public interest
ADVOCACY CENTRE

Investigation into intervention mechanisms and system strength in the NEM

17 May 2019

Level 5, 175 Liverpool Street, Sydney NSW 2000
Phone: 61 2 8898 6500 • Fax: 61 2 8898 6555 • www.piac.asn.au

About the Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is an independent, non-profit legal centre based in Sydney.

Established in 1982, PIAC tackles barriers to justice and fairness experienced by people who are vulnerable or facing disadvantage. We ensure basic rights are enjoyed across the community through legal assistance and strategic litigation, public policy development, communication and training.

Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program (EWCAP) represents the interests of low-income and other residential consumers of electricity, gas and water in New South Wales. The program develops policy and advocates in the interests of low-income and other residential consumers in the NSW energy and water markets. PIAC receives input from a community-based reference group whose members include:

- NSW Council of Social Service;
- Combined Pensioners and Superannuants Association of NSW;
- Ethnic Communities Council NSW;
- Salvation Army;
- Physical Disability Council NSW;
- St Vincent de Paul NSW;
- Good Shepherd Microfinance;
- Affiliated Residential Park Residents Association NSW;
- Tenants Union;
- Solar Citizens; and
- The Sydney Alliance.

Contact

Craig Memery
Public Interest Advocacy Centre
Level 5, 175 Liverpool St
Sydney NSW 2000

T: (02) 8898 6522
E: cmemery@piac.asn.au

Website: www.piac.asn.au

Public Interest Advocacy Centre

@PIACnews

The Public Interest Advocacy Centre office is located on the land of the Gadigal of the Eora Nation.

1. Principles

System strength is fundamental to the NEM. The power system must operate within technical parameters while maintaining a level of robustness to faults and unexpected events. This is challenging as the system evolves towards a changing generation mix including lower levels of synchronous generation.

An additional challenge is presented by the extent to which system strength has traditionally sat outside the NEM's financial incentive frameworks. Services such as inertia are not traded on the market and thus not explicitly priced. To an extent they cannot be treated as economic commodities, since anything below a minimum level of security is non-optional and cannot be traded-off against other objectives. Yet frameworks for system strength impact prices, the allocation of resources, and ultimately costs borne by consumers.

PIAC considers the framework for intervention mechanisms and system strength should be guided by the following principles:

- AEMO and other institutions need adequate tools to maintain system strength.
- There should be transparency on the cost effects of interventions. Market bodies, consumers and consumer advocates should have access to information as a means of promoting accountability in the framework and its application.
- 'Prices' for system strength services, whether explicit or implicit, should promote efficiency and reflect the real value attached to those services by consumers.

These principles inform the positions articulated in this submission.

2. Response to issues raised in the consultation paper

QUESTION 1: ASSESSMENT PRINCIPLES

1. **Do stakeholders agree with the Commission's proposed assessment principles?**
2. **Are there any other relevant principles that should be included in the assessment framework?**

PIAC broadly agrees with the AEMC's proposed assessment criteria. We consider the criterion of transparency and predictability would benefit from additional clarification to acknowledge the value of transparency, not only as an input to commercial decisions, but as a key mechanism for regulatory bodies, consumers and their advocates to seek accountability on how interventions are managed in the NEM.

The AEMC writes:

> Interventions frameworks should promote transparency as well as being predictable, so that market participants can make efficient investment and operational decisions.[1]

[1] AEMC, *Investigation into intervention mechanisms and system strength in the NEM*, Consultation paper, 4 April 2019, 15.

PIAC agrees it is important to minimise uncertainty which could lead to commercial decisions that do not promote efficiency. Equally, it is important that other public bodies and institutions have access to good information that promotes accountability, especially with respect to costs: both of specific interventions and of the framework more generally.

There are potential scenarios where these two goals come into tension. For example, AEMO might contract out-of-market with a particular participant for security purposes. The market participant has an incentive to keep as much information commercial-in-confidence as possible. However consumer advocates and market bodies may want to hold the contract up to scrutiny, to determine if the compensation level was appropriate.

This tension may be exacerbated by the fact that commercial entities such as generators have a strong financial incentive to pursue compensation. They also typically have greater resources than consumers in terms of time, access and expertise to seek input into the regulatory framework more generally. It is therefore vital consumers and their advocates have access to adequate information to function as a 'check and balance' on this process.

Recommendation

That the assessment framework include explicit reference to the value of transparency, as a means to keep interventions and intervention frameworks accountable to consumers.

QUESTION 2: PRINCIPLES APPLICABLE TO THE INTERVENTION MECHANISMS
Are any changes to the intervention mechanism principles warranted?

The AEMC writes:

> Intervention-based approaches remain an important tool available to AEMO to help ensure reliability and system security.[2]

PIAC considers the intervention mechanism principles should maintain a conceptual separation between reliability and security frameworks. This is particularly important given the existence of 'dual-purpose' instruments such as the RERT.

Reliability involves a trade-off between how much consumers value a continuous supply of electricity, and other competing factors such as price and affordability. The optimal level of reliability will vary depending on consumer preferences and willingness to pay. Security relates to the safe operation of the power system within technical parameters, and is not similarly variable with consumer preference.

Failing to maintain a clear distinction between reliability and security may lead to sub-optimal outcomes. For example, treating reliability as 'non-optional' might result in consumers overpaying for electricity when they might have preferred to pay lower costs and accept some outage. Conversely treating security as a market commodity may lead to unsafe outcomes if participants do not respond to price signals as expected, or if inappropriate signals are given.

[2] Ibid, p. 14.

Reliability events tend to occur during intervals during which supply is scarce relative to demand, leading to high wholesale prices. This price signal will 'naturally' tend to incentivise market participants to address the shortfall.

However, the timing of system security events is not similarly correlated with high wholesale prices, or with high prices for the services (such as inertia) which would lead to greater security. The market is less likely to 'self-adjust'. The use of non-market mechanisms may therefore be more appropriate for security events than for reliability.

PIAC welcomes further discussion of distinctions between reliability and security under the intervention framework.

Recommendation

That the interventions framework distinguishes in principle between the treatment of reliability and security.

QUESTION 3: HIERARCHY OF INTERVENTION MECHANISMS

1. **What is the ideal hierarchy of intervention mechanisms, i.e. the order in which AEMO should use the RERT, directions and instructions to shed load?**
2. **Should the current hierarchy of intervention mechanisms be changed so that the RERT is no longer preferred to directions?**

PIAC considers there would be benefit in clarifying the current hierarchy of interventions and associated conceptual framework.

The AEMC has cited various objectives which have been used to guide or justify the existing interventions hierarchy (broadly speaking; the RERT, followed by directions, before instructions that typically involve instructing a transmission network to shed load). These objectives include:

- providing security-related services (and energy more generally) efficiently, or at lowest cost, in the long-term interest of consumers ('minimising costs')
- providing a high level of service in terms of both reliability and security ('maximising quality'); and
- preserving a market-based approach by avoiding non-market interventions where possible; and/or, where interventions are used, calibrating these to mimic as closely as possible outcomes which would have occurred had there existed a competitive market.

We agree with the AEMC that these goals may sometimes lack internal consistency. We consider there is value in explicitly considering how they should be treated if and when they come into tension.

At this stage, and as a prompt for further discussion, PIAC considers that efficiency – loosely defined in this instance as providing necessary system security services at lowest cost – should be treated as a goal with greater primacy than pursuing a market-based approach for its own sake. Markets should be treated as a means to an end, not an end in themselves. While they are often effective in delivering efficiency, they are not always effective, in practice or even in theory.

Market-based approaches alone may be inappropriate where there are externalities in the form of outputs (such as inertia and other system security inputs) that are not explicitly priced.

In terms of 'maximising quality', PIAC considers that where service quality is to an extent discretionary (for example, reliability interventions), the framework should account for the trade-off between this and other imperatives such as price. More supply/ consumption, or higher quality, should not be treated as inherently superior to less: these should be optimised, not maximised. This should be taken in account, for example, when determining the order of priority between directions (that typically involve directing synchronous generators to supply) and instructions.

We welcome further discussion of whether the RERT should be preferred to directions or vice-versa, as well as the intervention hierarchy more broadly.

Recommendation

That in determining the hierarchy of intervention mechanisms, efficiency be treated as a more fundamental goal than creating or replicating a market-based outcome.

Recommendation

That the reliability framework and other economic frameworks consider the trade-off between quality of service and price.

QUESTION 4: MANDATORY RESTRICTIONS

1. **Should the mandatory restrictions framework be retained?**
2. **Should the mandatory restrictions framework be amended in any way? For example, would it be preferable to use intervention pricing (as used for the RERT and directions) as the means to preserve scarcity price signals rather than require AEMO to contract for capacity (which, if dispatched, is priced at the MPC) independently of the normal dispatch process?**

PIAC supports the retention of the mandatory restrictions framework and consideration of whether it should be amended, and would welcome further discussion of these issues.

QUESTION 5: COUNTERACTIONS

1. **Are the results of counteraction too difficult to predict?**
2. **Should the NER continue to require AEMO to use counteractions in connection with AEMO intervention events, or is it preferable to allow NEMDE to optimise dispatch at least cost?**
3. **If counteractions remain, should AEMO still implement intervention pricing when it counteracts a direction?**

PIAC welcomes further consideration of these issues.

QUESTION 6: ARE FURTHER CHANGES TO INTERVENTION PRICING WARRANTED?

1. **Is there merit in making more fundamental changes to intervention pricing? For example, should intervention pricing only apply in circumstances where there is scarcity of a market traded commodity? If not, what is the economic rationale for applying intervention pricing?**

The AEMC has described two contrasting views of the economic rationale for intervention pricing:

- to signal scarcity of a market traded commodity; or
- to 'preserve' the price of energy at the 'what-if' level: that is, the level which would have prevailed if the intervention had not occurred.

We consider the 'scarcity signal' imperative should carry more weight. As previously discussed, market-based mechanisms are a means not an end. Price signals are a tool for allocating scarce resources. They are a tool to incentivise efficient decisions which ultimately meet consumer preferences, not an imperative in themselves.

We share the AEMC's concern that using intervention pricing in connection to system strength directions may create a perverse incentive for additional capacity investment, even though the system strength issue was not caused by scarcity of capacity. This could lead to inefficient costs borne by consumers.

Recommendation

That the economic rationale for intervention pricing be to signal scarcity of a market traded commodity.

QUESTION 7: CHANGES TO THE RRN TEST

1. **Do stakeholders consider that the RRN test should be extended to encompass the RERT?**
2. **Do stakeholders consider that the RRN test should be clarified?**
3. **If so, how is this best achieved?**
4. **Are changes required to clause 3.15.7A to bring it into line with any changes made to the RRN test?**

QUESTION 8: COMPENSATION FOLLOWING INTERVENTION EVENTS

1. **Should changes be made to the NER to increase clarity and consistency regarding the determination of compensation payments following AEMO intervention events?**
2. **Should the NER set out the basis for recovering affected participant compensation costs following RERT activations?**

QUESTION 9: TRANSPARENCY OF THE COMPENSATION PROCESS

1. **Do you consider current arrangements to be appropriate, or might there be benefits in increasing the level of transparency surrounding the quantum of compensation costs paid to directed and affected participants?**

QUESTION 10: COMPENSATION FOR AFFECTED PARTICIPANTS

1. **Should compensation be payable to affected participants? If so, why? If not, why not?**
2. **Should there be any distinction in the NER between intervention events that respond to reliability events and those that respond to security events (noting that constraints may not be suitable to respond to reliability events but may be suitable substitutes in the case of system security events)?**
3. **Are there any other approaches that should be considered?**

PIAC welcomes further consideration of these issues.

QUESTION 11: QUANTUM OF COMPENSATION FOR DIRECTED PARTICIPANTS

1. **Is the compensation framework for directed generators creating perverse incentives?**
2. **Is the use of the 90th percentile appropriate given the increasing penetration of variable renewable generation? Would another level of compensation be appropriate?**
3. **Would it be preferable to determine the quantum of compensation through a different means, such as estimated costs per participant?**

QUESTION 12: CHANGING THE COMPENSATION THRESHOLD

1. **Should the $5,000 threshold apply per trading interval, as currently, or per intervention event, as proposed by AEMO?**

As stated in our response to Question 2, it is vital for consumers, consumer advocates and market bodies to have access to adequate and transparent information. This includes information with respect to the compensation quantity for directed and affected participants, as well as the broader framework for determining compensation as set out in the NER and elsewhere. We welcome further consideration of these issues in light of this principle.

Recommendation

That consumers, consumer advocates and market bodies have access to adequate and transparent information with respect to compensation for directed and affected participants.

QUESTION 13: APPROACH TO SETTING SYSTEM STRENGTH REQUIREMENTS AND IDENTIFYING SHORTFALLS

1. **Do stakeholders have any views about the approach adopted to date by AEMO to determine system strength requirements and identify potential shortfalls?**
2. **Do stakeholders have any suggestions as to what, if any, changes to the current methodology warrant consideration?**
3. **How should AEMO identify shortfalls up to five years ahead, and what does this mean for the level of specificity than can be achieved as to what measures are required in response to the shortfall? For example, would there be merit in considering a staged**

approach whereby a preliminary notice is used to identify a projected shortfall in a timely way, followed by more detailed analysis as to the required response.

4. **Do stakeholders have any views about the impact of residential PV systems on system strength?**

QUESTION 14: INTERACTION BETWEEN SHORT AND LONG TERM SOLUTIONS

1. **Do stakeholders have views on the interaction between the minimum system strength framework and the current arrangements of issuing directions?**
2. **Are there potential interim solutions that could be implemented to effectively deal with system strength issues as they arise in NEM regions?**

QUESTION 15: DECLARING SHORTFALLS THAT VARY OVER TIME

1. **Do stakeholders see any risks or benefits in AEMO declaring a shortfall that varies in magnitude over the year?**
2. **Do stakeholders consider there to be any potential changes that could be made to the rules to enhance the flexibility of the current arrangements?**

PIAC welcomes further consideration of these issues.

QUESTION 16: TNSP MEETING THE SHORTFALL Do stakeholders have feedback on potential changes that could be made to the minimum system strength framework in order to make it simpler or more cost-effective for the TNSP to address a system strength shortfall?

PIAC considers there is value in further considering the "do no harm" framework, under which new connecting generators are required to pay for any system upgrades to address the impact of their connection on system strength. An incremental approach runs a risk of imposing higher costs than necessary, for example if the total cost of sequential upgrades as multiple generators connect is greater than one single-stage planned augmentation. We encourage the AEMC, TNSPs and other stakeholders to explore alternative approaches which exploit scale economies and optimise costs rather than augmenting on a marginal and reactive basis.

Recommendation

That further consideration be given to the "do no harm" framework for new connecting generators, with a view to optimising costs across multiple connections.