



10 September 2020

The Commissioners
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Sent to: AEMC by online lodgement

Dear Commissioners

**Distributed Energy Resources Integration
Updating Regulatory Arrangements
ERC 0309, ERC 0310, ERC 0311, RRC 0039**

Major Energy Users Inc (MEU) is pleased to provide its thoughts on the issues raised in the consultation paper relating to the three rule changes related to Distributed Energy Resources (DER) Integration.

The MEU was established by very large energy using firms to represent their interests in the energy markets. With regard to all of the energy supplies they need to continue their operations and so supply to their customers, MEU members are vitally interested in four key aspects – the cost of the energy supplies, the reliability of delivery for those supplies, the quality of the delivered supplies and the long term security for the continuation of those supplies.

Many of the MEU members, being regionally based, are heavily dependent on local staff, suppliers of hardware and services, and have an obligation to represent the views of these local suppliers. With this in mind, the members of the MEU require their views to not only represent the views of large energy users, but also those interests of smaller power and gas users, and even at the residences used by their workforces that live in the regions where the members operate.

It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumers for over 20 years and it has a high recognition as providing informed comment on energy issues from a consumer viewpoint with various regulators (ACCC, AEMO, AEMC, AER and regional regulators) and with governments.

Overall, the MEU supports the need to address the issue of who pays for network augmentation to allow DER to be able to export to its full capacity but in its

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consideration of the issues, the MEU has identified some quite conflicting aspects that it considers must be addressed.

The import of the rule change proposals seems to focus on the export from residential rooftop solar PV generation, but the MEU points out that already in the distribution networks are a number of other generation types that are connected into the distribution networks, including standalone large scale wind and solar options (some greater than 50 MW) as well as some larger solar PV options that are integrated with larger loads (eg rooftop PV on shopping centre roofs) as well as more conventional dispatchable generation that is embedded in the distribution networks (eg back up generation when there is failure of the supply system). So whatever rule changes are implemented, they need to reflect the impacts on these larger embedded generation types and backup generation. The MEU is not convinced that this aspect has been addressed within the rule change proposals.

The MEU notes that there is a proposal to delete rule 6.1 4 which states that export of power into the distribution network is not to incur distribution use of system charges. The MEU points out that this clause reflects the implicit requirement that generation connected to the transmission network is not to incur network use of system charges for export – generators connected to transmission only pay shallow connection costs. The MEU considers there needs to be consistency between network charges for export regardless as to whether the export is into distribution or transmission networks.

The MEU has been a consistent supporter of the view that generation into transmission networks should pay for use of the shared transmission system (ie pay transmission use of system charges) – this approach reflects a beneficiary pays process. If there was no or an undersized transmission network then the generator cannot or might not be able to get its product to its market, so it is clear that a generator is the beneficiary of the network provided and so should pay for the provision of the service¹. This approach reflects what firms in the competitive markets experience – it is their responsibility to pay to get their products to market and this strongly requirement influences their locational decisions.

End users in the distribution network that do not export into the market do not cause the problem being faced where exporters (ie DER exporters – prosumers) are creating the need for more distribution (and transmission) network investment to address the congestion or voltage issues they cause, yet these non-exporters are potentially expected to carry some or all of the costs to enable the export by these prosumers. While it can be argued that end users might be a benefit from lower costs from the supply of this DER (and so might be considered to be beneficiaries) there is no quantitative evidence that this will be the case. Further, while the local end users might incur the costs for the distribution augmentation, the benefit may well go to other end users more widely in the market and thereby not deliver a net benefit to the end users incurring the additional costs.

¹ To a degree, this is what the Optional Firm Access (OFA) concept embraced and what the MEU considers should be the focus of the coordination of generation and transmission investment (CoGaTI) concept

The MEU also points out that the impacts of the widespread DER is causing more costs in the market than just the local costs incurred by the distribution network to manage the export; such additional costs include the impact that DER through causing quite low demands in the wider market, particularly in the middle of the day. This is causing an increase in costs in the electricity market by imposing a need for providing synchronous plant to be available to provide other services to manage this low demand (eg inertia, system security, voltage management, etc) such as occurring in SA region now. These other costs further reduce the benefits that non-exporting end users receive from the provision of increased DER.

The MEU notes that there must be a cost benefit test to demonstrate that the costs incurred by the network do not exceed the benefit that the export provides. This means that there must be a clear statement as to how prosumer export will be valued in order to balance the network augmentation costs when assessing the cost/benefit of any proposed augmentation.

The MEU is of the view that there are other aspects that must be addressed in the analysis of the three rule changes proposed, including:

-) While the proposed rule changes are focused on addressing a problem in the distribution network between prosumers and the nearby substation, the impacts will also be felt further into the distribution networks between the substation and transmission network and even into the transmission network. These must be assessed.
-) How to manage the benefits that a first mover gets (using up the available capacity) thereby imposing costs on subsequent exporters seeking to connect. Should the late comers carry all of the costs or should they be socialised in some way?
-) Should existing prosumers continue to receive “free access” for their exports or should all exporters incur a share of the costs, regardless as to whether their part of the network is augmented or not².
-) There is the implicit concept that end users of the same class are treated the same regardless of their location within each network. Prosumers in one part of the network might not be constrained or cause costs from network augmentation yet a prosumer of the same class in another part of the network will be exposed to costs. Is this equitable?
-) What are the network costs that are to be attributed to the export – incremental cost, marginal cost, full cost, share of existing assets needed to enable the export?
-) The value of the export varies over time so what is the process to value the export³ to demonstrate the net benefit if there is one?
-) A network provider will have the ability to argue for a capex allowance to enable the export by a prosumer, but the network provider might also not immediately implement the augmentation. So, the prosumer will incur a cost for “premium access” but the network provider might impose export limits at

² The MEU notes that some of the very early movers experience very attractive feed-in-tariffs and this creates differentials between prosumers

³ The introduction of 5-minute settlement will make this assessment even more challenging

times on other prosumers who expected to be able to export but have not paid the premium⁴.

-) There needs to be clarity on whether augmentation assets that are provided under the “normal” network charges for import should be part of the charge for export (eg expanding the provision of tap changing on transformers).
-) Any new rule should allow flexibility in operation so that the lowest cost solution can be implemented so that efficiency is achieved.

Overall, the MEU considers that there is the potential under all three rule change proposals to lead to over-investment and thereby reduce the value of the investment made by the prosumer – the installation of the rooftop PV system.

The MEU recognises that its response does not necessarily address the specific rule change proposals nor the questions raised in the consultation paper. In fact, the MEU response seems to raise more questions. We consider that there needs to be considerably more analysis of the impacts of the different proposals and the concepts inherent in them. Specifically, the MEU considers that there has not been sufficient recognition of the much wider impacts in the market resulting from the proposed changes than what might occur from merely addressing residential PV solar output into the distribution network where there is export congestion being observed.

While a simple solution might have some attraction, any solution must reflect consistency across the NEM, provide equitable outcomes and be cost reflective. The MEU is unconvinced that any of the proposed rule changes meet these basic requirements.

As a left field solution, the MEU makes the suggestion that all end users be charged network costs based on their peak demand. Under this approach, a residence using a peak demand of 6 kW would pay less than one using a peak demand of 10 kW and if the paid for peak demand is exceeded, a supply relay in the end user’s residence trips and the end user would have to turn off an appliance and reset the relay to continue its supply. Exporters could then be limited to a fixed proportion of their peak import as a peak export amount.

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary. If so, please contact the undersigned at davidheadberry@bigpond.com or (03) 5962 3225

Yours faithfully



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⁴ To a degree this issue reflects what the current proposal for CoGaTI attempts to address