosting capacity etc.), then customers with smaller generating units would be disadvantaged against larger counterparts.

> ***Should these principles for capacity allocation be binding for DNSPs?***

Essential Energy supports the adoption of a principles-based approach to guide development of capacity allocation. A binding approach to capacity allocation may introduce inflexibility into the system and may also require a rule change to ensure DNSPs are bound by the AER's approach. In many

[1] National Energy Retail Law (NSW) No 37a of 2012, Division 1, Subsection 5(2)

cases, data availability does not currently support the level of surety that would be required for a binding approach. For Essential Energy's network the vast majority of exporting customers do not have the supporting data to measure actual available capacity so reasonable assumptions must be made to ensure asset longevity. Further, some principles, such as "balancing customer expectations" will involve judgement and possibly lead to varying outcomes, as outlined above.

> ***Should the application of capacity allocation principles by DNSPs be auditable to assure consumers of fairness?***

Essential Energy is supportive of providing audited data and reports where there is a proven benefit to consumers and where consumers have access to that data in an accessible and easy to understand format. In the case of the application of the capacity allocation principles, the following questions need to be answered to assess the consumer benefit:

- What is the data/information to be collected?
- How often would the data/information be collected?
- What format would the data/information be published and made available to consumers?
- What level of engagement does the AER expect consumers to have with this data/information?
- What is the regulatory burden of data collection, do the perceived benefits justify the cost?

Where low levels of trust exist between business entities and their customers, audits can assure customers that the business is operating in a complaint manner. However, when businesses engage with customers in an open and transparent manner, and develop high levels of trust, audits become secondary. In certain cases, the costs of gathering, collating, and assessing data and information for an audit, may exceed the benefits.

The AER should pursue audits where it has been demonstrated that a business is not engaging with its customers in an open and transparent manner. Where this is the case, the AER can request information from businesses to ensure that principles are being followed.

> ***Should principles for static export limits also be developed for use by DNSPs going forward?***

Essential Energy would support principles for static export limits only in the very short term. Such principles should encourage the transition to use of dynamic export limits, where investment is found to be prudent and efficient, as we move toward dynamic export limits being the default option.

Capacity allocation methodology

> ***Is the approach outlined above [see section 3.3.2] in allowing flexibility for DNSPs to develop their capacity allocation methodologies appropriate?***

It is preferred and appropriate where network DNSP specifics come in to play. Where we have known data, the guidelines should be stricter to drive uniform approaches across the NEM.

- **Do stakeholders agree that DNSPs should include their capacity allocation methodology in their CER integration strategy?**

  Yes. Essential Energy considers that DNSPs should be required to provide allocation methodology within their CER integration strategy. Further, a DNSP should support this methodology with key limitations and assumptions made due to resources being unavailable (such as smart meters, communication enabled smart meters, access to quality data).

- **Should DNSPs be required to publish their capacity allocation methodologies, clearly outlining the trade-offs considered in setting their approach?**

  Essential Energy considers this to be a low priority in terms of regulatory reform. However, we note that setting capacity allocation that meets customer expectations of transparency, cost and fairness is part of our ongoing engagement for the 2024-29 regulatory proposal. Essential Energy has conducted stakeholder sessions to understand expectations and will continue to work with stakeholders during the development of the approach. Essential Energy expects to outline its approach, clearly setting out how engagement with customers and stakeholders has

influenced the development of capacity allocation methodologies. High quality and meaningful consumer engagement satisfies the transparency requirements set out in the issues paper. Further documentation regarding trade-offs made would be of limited value.

- **Should the AER have a role in approving DNSP capacity allocation methodologies? If so, what form should this mechanism take?**

  The AER's role should depend on the approaches taken by individual DNSPs to develop capacity allocation methodologies. Essential Energy considers that rather than approving, which would require a formal assessment process, the AER could challenge a DNSP's approach if it considers that the capacity allocation methodology does not reflect principles that favour efficient customer outcomes. This would reduce regulatory burden for distributors who undertake high quality consumer engagement, and focus the AER's efforts and resources where they are needed.

Consumer participation (opt-in or opt-out)

> ***Do stakeholders agree with the expectation that over the near to medium term, consumers should continue to have the option of static export limits?***

Yes, as it is critical that we bring our customers and other stakeholders along with us, as the network develops along these lines.

> ***Should consumers be expected to opt-in or opt-out of flexible export limits (where available)?***

Essential Energy prefers allowing customers to opt-out, with acceptance of a flexible export agreement being the standard offer, where available. Insights from Behavioural economics demonstrate that unengaged consumers, particularly when faced with information overload, often do not make affirmative decisions even when it is in their best interests to do so. Also, customers in some parts of Essential Energy's network, where access to effective retail competition is limited, may not be presented with the full range of options in new energy services from retailers and other providers to encourage them.

Distributors are undertaking prudent and efficient investments in Dynamic Operating Envelopes to enable dynamic export agreements to optimise capacity utilisation on their networks, and improve the resilience of their networks for the benefit of consumers, particularly those in more remote parts of NSW. Essential Energy argues that if customers are required to opt-in to accept flexible export agreements, that these investments may remain underutilised and the promised benefits undelivered. In addition, in networks with limited hosting capacity – such as Essential Energy – there is a tipping point where the more customers who are not on flexible export limits end up curtailing those who are.

Opt-out provisions provide appropriate incentives for distributors to ensure that flexible export agreements serve both the customer and the network. Where networks get the balance wrong, resulting in excessive customer curtailment, customers are incentivised to opt-out. Therefore, it is in the best interests of the distributor to ensure that capacity allocation and flexible export agreements provide increased customer benefits on average over the investment lifecycle, than would static export limits.

We agree that a similar argument can be made for opt-in provisions, i.e. that opt-in provisions provide incentives for distributors to provide customers with attractive flexible export offerings. However, we reiterate the insights from behavioural economics which indicate that faced with information overload, adoption rates will always be lower due to customer tendencies to behave in ways that are contrary to their own best interests. Further, very few customers will make informed decisions around connection agreements and are more likely to take advice from third parties such as solar installers.

Finally, we contend that an evaluation of the counterfactual of a static export limit is easier for customers to calculate, once they have a period of flexible exports, than it would be to calculate the potential benefits of a move to flexible exports from static. Opt-out provisions therefore provide the customer with much more certainty regarding the differences of opting from dynamic exports to static exports, resulting in a more fully informed decision.

- ***Is it necessary for this expectation to be captured in the Model Standing Offer?***

If it is DNSP specific, yes.

Connection agreement

- ***Should DNSPs be required to set out expectations of flexible export limit operation within the connection agreement where there is no trader, or third party involved in the operation?***

Essential Energy agrees that connection agreements are the appropriate mechanism to communicate the terms and conditions under which a flexible connection agreement should operate. The connection agreement may also set out expectations for the operation of the flexible export limit, provided that the underlying data exists to set accurate expectations. We agree that where there are traders or third parties involved, that the trader or third party becomes the responsible party in relation to compliance with flexible export limits imposed. Where there are no traders or third parties involved or the trader or third party changes we still feel these expectations still exist and are placed directly on the customer or their responsible agent.

- ***Do stakeholders agree with the rights and obligations outlined above (in section 3.3.5)?***

Essential Energy considers that if the AER wish to impose export obligations reporting then there must be an agreed approach concerning how DNSP's capture this data efficiently and support for the DSNPS to deploy the appropriate technology, systems and communications needed to provide the desired level of reporting. We do note that within NSW, smart meters which would be the logical channel to manage this reporting are not fully deployed, data is not made available to the DSNP and in many instances smart meters do not have the communications needed to supply this data. We would ask that the AER tailor their request to be aligned to a minimum level of coverage of these essential components before obligations are enforced.

While we agree with the principle of service level breach compensation, consider that in practice would become costly to investigate, confirm and process, ultimately becoming detrimental to customer value. Distributors already have reliability standards to maintain, and export limit could become part of those, rather than adding additional network cost and complexity.

Governance arrangements for flexible export limits

- ***Do stakeholders have concerns about the approach to governance outlined above (section 3.3.6), particularly embedding elements of the rectification process in the connection agreement?***
- ***Is it appropriate for a technology provider/OEM be held responsible for devices that do not conform to the export limit set by the DNSP (i.e., where this is no active control)?***

Essential Energy considers that it is appropriate for technology providers/ OEM's to be held responsible for non-compliance when it is a result of a hardware fault, or incorrect settings at the time of manufacture provision or where that third party undertakes activities or controls devices on behalf of the consumer. Timely access to appropriate data and information by those responsible for reporting non-compliance will make early detection and rectification possible.

- ***What is the appropriate governance arrangement for managing flexible export limits?***
- ***Is it necessary to develop a separate framework to manage governance where a trader or technology provider is involved in passing-through the flexible export limit (i.e., where there is active control)?***
- ***Do stakeholders agree with our view of that consumers should not face significant penalties for non-conformance of their energy resources for flexible export limits?***

Essential Energy agrees with the principle that the responsibility for compliance with flexible export limits should lay with the party with whom the connection agreement is made. In the case where a trader or third party enters an arrangement with the customer to control their energy resources, then that trader/third party assumes responsibility. This includes any penalties or other compliance initiatives that may be relevant. Likewise, when a customer controls their own energy resources, that customer assumes the rights and obligations that coincide with that agreement. This includes any penalties or other enforcement initiatives that arise due to non-compliance. The principle at play here

is that the risks and financial costs of the non-compliance burden should be borne by those who are able to manage the risk.

> ***Do stakeholders believe there needs to be a standardised approach to enforcement for consumer energy resources under the control of a trader? For example:***
>
> - ***If notified by the DNSP of an issue with device conformance (where no trader is involved), it is appropriate for the responsibility of rectification to rest with the consumer?***
> - ***Where a trader is involved, should responsibility for rectification rest with the trader?***

In principle, Essential Energy agrees that a standardised approach where CER is in the control of a trader makes sense. This could include notifying the customer of non-compliance, as a courtesy measure only. However, any enforcement action should be taken against the responsible party.

In the case where no trader is involved, the responsibility for rectification should be with the customer, as that is who has the connection agreement. The approach may vary according to the circumstances of the non-compliance. Non-compliance through rogue operator/customer behaviour may have a different approach to non-compliance for other reasons. For example, where installers are responsible for providing the wrong advice, changing settings to allow for non-compliance, or other behaviour resulting in a non-compliant installation, the customer should exercise their rights and remedies under the relevant consumer law. Notifying customers of non-compliance should include the options for rectification, which include their rights under consumer law.

Notification period for a dynamic limit

> ***Does the issue of a framework for providing forecast information on expected dynamic limits need to be considered in the short term?***

Yes. Dynamic limits need to be focused on localised constraints, with real-time export limit determination. Non-publishing of export limit information should result in a safe network fall-back.

> ***Do stakeholders consider this will be sufficiently addressed through the Scheduled Lite workstream?***

The Scheduled Lite workstream should not be placed as the coordinator for dynamic export limits at the distribution level. The Scheduled Lite workstream is not fit for purpose, firstly the scheme is voluntary of nature and as such dispatch cannot be done without knowing what else is occurring on the physical infrastructure that will affect the dispatch (Network bottlenecks, maintenance etc.). AEMO does not have visibility of the Low Voltage (LV) or Medium Voltage (MV) models and hence has no view of capacity available, there is also no current agreed roadmap to make this available. AEMO also does not have the Network visibility to understand what the powerflow is within the LV/MV and hence has no view of what else is occurring on the Network.

Broad Questions regarding immediate actions

> ***Do stakeholders agree with the areas identified above (section 3.3.8) as requiring immediate attention?***
>
> ***Do stakeholders consider there are additional matters requiring immediate attention not covered here? If so, what are they, and what specific factors should we be considering?***

Agreement as to what the fallback mechanism for when no dynamic export limit is received by the device needs to be agreed at a policy, Network, and technical level. Once these agreements have been made the DNSP's would need to maintain these processes within the connections agreement, and device manufacturers would need to maintain these within the devices as a fall back should communications fail. Essential Energy's position is that in the event that a device cannot communicate and execute a dynamic operating envelope then the device is curtailed until such time as communications can be re-established.

Three primary tasks need to be established to support system interoperability. Key roles and responsibilities need to be established, ensuring that all parties within the energy supply chain understand their functions throughout and at the end state of the energy transition. All key systems and their integration points need to be designed and deployed. This architecture should leverage the

work undertaken by the CSIRO's (G-PST Power Systems Architecture project). Lastly, key communication and data standards need to be designed and implemented, this would include inverters, PV, batteries and EV's (an example of these standards would be CSIP-Aus, IEEE 2030.5).

Gap analysis to leverage between existing workstreams

Monitoring export limit performance and information provision

> ***Are there any additional metrics that should be considered that have not been incorporated into the broader export services review?***

Accurate dynamic export limit determination requires knowledge of all connected customers to limiting assets, which will prove challenging across the network footprint.

At a minimum, we need to ensure asset (distribution transformer) thermal monitoring is considered for connecting customers so net customer asset load is monitored for a collective of customers, even if individual monitoring is not available. As CER penetration increases, individual consumption point monitoring that supplies all data generated from a smart meter needs to be in place and supplied to the appropriate DNSP as near real time as possible to ensure that the DNSP can appropriately adjust Dynamic Operating Envelopes to maximise a customer's ability to dispatch to the NEM.

> ***Should the AER publish data on the performance of individual DNSPs in terms of their flexible export service for consumers?***

Essential Energy supports the concept of publishing data on the performance of individual DNSPS to allow for reputational incentives to work. However, DNSPs will require a period of technology adoption to allow implementation and baseline measurements to take place. In publishing any performance export performance related data, ranking and league tables of relative performance should be avoided, as DNSPs are not directly comparable. Each DNSP will have a different starting position, different demographics, customer expectations, political and geographic influences which drive investment in export capacity allocation decisions.

Device capability to respond to flexible export limits

> ***Regarding the governance of a potential CSIP-Aus requirement, do stakeholders consider there should be a mandate for devices to be CSIP-Aus compliant for new connections in the NEM?***

Yes

> ***Do stakeholders have views on how this mandate could be most effectively implemented?***

A NEM wide approach is critical to providing certainty for device manufacturers and system installers. Consideration should also be given with regard to SA Power Networks making the first moves at a state level. The learnings from their implementation should be reviewed and templated, if appropriate, to avoid rework for device manufacturers.

Interval length

> ***Do stakeholders agree that DNSPs are best placed to determine the interval length of flexible export limit operation? If not, what guidance would stakeholders like to see on this issue?***

We agree with the AER's preliminary position that "*DNSPs are best placed to assess the frequency with which the export limit should be updated*". The different approaches to operation between DNSPs may make mandates for a set interval level, particularly in the initial implementation stages, problematic. To be clear, policy makers and regulators should set out the framework, not the solution. The interval length may vary across networks depending on network-specific factors, including the availability and cost of data, maturity etc.

Demonstrating investment need

- ***Do you agree the AER has sufficient guidance on what information DNSPs are expected to provide to justify specific flexible export-related proposals?***
- ***Do DNSPs need more information than is currently available to demonstrate the investment need for flexible export limits?***

In terms of information required to demonstrate investment need, low penetration of smart meters, combined with limited access to the network data (beyond energy) that can be collected via those meters is currently limiting our capacity to develop the appropriate metrics. Further, lack of real time data and information provides poor oversight regarding the existing compliance of static export limits.

Data protection and privacy

- ***Are more data protection and privacy requirements needed for the implementation of flexible export limits beyond those already available in the current framework and what is being considered in the ESB Data Strategy?***

Data protection and availability needs to be considered much further than what the ESB has identified in its initial thinking. Data Management needs to be looked at across the entire energy supply chain. Essential energy is very supportive of a process that follows the steps outlined in the UK's Energy Systems Catapult whitepaper "A strategy for a Modern Digitalised Energy System"

Integration with export pricing

- ***How do stakeholders see flexible export limits and network tariffs interacting, for example, on the basic export level?***

Tariffs should encourage storage technology uptake through attractive feed-in tariffs during network peak load times, and lower feed-in tariffs during excess generation times. This must be balanced to continue to encourage uptake of renewables, without creating peak and minimum demand constraints.

- ***What types of tariff structures could apply to flexible export limits?***

Any cost reflective tariffs developed in consultation with consumers could accommodate flexible export limits. Customers with flexible connection agreements will receive the benefits of higher export limits, on average, than those on static limits. In its engagement on flexible export agreements, Essential Energy's customers did not raise the need or expectation for the development of specific tariffs for those on flexible agreements.