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Consultation Paper – Distributed Energy Resources Integration – Updating Regulatory Arrangements ERC0311

Essential Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission (AEMC) on its *Distributed Energy Resources Integration – Updating Regulatory Arrangements* Consultation Paper (the consultation paper). Energy Networks Australia has also made a submission to the consultation paper, which Essential Energy supports.

The electricity supply chain is currently undergoing a fundamental transformation - such is the pace of this change that traditional roles and responsibilities for services provided are no longer clearly defined by the rules. Left unaddressed, Distributed Energy Resources (DER) will impact security, reliability, equity and affordability outcomes for consumers across Australia's many networks. The earlier that fit for purpose regulatory reforms can be integrated across the National Energy Market, the more optimal the benefits DER investments can be applied to all energy system users.

To that end, Essential Energy supports the recognition of export services as part of the 'distribution service' provided by distribution network service providers (DNSPs) to customers as well as the removal of the National Electricity Rules (NER) clause 6.1.4, which explicitly prohibits the charging of export tariffs. These changes are critically important to ensure that future expenditure on export capacity is cost-effective, and that customers are incentivised to operate DER resources in a manner which maximises economic utility for all stakeholders.

In relation to constructing new incentives for efficient network expenditure, the existing Service Target Performance Incentive Scheme (STPIS) appears set to play a key role in incentivising efficient export services investment. Nonetheless, designing any incentive scheme to apply to export services will need to overcome a range of practical challenges, including network visibility which currently varies significantly across networks. Transitional options, that require limited information, may be more feasible in the short term.

These issues and our response to the specific discussion topics raised in the consultation paper are provided below. If you have any questions in relation to this submission, please contact Mr Anders Sangkuhl, Regulatory Strategy Manager at anders.sangkuhl@essentialenergy.com.au or via phone 0409 968 326.

Yours sincerely

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Essential Energy submission to Distributed Energy Resources Integration – Updating Regulatory Arrangements

Updating the Regulatory Framework

Definitional Issues

As noted in the consultation paper, the rapidly growing prevalence of rooftop solar, batteries, and the emergence of new participants such as aggregators providing demand response capabilities, is transforming the role of the distribution network of the future to one based on bi-directional flows and real time communications. These changes pose significant challenges to the existing regulatory framework.

Whilst all DNSPs across Australia are at uniquely different stages of DER penetration and associated issues, it is clear that the rapid and continually evolving pace of change in these technologies will increase over time, meaning the rules will need to be flexible to accommodate change and continue to evolve with emerging technologies for the provision of export services.

All four proponents raise similar concerns that the existing regulatory framework does not explicitly recognise nor provide clear guidance for many of the services distributors currently provide and how these services should be incorporated into DNSP's planning functions. This situation creates ambiguity as to customers' rights to export services. Essential Energy shares the proponents' concerns in this area.

Given the definition of a 'distribution service' forms the basis of the services that customers have a right to access from DNSPs, Essential Energy supports the explicit recognition of export services as part of the 'distribution service' provided by DNSPs to customers. This definitional change would flow through to subsequent requirements to meet or manage customer demand and deliver service performance consistent with customers' willingness to pay, which would then apply directly to export services.

There should be a general mirroring of the regulatory treatment of consumption and export services throughout the rules, and a general definitional consistency across all chapters of the NER.

Distribution Obligations

With export services to be potentially recognised as a basic service offering provided by DNSPs, a subsequent question relates to the Australian Energy Regulator's (AER's) regulatory treatment of these export services. In this regard, Essential Energy supports the treatment of exports as a 'distribution service', meaning treatment through the AER's determined standard or alternative control service classification process of ex-ante or ex-post regulatory allowances guided by the identified need for expenditure to support the provision of export services.

Providing this definitional certainty regarding the recognition of export services would allow Essential Energy and other DNSPs to incur efficient expenditure on the network as determined by customers' "identified needs" and service expectations.

Finally, Essential Energy does not support the Total Environment Centre (TEC)/Australian Council of Social Service (ACOSS) proposal for a new obligation on DNSPs to prepare a comprehensive DER integration strategy on a five-year basis. For all intents and purposes, the integration of DER is already a significant focus of Essential Energy's internal thinking and strategic planning, and this will naturally continue to occur as the market evolves.

Pricing of Export Services

As outlined within the consultation paper, increasing DER penetration is expected to create new drivers of network expenditure to account for bi-directional power flow. How these export related costs for network services are recovered has been raised as both a growing equity issue, as well as a technical limitation issue.

There is a recognition in all the proponents' rule change proposals that in some form, the regulatory tariff framework must be amended so that DNSPs are able to efficiently provide export services. This is important to ensure that future expenditure on export capacity is cost-effective and that customers are incentivised to operate their DER resources in a manner which maximises economic utility.

To this end, Essential Energy supports removal of NER clause 6.1.4 which explicitly prohibits DNSPs from charging an export tariff for the following reasons:

- The circumstances DNSPs are facing today are substantially different from those when 6.1.4 was included within the rules, with minimal solar PV penetration and when the primary purpose of tariff reform was to combat growing peak demand based on air-conditioning usage.
- Consistent with the AEMC's 2014 pricing principles guidance, tariffs should be based on the long run marginal cost of providing the service to which it relates to that retail customer. This principle implies allowing customers to be incentivised to operate DER systems in a manner which is efficient.
- Ideally DNSPs should be able to send price signals to customers of export services as a method of mitigating network congestion at select times, as well as rewarding customers who store their energy and export it at a time where it provides optimal value to the network.
- There is a well-established body of evidence that cross-subsidies currently exist through costs being imposed on the network by DER exports, which cannot be recovered from only those customers with DER installations. Several of the proponents outline that select customer groups including vulnerable and disadvantaged customers, are currently disproportionately contributing to network cost recovery, relative to customers with DER installations. This situation is only likely to increase in materiality over time.

Customer Engagement is central to DER integration

Assuming the removal of clause 6.1.4, Essential Energy agrees with SAPN that an appropriate transition towards a suitable level of export pricing charging arrangements, will be determined sequentially through the existing chapter 6 pricing rules and tariff structure statement, which is examined by the AER during the distribution revenue determination process.

Customer engagement and preferences will be central to these DER tariff decisions. This is especially true as network expenditure to facilitate greater integration of DER, is slightly different from traditional network expenditure as it is expected to impact directly on investment decisions made by customers with DER installations. Customer consultation is typically led through engagement with individual DNSP customer advisory groups and jurisdictional stakeholders, based on a clear understanding of the trade-offs in faster or slower transitions in introducing new export charges. Informed by this engagement, DNSPs could offer a range of options for customers to select a level of export service they desire and are willing to pay for.

The AER, in its role as the economic regulator, will consider the extent to which DNSPs have engaged with their stakeholders in preparing both tariff proposals and expenditure forecasts. Given each DNSP is facing unique circumstances on their individual networks, there is unlikely to be a one size fits all approach and industry will seek to draw upon lessons from DNSPs that are facing DER integration issues first.

Essential Energy considers that from an implementation perspective, the SAPN proposal contains simplicity appeal in that it can be applied through the removal of clause 6.1.4, combined with the existing chapter 6 pricing rules, structures, and objectives of the NER, with minimal supplementary structures required. By and large, participants, the AER and jurisdictional stakeholders are familiar with these existing processes.

Incentives for Efficient Network Expenditure

At present, the regulatory framework provides locked in total revenue for DNSPs with profits determined by actual costs in conjunction with specific incentive schemes for operating expenditure, capital expenditure, service standards and demand management. Optimally, any new export investment incentive should encourage DNSPs to enlarge the hosting capacity of their local network, when the value of additional DER exports facilitated through the new capacity, outweighs the incremental costs of delivering that hosting capacity.

STPIS and Network Visibility

Whilst many of the incentive schemes could be applied in some manner to export pricing, Essential Energy notes the identification of the existing STPIS as potentially providing a key role in incentivising efficient export investment. Ultimately designing any export incentive scheme will contain a range of challenges.

Whilst Essential Energy agrees that STIPIS will provide an incentive to maintain and improve service performance metrics for export services, it is worth noting that many DNSPs do not currently have clear visibility on the extent to which their individual networks currently constrain DER exports. Consequently, it will be challenging to estimate STPIS baseline targets, address issues of unequal network access and measuring DER outcomes.

Similarly, guaranteed service levels or “inconvenience payments” require the construction of capabilities to independently identify and verify breaches of the guaranteed service levels. Again, this implies a greater investment and visibility of customer production and network hosting capacity than is currently available for many DNSPs in assessing export constraints.

It may be the case that transitional options, that require limited information, may be more feasible to implement in the short term. In the long term, visibility and other challenges could be overcome with improved data systems and investment. The complexity of these challenges requires further detailed consideration in the next consultation period.

Putting aside these known constraints, Essential Energy supports responsibility for the incentive scheme’s design to be deferred to the AER and progressively established over time, rather than explicitly prescribed within the rules, allowing maximum flexibility. Additionally, the proponents proposal to allow for some jurisdictional flexibility in developing and applying service standards for export services appears appropriate.

At this junction it is worth noting the alignment with the “no regrets” actions as outlined within the Open Networks’ Distribution System Operator project as they relate to gaining greater visibility and understanding of the low voltage network. Once visibility is improved, DNSPs would be able to define limits to network capacity in a more dynamic way, ensuring network assets are utilised more efficiently.

Value of Customer Reliability for Exports

We do see value in the proposal for the AER to develop a Value of Customer Reliability equivalent for export services (VCRE), as a direct way to ascertain how much customers value particular service levels, as well as a potential method of setting any future STPIS performance baselines. The construction of a VCRE would be familiar to participants and complementary to the AER’s existing VCR survey functions, likely making it straightforward to implement.