

16 January 2024

Mark Feather
General Manager, Strategic Policy and Energy Systems Innovation
Australian Energy Regulator
Canberra ACT 2601
By online submission

Dear Mr Feather,

Interim export limit guidance note

AEMO welcomes the opportunity to provide a submission to the AER's draft *Interim export limit guidance note* (the Guidance note). There is unanimous agreement that the growing adoption of Consumer Energy Resources (CER) necessitates a transformative approach to managing network capacity and customer access to the electricity grid. This Guidance note is an important step in facilitating those outcomes, by providing distributors guidance on the requirements to design and implement Flexible Exports Limits (FELs). When implemented effectively, FELs can support secure power system operation and have the potential to enable increased network export levels at a minimal cost, fostering enhanced customer access for exports.

In this submission, AEMO highlights key policy and context considerations for FEL design and implementation. The attachment provides more detailed responses to the AER's consultation questions.

Operational coordination with AEMO

AEMO supports the AER's position on the requirement for DNSPs to engage with the industry broadly about the design, implementation, and operation of FELs. Implementation of FELs at large scale is likely to materially impact aggregate CER operation at the subregional and regional level. This in turn impacts AEMO's capability to accurately estimate and forecast demand and generation and so understanding FEL implementation will be critical to AEMO's ability to manage system security. AEMO and DNSPs will thus need to effectively coordinate FEL information sharing, including where FEL design and data exchange practices evolve.

- In the short term, AEMO expects this information sharing would comprise data on which NMIs are subject to a FEL, as well as regular data exchange on how FELs are going to be applied over an appropriate forecast horizon (as relevant to the implementation of the FEL).
- Longer term, AEMO expects FEL operation may have broader application and implications for secure system operation. Information sharing can be expected to increase in frequency and may increasingly be two-way, for example to coordinate regarding impacts of FEL-constrained sites.

AEMO looks forward to engaging with DNSPs on these matters. Opportunities to standardise information sharing at the interface between AEMO and DNSPs will be sought and requires collaboration between DNSPs and the AER on how this may be best achieved. In the short-term, AEMO recognises that there is a need for flexibility in how information sharing is facilitated. In time, there may be opportunities for potential data exchange infrastructure to present efficient means for exchanging such information. This is an important use case that should be explored through any process to consider data exchange architecture.



Conformance and monitoring of FELs

AEMO considers monitoring and conformance management are key components of an effective FEL framework. This is required to ensure FELs can support the secure management of distribution network flows and power system security in a high CER future. Such a framework might also assist in providing clarity of responsibility for the application of FELs, reducing risks of customer complaint and disputes. AEMO would welcome collaboration with DNSPs and the AER as FELs are designed and implemented on the processes and mechanisms to monitor and manage conformance. AEMO can draw on our operational experience of the large-scale power system and trials such as Project EDGE and Virtual Power Plant demonstrations to input.

Consideration of future use cases

AEMO acknowledges the AER position in giving consideration to export limits primarily through this Guidance note, as per the outcomes of the AER's review into the regulatory framework for FELs. Given the predicted growth in CER, including facilities such as high-capacity electric vehicle charging systems, AEMO considers that it would be beneficial to be mindful of potential broader distribution limits, including import and export in some use-cases, in the design of FELs where this is practicable. This may also result in the need for further consultation and consideration to progress with regulatory certainty for implementation of distribution limits more broadly sooner rather than later. AEMO encourages the AER, DNSPs and wider industry to continue to explore these concepts in parallel with implementation of FELs.

Leveraging insights from trials

The concept of FELs has been tested in various trials, providing practical real-world evidence of FEL operation which help to better understand the market and system implications of their technical design. AEMO recognises a significant opportunity for the AER and DNSPs to leverage the lessons derived from these trials, to facilitate a more effective implementation. Notably, findings from the recently concluded Project EDGE¹ emphasise that, for FELs to optimally unlock spare network capacity for flexible CER, a holistic end-to-end design is essential. This entails consideration of appropriate approaches for: *i*) calculation of FELs, selection of a suitable objective function and allocation point, *ii*) communication, including robust data exchange for seamless multi-party communication, and *iii*) monitoring and conformance management of FELs. AEMO looks forward to further engaging with DNSPs, the AER and industry as FELs are implemented.

AEMO appreciates the opportunity to input to this Guidance note. Should you wish to discuss any of the matters raised in this submission, please contact Kevin Ly, Group Manager – Reform Development & Insights on

Yours sincerely,

Violette Mouchaileh
Executive General Manager, Reform Delivery

¹ Project EDGE Final report, Available at: <https://aemo.com.au/-/media/files/initiatives/der/2023/project-edge-final-report.pdf?la=en>

Attachment: Considerations and responses to consultation questions

Topic	Question	AEMO comment
Capacity allocation principles	<p>- What are your views on the AER's proposed approach for amending the DEIP capacity allocation principles? Do you have any specific views on the nature of amendments required to achieve the AER's policy objectives?</p> <p>- Should the capacity allocation principles be binding, and if so, should these be codified in the National Electricity Rules or set out in a binding AER Guideline?</p>	<p>- The AER's proposed approach for amending the DEIP capacity allocation principles appears reasonable and aligns with the overarching policy objective of promoting greater transparency and consistency in the allocation of available network hosting capacity. Specifically, endorsing DNSPs' responsibility for setting export limits and emphasising the importance of informed calculations based on network hosting capacity analysis is a sensible step towards addressing the problem statement. The suggested changes to principle 1, expanding it to reflect these considerations, seem appropriate to enhance clarity and effectiveness. Furthermore, the inclusion of complementary measures like two-way pricing in principle 2 is a positive move to encourage a comprehensive approach to capacity allocation. As capacity allocation methods are developed, AEMO considers it is essential to ensure that the principles strike a balance, affording DNSPs the necessary flexibility reflective of their unique operating circumstances and customer preferences while allowing for standardisation across DNSPs insofar as possible to support common customer experience and understanding.</p> <p>- AEMO considers there is a need to codify the capacity allocation principles in a binding manner. When implemented effectively, FELs have the potential to enable increased network export levels at a minimal cost, fostering enhanced customer access for exports. The capacity allocation principles are a key area where these benefits will be established. The process through which the principles are codified therefore needs to establish a framework that is legally enforceable, and provide the necessary backbone to ensure compliance and facilitate a level playing field for all industry.</p> <p>The approach to amend the NER to enable the establishment of binding capacity allocation by the AER appears to be pragmatic, as it creates the legal framework that is able to remain flexible with change and as DNSPs evolve the FEL implementation and provide further detail as required.</p> <p>Alternatively, the principles could be codified within the NER itself, to offer a more robust and enforceable mechanism, providing clear guidance and expectations for DNSPs. AEMO welcomes further consideration on the best approach through the proposed rule change.</p> <p>Whichever way these are set, AEMO suggests it will remain critical that the binding nature of these principles does not compromise the flexibility required by DNSPs to tailor their approaches based on specific circumstances and customer preferences, while adhering to the principles for capacity allocation.</p>
Capacity allocation methodology	<p>- What are your views on our proposed approach for improving transparency in DNSPs' capacity allocation methodologies? Is the guidance provided sufficiently targeted and proportionate for achieving the AER's policy objectives? Are there any other areas where further guidance is required?</p> <p>- What areas of the National Electricity Rules and National Energy Retail Rules do you consider will likely require amendment to give effect to</p>	<p>- The AER's expectation for DNSPs to consult with consumers and industry stakeholders on key aspects such as allocation levels, and allocation models aligns with the policy objective of promoting confidence in the implementation and operation of FELs. A key topic DNSPs in consultation with industry will need to resolve is the location or scope of the FEL application. Two options were considered in Project EDGE including allocation at the customer point of connection to the network (referred to as Net NMI DOEs) and allocation only to controllable generation and load (referred to as Flex DOEs)². This topic requires further exploration and consideration alongside other ongoing reforms, such as the <i>Unlocking CER Benefits rule change</i>, and it is critical industry agrees on an approach that provides longer term efficiency benefits to the system and all electricity consumers.</p> <p>- Determining the appropriate time periods for allocating network hosting capacity is a critical aspect of the capacity allocation process. The effectiveness of capacity allocation relies heavily on DER participation and the generation of FELs at high frequency. However, the time difference between the frequency of FELs and dispatch intervals introduces challenges, creating opportunities for gaming within the</p>

² Flex DOE refers to a DOE applied at the flexible device level (assigned to controllable load and generation only) and excluding native, uncontrolled load. A Net NMI DOE applies to all controllable and uncontrollable devices and is applied at the net connection point (the customer's NMI).

	<p>the AER's proposed approach for improving capacity allocation methodologies and transparency?</p> <p>- What time periods should DNSPs consider in allocating network hosting capacity? For the allocation model, over what timeframe should capacity allocation be considered?</p>	<p>capacity optimisation process. It is crucial to strike a balance between minimising the time difference and mitigating the associated risks. While reducing the time difference between FELs and dispatch intervals can enhance the integrity of the allocation process, it is essential to recognise the potential higher costs associated with these measures. Further consideration will be required on these topics as FEL Implementation evolves, and AEMO looks forward to engaging with the DNSPs, AER and industry on these matters.</p>
<p>Industry engagement</p>	<p>- What are your views on what effective engagement looks like between DNSPs and relevant industry stakeholders?</p> <p>- What, if any, additional information (other than what is outlined above) should DNSPs seek to provide to industry stakeholders?</p> <p>- Which stakeholders should be responsible for conveying information to consumers at each step of the consumer energy resources journey?</p>	<p>- AEMO supports the AER's position on the requirement for DNSPs to engage with the industry about the design, implementation, and operation of FELs. Implementation of FELs at large scale is likely to materially impact aggregate CER operation at the subregional and regional level. This in turn impacts AEMO's capability to accurately estimate and forecast demand and generation and so understanding FEL implementation is critical to AEMO's ability to manage system security. AEMO and DNSPs will thus need to effectively coordinate FEL information sharing, including where FEL design and data exchange practices evolve.</p> <ul style="list-style-type: none"> • In the short term, AEMO expects this information sharing would comprise data on which NMIs are subject to a FEL, as well as regular data exchange on how FELs are going to be applied over an appropriate forecast horizon (as relevant to the implementation of the FEL). • Longer term, AEMO expects FEL operation may have broader application and implications for secure system operation. Information sharing can be expected to increase in frequency and may increasingly be two-way, for example to coordinate regarding impacts of FEL-constrained sites. <p>AEMO looks forward to engaging with DNSPs on these matters. Opportunities to standardise information sharing at the interface between AEMO and DNSPs will be sought and requires collaboration between DNSPs and the AER on how this may be best achieved. In the short-term, AEMO recognises that there is a need for flexibility in how information sharing is facilitated. In time, there may be opportunities for potential data exchange infrastructure to present efficient means for exchanging such information. This is an important use case that should be explored through any process to consider data exchange architecture.</p>
<p>Compliance with technical standards</p>	<p>- Should DNSPs be required to demonstrate the compliance actions that they have taken when putting forward expenditure proposals?</p> <p>- What are appropriate processes for DNSPs to go through if a consumer asset is identified to be non-compliant with a relevant technical standard? For example, should a customer be reverted to a static export limit (note: this would only occur after a period where the DNSP and retailer have</p>	<p>- AEMO's view is that compliance with technical standards is critical to maintain system security with increasing levels of DER and is supportive of DNSP efforts to monitor and assess compliance. AEMO's December 2023 report <i>Compliance of Distributed Energy Resources with Technical Settings: Update</i> describes some of AEMO's latest findings related to compliance and work by certain DNSPs to monitor compliance with AS/NZS 4777.2:2020. These activities are being undertaken within the existing limitations in the compliance and enforcement framework for CER. AEMO's view is that in addition to this immediate and important work, national regulatory reform is needed to develop an enduring NEM-wide regulatory framework for CER technical standards, as recommended by the AEMC in the final report of their <i>Review into Consumer Energy Resources Technical Standards</i>³. Without an enduring regulatory framework, system security risks will continue to increase as CER deployment expands from a capacity perspective as well as a new device / technology perspective.</p>

³ Final Report - Review into consumer energy resources technical standards, Available at: <https://www.aemc.gov.au/sites/default/files/2023-09/RCERTS%20Final%20Report.pdf>

	<p>communicated with the customer to rectify the problem)?</p> <p>- Are there examples where government agencies or network businesses are already implementing practical solutions to increase compliance with technical standards?</p>	
<p>Complaint handling and dispute resolution processes</p>	<p>- What information should DNSPs collect to facilitate complaints to be resolved?</p> <p>- What is the role of DNSPs to co-ordinate complaint resolution, including identifying the responsible party, which may be the OEM, installer, or trader/aggregator?</p>	<p>- Compliant handling and dispute resolution processes require to establish conformance monitoring and compliance management framework to make sure that FELs are adhered to. Given the importance of FELs to the secure management of distribution network flows and power system security in a high CER future, it is vital that an effective mechanism is in place to establish and maintain confidence in FEL application at the device level and across aggregations. AEMO considers that an effective conformance monitoring and compliance management framework requires a clear definition of roles and responsibilities.</p> <p>For reference, Project EDGE recommends that there should be three distinct roles relating to FEL conformance (and that a separation of duties could be beneficial between assessment and enforcement):</p> <ul style="list-style-type: none"> • FEL conformance monitoring: Processing data to identify when a FEL breach occurs based on predefined rules. • FEL conformance assessment: Using conformance monitoring results, assess whether the behaviour observed constitutes nonconformance that should be referred for compliance enforcement action. • FEL compliance enforcement: Responsibilities of this role could include approving the measures that can be taken when a FEL breach is identified and enacting the enforcement measure. <p>Further, AEMO's work on compliance of technical standards (as described in answer to "compliance with technical standards" topic) has highlighting that testing systems at the point of installation or commissioning to ensure they conform to technical requirements can have the greatest impact. This learning could be applied to the FEL framework as they are implemented. AEMO would welcome collaboration with DNSPs and the AER as FELs are designed and implemented on the processes and mechanisms to monitor and manage conformance.</p>