



3 February 2022

Energy Security Board

By email: info@esb.org.au

Re: Interoperability policy for consultation - Stage one: inverter-based resources

CitiPower, Powercor and United Energy welcome the opportunity to respond to the Energy Security Board's (ESB) Interoperability policy for consultation.

We support the development and implementation of technical standards for distributed energy resources (DER) that allow interoperability of devices. This is a necessary step towards enabling a two-sided market as part of the post-2025 National Electricity Market (NEM) design.

We support an assessment of technical standards against the National Electricity Objective (NEO), to ensure future investments are in the long-term interest of customers.

Our submission provides the following recommendations to improve the draft assessment framework, to make it more fit for purpose and insure it delivers on its intent.

The framework should put costs to customers at the centre of the assessment process

A key concern for customers is affordability. The assessment framework's criterion of 'system and network costs' is very narrow and is likely to materially underestimate the total cost of implementation.

We propose the criterion should instead consider 'all costs to customers'. This includes costs to all energy market participants, manufacturers, installers, vendors and the customers themselves. Because affordability is the number one priority, the criterion on cost should have the highest weighting in the assessment framework.

There are many examples in the industry where the costs of implementation have been materially underestimated. The implementation of five-minute settlement and meter contestability are recent examples. In these cases, customers are forced to pick up the bill despite the benefits not being realised or underestimated.

As an example of the potential to underestimate costs in this assessment, we have included an Appendix that comments on FTI's assumptions with respect to network costs and benefits of the four features of CSIP-Aus.

The assessment frameworks should provide a holistic view of how feature sets of the technical standard fit together, to account for risk of sunk costs

Ideally, the feature sets of the technical standards should be considered holistically to reduce implementation costs and potential asset stranding. However, we acknowledge there are risks of 'getting it wrong' if all features are implemented simultaneously. We therefore agree with a staged approach, as proposed by ESB, as long as the different stages are considered holistically from day one.

Different feature sets of any technical standard will be required to operate with existing standards in other connected devices. The assessment framework should consider what other standards need to be accommodated as different feature sets are implemented.

The application of the assessment framework should include industry technical expertise

We are concerned that the application of the assessment framework is limited to ESB or other market bodies. A robust assessment requires technical expertise from the relevant sector. We recommend the ESB widen the group of stakeholders involved in the application of the assessment framework to include international experts with experiences with similar standards.

In the case of CSIP-Aus, the assessment should include technical expertise of distributors. Ideally this should be from a range of distributors to reflect their different characteristics. Excluding distributors, or relying on Energy Networks Australia, is likely to result in misunderstanding of technical matters, which will ultimately result in higher costs to customers.

There are a number of additional feature sets that should be assessed for CSIP-Aus

The feature sets considered for assessment (figure 7 in the consultation paper) should be extended to include the following:

- new feature category for fall-back behaviour, in the case of a communications outage or any other malfunction of the DER device. This would ensure the network, and the wider energy system, can continue to operate safely and reliably in the case of malfunction
- new feature category for coordination of DER behind the meter. This would ensure that the intended interoperability of all devices is met at least cost
- a forecasting feature under the 'data' category. This would provide forecast DER behaviour information that may in the future allow for DER scheduling.

Grandfathering of existing fleet of devices

The application of new standards should include grandfathering of the existing fleet of devices that do not meet the standards. The grandfathering and sunset arrangements should include an assessment of the cost and benefit of upgrading or investing in making the existing fleet compliant, as opposed to requiring new devices as a replacement.

Compliance and enforcement

The introduction of any technical standard will fail to deliver benefits to customers if it is not accompanied by a strong compliance and enforcement framework. There has been a general reluctance of regulators to address this issue as part of the post-2025 NEM reforms. This is evident today with only 20 per cent of new solar invertors being compliant with relevant standards. The failure to address the issue however is costing existing customers millions in additional augmentation costs and further restricting new customers ability to export energy to the grid.

Whilst it maybe exciting to introduce new feature sets and set up frameworks to assess them, the failure of the framework for DER technical standards governance process should be reason to pause and reassess what is more important. Feature sets mean nothing if they are not being widely applied across the NEM.

The ESB and other market bodies should be prioritising the development of compliance and enforcement frameworks for all DER standards, with *binding* guidelines and/or rules for each part of the implementation chain (from manufacturing to being connected to the network). In many ways it is more important to get this right, before leaping towards new innovations and feature sets.

Should you have any questions about our submission please do not hesitate to contact Sonja Lekovic on 0418 166 169 or slekovic@powercor.com.au.

Yours sincerely,



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1 Appendix

Table 1 Feedback on FTI’s assessment of network costs for feature sets of CSIP-AU

Criteria	Assessment dynamic export limits	Assessment of automated DER registration	Assessment summary of operational data	Assessment of mechanism of control (option 1)	Assessment of mechanism of control (option 2)
System and network costs	<p>We disagree with the assessment of system and network costs and consider them to be underestimated.</p> <p>From a network perspective alone, there will be a requirement to continually upgrade systems to ensure interoperability as well as to develop new products to offer to customers, such as dynamic operating envelopes (DOE). These costs have not been captured in the analysis.</p> <p>By contrast, the savings from interoperability for <i>highly utilised networks</i> (such as ours) may be low in the short term.</p>	<p>We disagree with the assessment of network costs.</p> <p>Distributors would be required to upgrade systems to capture the data automatically.</p> <p>By contrast, it is unclear what ‘network management savings’ distributors would experience from having the DER register updated automatically rather manually (aside the reduced costs of administration which is not a cost associated with network management).</p>	<p>We agree with this assessment.</p>	<p>The same comments apply as for the ‘assessment of dynamic export limits’.</p>	<p>The same comments apply as for the ‘assessment of dynamic export limits’.</p>