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Energy Security Board
Emailed to: info@esb.org.au

Dear Madam/Sir

RE Response to Interoperability Policy, [Directions Paper] – Consultation Paper

TasNetworks welcomes the opportunity to make a submission to the Energy Security Board (**ESB**) regarding the *Interoperability Policy – Directions Paper* consultation. We support the implementation of effective national interoperability for Consumer Energy Resources (**CER**) and related markets and look forward to working with ESB on any further consultations on the matter.

TasNetworks is the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) and Jurisdictional Planner in Tasmania. The focus of these roles is to deliver safe, secure and reliable electricity network services to Tasmanian and National Electricity Market (**NEM**) customers at sustainable prices. As such, TasNetworks is committed to ensuring customers can maximise the benefit of their investment in CER.

TasNetworks recognises that some of the interoperability goals outlined in the directions paper may not be addressed by using the Common Smart Inverter Profile – Australia (**CSIP-Aus**) protocol. In answering the questions in this consultation, we have assumed that CSIP-Aus will be fit-for-purpose.

Answers to the specific questions raised in the consultation paper are provided in the attachment. If you would like to contact us with regards to this submission please contact Tim Astley, Network Reform and Regulatory Compliance Team Leader, on tim.astley@tasnetworks.com.au.

Yours faithfully

Chantal Hopwood

Head of Regulation

Attachment

TasNetworks' response to questions posed in the Interoperability Policy – Directions Paper.

1. **Are the five identified domains correctly summarised? Are there gaps or major limitations in this framing?**

   TasNetworks agrees with the broad identification of domains provided in the paper.

   The use cases for the DNSP-X interoperability (4) domain indicated three broad timeframes for the use cases: investment, day ahead and operational/real-time. There would be benefits from the investment timeframe communications being with a centralised agency, such as the Australian Energy Market Operator (**AEMO**). This would give rise to cost savings as users operating across multiple jurisdictions would only require one system to access information rather than having to develop multiple systems to interact with each DNSP. Real-time data such as current export limits will benefit in being accessed directly from the DNSP to avoid any potential lag in information having to be provided to a central location and then made available. This indicated that the current DNSP-X interoperability (4) domain may be best limited to real-time data with a new AEMO-X interoperability domain for longer timeframe communications.

2. **What priority should each domain be assigned, considering the interest of all electricity consumers within the consumer energy resource interoperability landscape?**

   In order for electricity consumers to make use of a CER market, the market system first has to be established. As such, the CER-DNSP interoperability (3) domain and the DNSP-AEMO interoperability (5) domain should be assigned the highest priority. It then follows that the next highest priority should be assigned to the CER-market interoperability (1) domain and the DNSP-X interoperability (4) domains, which will make use of the new market that was established with domains (3) and (5). In a strict sense, the behind-the-meter (CER-CER) interoperability (2) domain is not required for a market to exist. However, despite being somewhat separated from the other domains, it is required to release additional value to customers and should be developed in parallel with the development of the other domains.

3. **What are the likely costs and benefits for consumers associated with a national 'flexible export ready' mandate including in relation to future readiness of customer installations and installation costs?**

   CER penetration in Tasmania is currently relatively low and while growth is forecast[1] to increase rapidly with the uptake of electric vehicles, there is a small chance that the flexible export ready mandate will not be required in Tasmania in the medium term. In this instance, there is a risk that a flexible export ready mandate will add an unnecessary cost burden to prospective CER customers.

   If over time the circumstances change such that a mandate is seen as necessary in Tasmania, there is a risk that the customer base will not readily accept a loss of control

[1] See Australian Energy Market Operator's 2022 Integrated System Plan (ISP).

over their CER. This is increased if the cost to enable the mandate ends up exceeding the financial benefit provided to customers from the mandate.

TasNetworks is committed to the safe operation of the network in a way that doesn't place an unnecessary cost burden on our customers, both those with CER and those without.

4. **Do stakeholders agree that DNSPs are best placed to enforce a 'flexible export ready' mandate at the time of installation? If not, what alternative models should be considered?**

   TasNetworks can see that DNSPs are well placed to include a 'flexible export ready' mandate in connection agreements and can do this via existing requirements governing embedded generation, similar to how AS/NZS 4777 standards are mandated. In Tasmania, these documents are controlled by TasNetworks (https://www.tasnetworks.com.au/embedded-generation) and can easily be updated, and with our strong relationship with the local industry allowing us to actively consult prior to making changes, there is an increased chance of ensuring their awareness and support of changes leading to improved likelihood of compliance.

   However, the enforcement of a mandate and ongoing compliance to the mandate can change substantially jurisdiction-to-jurisdiction. If we take enforcement and compliance to AS/NZS 4777 as an example, in Tasmania TasNetworks approves all new CER installations and retains data on those installations to ensure the safe operation of the distribution network, but we don't inspect new installations or audit existing installations for compliance. The inspection of electrical installations for safety is overseen by the Tasmanian Department of Justice through its electrical safety inspection regime. As part of that they require compliance to AS/NZS 4777 for photovoltaic installations but again, enforcement is not undertaken proactively.

   The success of a 'flexible export ready' mandate will rest on the incentives to comply and the ability to enforce. As indicated above, while DNSPs can encourage and incentivise compliance they do not have the powers to enforce compliance without alterations to jurisdictional legislation. There would also need to be an ability to recover the additional costs of enforcement which will flow through to customers. A robust assessment of the economic benefit of such changes must be undertaken to ensure enforcement arrangements provide the best outcome for all customers.

5. **What requirements should a 'flexible export ready' installation have with regard to internet connectivity (e.g. embedded mobile communication versus LAN connectivity)?**

   There are pros and cons to any internet connectivity method, and the factors that determine which method is the best will be influenced by the characteristics of each installation. For example, Wi-Fi connections are easy to set-up and should come at no additional cost by utilising the existing home network, but can run the risk of a password change or faulty modem disrupting the communications. Physical local area network (LAN) connections remove much of the reliability risk of Wi-Fi, but come at an additional cost, which may be substantial if the device is located far from the modem. Mobile connections are more reliable still, but can be costly and may not be as reliable in some rural areas or installation locations.

The customers supplied by TasNetworks have varying levels of digital connection, with a substantial number having very poor connections. There will not be one size fits all internet connectivity method for our entire customer base. As such, while there are advantages mandating one method, in particular those stemming from standardisation, if one method is mandated, a not insignificant number of our customers will be worse off.

From our own ongoing trials with dynamic operating envelopes (https://www.evgrid.com.au/) we have found that for any event (for example a request to charge or discharge), there are a small number of devices that experience connectively issues with their home Wi-Fi. We are actively collecting this data to determine how Wi-Fi connectivity issues will affect future events, and whether a margin of error can be factored in, in order to ensure that the intended overall response is sufficient to achieve the required outcome. If we find that a margin of error can effectively be built in to our systems, then we may not require that all systems are responding at all times, making issues of internet connectivity less critical. This would also remove any incentive for a DNSP to have a role in monitoring and enforcement of internet connectively of CER. Rather, the DNSP would just need to inform the CER operator that communication has failed, leaving rectification of communication loss to the CER operator.

6. **What are the pros and cons of a flexible export ready mandate set in the Rules, via a subordinate instrument, or under a separate head of power (e.g. jurisdictional technical regulation)?**

   Consideration needs to be given on how to provide parties with powers of enforcement. If enforcement needs the ability to enter properties or access equipment and potentially disconnect customers then these powers will have to be provided through local jurisdictional legislation.

7. **If implemented under the Rules, which market body is best placed to establish and oversee the proposed requirement on DNSPs?**

   TasNetworks has no view on this given our concerns that it can be implemented via the Rules.

8. **What are the pros and cons of a flexible export ready mandate referring to CSIP-Aus in Standards Australia Handbook form?**

   TasNetworks has no comment on this question.

9. **Would there be value in agreeing a national approach to public key infrastructure for consumer energy resources?**

   TasNetworks agrees that there is value in a national approach to public key infrastructure (**PKI**) for CER. Cryptography can be extremely complex and difficult to design. DNSPs generally do not have expertise in the area of cryptographic design and will look to implement systems and principles that are simple to apply, well understood, well documented and thoroughly tested. Solutions that meet this criteria by nature will be existing solutions and protocols, and not developed in house by the DNSP.

10. **Are there existing examples that could be used as a model for the consumer energy resources ecosystem?**

TasNetworks has no comment on this question.

11. **What are the pros and cons of establishing a national certificate authority?**

    A national certificate authority, or at the least a body that oversees it, would enable a more consistent approach across all DNSPs and CER. This would help to ensure Authentication, Authorization, and Accounting (**AAA**) controls and protocols work efficiently and provide a national standard level of protection, including lifecycle management and revocation.

12. **Do stakeholders have a view as to who should perform the role of national certificate authority, if it were created?**

    TasNetworks has no comment on this question.

13. **What views do stakeholders have about the adaptability of existing industry-led product certification and compliance processes for future use?**

    TasNetworks is a corporate member of the Clean Energy Council (**CEC**) and relies on the CEC approved inverter list to inform our assessments for inverter connections on our network. We have found this process suitable for our purposes because it centralises the certification process for inverters and alleviates TasNetworks of any certification obligations.

14. **What views do stakeholders have about the most appropriate body to have oversight of the product certification and listing/delisting processes?**

    TasNetworks has no comment on this question.

15. **What role could DNSPs have in the product certification/decertification process in the context of improving outcomes for industry and consumers**

    TasNetworks could support a national product certification/decertification process by mandating in our connection agreements that all devices installed on our network must be appropriately certified.