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Mr John Pierce
Chair
Australian Energy Market Commission
PO BOX A2449
Sydney South NSW 1235

Via online submission

Dear Mr Pierce,

RE EPR0070 – INVESTIGATION INTO INTERVENTION MECHANISMS AND SYSTEM STRENGTH IN THE NATIONAL ELECTRICITY MARKET

TasNetworks welcomes the opportunity to make a submission to the Australian Energy Market Commission's (**AEMC**) consultation paper on Intervention Mechanisms and System Strength in the National Electricity Market (**NEM**).

As the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) and jurisdictional planner in Tasmania, TasNetworks is focused on delivering safe and reliable electricity network services while achieving the lowest sustainable prices for Tasmanian customers. This requires the prudent, safe and efficient management and development of the Tasmanian power system. TasNetworks is therefore thoroughly supportive of AEMC's efforts to review intervention pricing mechanisms and system strength settings.

TasNetworks considers the following key points, and the others detailed in the responses to the individual consultation questions further below, will result in a more efficient and effective interventions and system strength framework that better supports the National Electricity Objective (**NEO**). The key points in this submission are:

- TasNetworks agrees with the AEMC that the shift to a greater proportion of asynchronous generation is likely to require the declaration of further shortfalls to address system strength concerns in states beyond South Australia. Further, that current methods for addressing these concerns are passing significant costs onto customers and needs to be changed.
- Although acknowledging that it is now often impossible for the Australian Energy Market Operator (**AEMO**) to procure inertia and system strength services without affecting energy prices at the Regional Reference Node (**RRN**), TasNetworks considers the economic rationale for intervention pricing when this occurs is lacking.
- TasNetworks contends that intervention pricing should only be used for services where there is a readily observable market price. That is, for energy and Frequency Control Ancillary Services (**FCAS**) but not for system strength or other system security services. TasNetworks therefore supports a distinction in the National Electricity Rules (**NER**) between intervention events used for reliability purposes and those used for security purposes.

- TasNetworks notes that no compensation is paid to generators for generation curtailed due to a network or system security constraint. This contrasts with the situation where generators can receive compensation from a system security direction. The only difference between the two is the degree to which a constraint can be represented in the National Electricity Market Dispatch Engine (**NEMDE**). TasNetworks does not consider this adequate justification for differential treatment and suggests that no compensation should be payable where interventions would otherwise be satisfied by network security constraints but for NEMDE limitations.
- TasNetworks supports the use of constraints to resolve system strength issues where it is economically efficient and technically feasible to do so. That is, to constrain off generation activity which does not provide inertia or fault level contributions for a limited time in situations where the market impact of the constraint is less than the cost of procuring the services by another means.
- TasNetworks considers that a flexible approach is required to best assess and implement system strength shortfalls given the unique power system characteristics in each jurisdiction. TasNetworks therefore supports TNSPs and AEMO being able to work together through joint planning processes to identify and respond to system strength concerns as they arise, rather than via the once a year assessment that currently occurs. Although this may necessitate a review of the broader system strength framework, TasNetworks considers such a review could have considerable value in driving system strength and inertia planning outcomes that would better support the NEO.
- TasNetworks considers that the principles governing the different intervention mechanisms could be harmonised. Further, that the hierarchy of intervention mechanisms should be informed by a least cost principle.
- TasNetworks also considers that current arrangements do not provide sufficient consistency, clarity and transparency on the application of compensation payments to participants following AEMO intervention events. TasNetworks therefore supports moves to address these deficiencies.
- TasNetworks supports further investigation and quantification of the effects of changing the compensation basis to apply on a trading interval basis, standardising the length of interventions and lowering the compensation level.

We would welcome the opportunity to discuss this submission further with you. Should you have any questions, please contact Chantal Hopwood, Leader Regulation, via phone on (03) 6271 6511 or by email (chantal.hopwood@tasnetworks.com.au).

Yours sincerely,

Wayne Tucker

General Manager, Regulation, Policy and Strategic Asset Management

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?**

TasNetworks considers the assessment principles listed are appropriate but suggests these might be supported with the following principles:

- **Technical Neutrality –** any change to interventions, system strength and inertia frameworks should be designed so that no one solution, or type of provider for such services, is discriminated against or competitively disadvantaged.
- **Fidelity –** any changes to interventions, system strength and inertia frameworks should be designed so that the value to each service or solution is clearly signalled. Using one price to signal multiple value elements should be avoided.

QUESTION 2: PRINCIPLES APPLICABLE TO THE INTERVENTION MECHANISMS

1. **Are any changes to the intervention mechanism principles warranted?**

TasNetworks acknowledges that each intervention mechanism has different characteristics but considers that the principles governing their use could be harmonised. For example, the obligation on the Australian Energy Market Operator (**AEMO**) to use directions could reference end use customers in relation to minimising costs. This would bring it into line with the principle governing minimising the cost of the Reliability and Emergency Reserve Trader (**RERT**). In turn, AEMO could apply the 'reasonable endeavours' approach currently used with directions to the RERT. This would replace the current lower hurdle of simply having regard to the RERT cost principle. These changes would enhance internal consistency amongst the intervention mechanisms and provide stronger guidance to AEMO to minimise the costs of intervention and improve customer outcomes.

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?**
3. **Should a reasonable endeavours 'least cost' principle inform the hierarchy of intervention mechanisms?**
4. **What are the potential advantages and disadvantages of making such a change?**
5. **Should the same hierarchy apply in the case of both a system security event and 'supply scarcity'?**

TasNetworks considers that a 'reasonable endeavours' mandate should apply to the least cost principle to inform the hierarchy of intervention mechanisms for supply scarcity cases. This least cost assessment should factor in all costs including the opportunity costs related to speed of implementation. That is, the costs that may accrue while a slower, but notionally cheaper, intervention is implemented.

With respect to system security, TasNetworks considers the same 'reasonable endeavours' least cost principle could be used to inform the intervention hierarchy. However, TasNetworks contends this should be supplemented with the ability to alleviate system security concerns with constraints. As described further below, in some cases the costs of procuring minimum levels of system strength or inertia via contracts may be higher than the market costs from curtailing generation for a short time via constraints. TasNetworks notes that constraints are already used to address a variety of system security concerns and considers this approach could be a viable alternative method to facilitate delivery of the National Electricity Objective (**NEO**).

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?**

TasNetworks agrees with the AEMC that intervention pricing may be more transparent, less blunt and easier to implement than mandatory restrictions. It is also likely to be more cost effective given any capacity affected under the mandatory restrictions framework is automatically priced at the Market Price Cap (**MPC**), rather than via the counterfactual 'but-for' methodology used with intervention pricing. TasNetworks therefore suggests the mandatory restrictions framework be supplemented with intervention pricing to preserve scarcity price signals.

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?**

TasNetworks supports the use of counteractions to the extent that the number of participants affected by an intervention is minimised. TasNetworks suggests this be supplemented with a least cost analysis to ensure economic impacts from interventions are also minimised. TasNetworks is indifferent as to whether this is achieved via optimisation of the National Electricity Market Dispatch Engine (**NEMDE**) or another mechanism.

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?**
2. **Should consideration be given to adopting a different approach to pricing when the RERT is activated - for example, setting the spot price to the MPC?**
3. **Are there other issues relating to intervention pricing that warrant consideration as part of this investigation?**

TasNetworks acknowledges that it is now often impossible for AEMO to procure inertia and system strength services without affecting energy prices at the Regional Reference Node (**RRN**). The current approach is to use intervention pricing when this occurs to compensate for this effect. However, TasNetworks considers the economic justification for this approach is lacking. No amount of modification of the energy price will appropriately and efficiently signal the scarcity of system strength and inertia services. Moreover, confecting a price to signal the scarcity of something that is not scarce, i.e. energy and FCAS services, is redundant.

The consultation paper correctly identifies that this approach is costing consumers significantly in purely operational terms. However, it is also stifling the investment signals that would address this issue in the longer term. For example, lacking a clear signal to new entrant generators on the types of services the system actually needs, new generation is incentivised to connect regardless of whether doing so will help or hinder system strength.

Although connection guidelines can help with this, this may not result in the most efficient market outcomes. That is, addressing system strength concerns on a singular connection basis may be undercutting the economies of scale that might accrue from addressing system strength on a more holistic area or regional basis. The current approach is also doing little to incentivise the

development of other methods for provision of these services, e.g. establishing inertia and system strength markets or promoting bespoke 'over the counter' bilateral contracts amongst participants.

For these reasons, TasNetworks considers that intervention pricing should only be used when there is a scarcity of traded services. That is, for energy and Frequency Control Ancillary Services (**FCAS**) services but not for system strength or other system security services for which there is no readily observable price.

TasNetworks acknowledges the 'noise' in the 'but-for' rerun methodology used for intervention pricing assessments. However, TasNetworks considers this is preferable to the alternate proposal to set the spot price equal to the MPC when the RERT is activated. As noted in the consultation paper, this is only likely to result in higher costs to consumers. It also has the potential to suppress the scarcity price signal if the cumulative price threshold is reached.

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?**

Consistent with the answer to question 6, TasNetworks considers that the RRN test for intervention pricing should only apply where there is a sufficient economic rationale. That is, in those cases where the intervention event is for a service that is traded in the market. In this way, the potential for distortionary prices and higher costs to customers can be avoided. TasNetworks therefore supports the alternative approach proposed by the AEMC in the consultation paper.

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?**

TasNetworks considers that current arrangements do not provide sufficient clarity or consistency on the application of compensation payments to participants following AEMO intervention events. TasNetworks therefore supports changes to the National Electricity Rules (**NER**) to address these concerns. This includes setting out the basis by which affected participation compensation costs are recovered 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? For example, should information be included in post-event reports as to the compensation costs associated with intervention events? Should compensated participants be identified?**
2. **Should changes be made to the NER to facilitate this (in addition to AEMO processes)? If not, why not?**

TasNetworks considers that current arrangements do not provide sufficient transparency on the application of compensation payments to participants following AEMO intervention events. TasNetworks therefore supports increasing the level of transparency in post compensation reports where it is not commercially sensitive to do so. This is likely to minimise any informational asymmetries, provide valuable insights into bidding practices and help to better evaluate whether the current approach to intervention pricing and counteractions is appropriate. This approach would

also be in keeping with the recently released final ruling on the RERT that increases the transparency and timely provision of RERT information.

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?**

TasNetworks considers compensation should be payable to affected participants where there is a sound economic rationale to justify the use of intervention pricing. For example, in those cases of energy scarcity where market prices are readily observable. However, TasNetworks considers this approach inappropriate to services such as inertia or system strength where there is no robust price signal. TasNetworks therefore supports a distinction in the NER between intervention events used for reliability purposes and those used for security purposes.

TasNetworks notes that no compensation is paid to generators for generation curtailed due to a network or system security constraint. This is in line with current NER settings which provide generators with a right to negotiate a connection to the shared transmission network but no right to be dispatched. However, this is in stark contrast to the situation where generators can receive compensation from a system security direction. The only difference between the two being the degree to which a constraint can be represented in the NEMDE. TasNetworks does not consider this adequate justification for differential treatment. TasNetworks therefore suggests that no compensation should be payable for system security directions which would otherwise be satisfied by network security constraints but for NEMDE limitations.

This approach would improve consistency in security services provision and minimise operational costs to consumers. In turn, this would enhance investment signalling and support achievement of the NEO.

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?**

The evidence presented in the consultation paper suggests that the 90th percentile compensation threshold may be too high. Further, that this could be creating perverse incentives for generators in South Australia to withhold generation in the confidence they will be directed on to maintain system security. TasNetworks agrees that lowering the threshold for compensation or utilising short run generation costs, as is presently used for market suspension events, may provide more efficient, alternative bases for assessing compensation. TasNetworks therefore suggests a more comprehensive cost benefit analysis be conducted on this issue. This analysis should include potential costs from any increase in the number of disputes arising from switching to an alternate compensation methodology.

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?**
2. **If the threshold is to apply per event, should the quantum remain as currently or change? If the latter, how should the quantum be determined? For example, should it be a set amount or**

determined based on case specific criteria such as the length of the intervention event or the quantum of the compensation claimed or payable?

3. **Should the same approach be adopted with respect to both affected and directed participants or does a differentiated approach warrant consideration?**
4. **To promote transparency and predictability, should there be any more clarity regarding how AEMO determines the length of a given intervention event?**

The consultation paper correctly identifies that changing the compensation threshold to apply per intervention event could have widely differing effects on generators and consumers given the variable length of each intervention. Given this, it is questionable whether the $5,000 threshold would remain appropriate under such a change. TasNetworks suggests further investigation and quantification of this issue is undertaken to ascertain the impacts of changing the threshold. This investigation should examine changes to the threshold level as well as the impact of standardising the lengths of interventions.

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?**

TasNetworks agrees with the AEMC that the shift to a greater proportion of asynchronous generation is likely to require the declaration of further shortfalls to address system strength concerns in states beyond South Australia. Further, that such declarations may be required in some states sooner rather than later.

TasNetworks considers that a flexible approach is required to best assess and implement system strength shortfalls given the unique power system characteristics in each jurisdiction. For example, the generation profiles of South Australia and Tasmania differ vastly in the proportion of synchronous generation and yet both are considered weak grids per AEMO's 2018 National Transmission Network Development Plan. In this respect, a slower and staged approach to identifying and acting on shortfalls may be appropriate for some NEM regions. However, an expedited process may be warranted in others, particularly where substantial change to the existing generation mix could occur in a short period of time.

TasNetworks therefore supports TNSP's and AEMO being able to work together through joint planning processes to identify and respond to system strength concerns as they arise. This is instead of the once a year shortfall assessment that currently occurs. TasNetworks acknowledges this may require a rethink of the implications to the broader system strength framework including related regulations such as the do no harm provisions for connecting generators. However, TasNetworks considers such a review could have considerable value in driving system strength and inertia planning outcomes that would better support the NEO.

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?**

TasNetworks acknowledges the tension inherent in the current approach between the flexibility and efficiency of short and long term solutions. Although directions can provide targeted and flexible solutions in the short term, they are unlikely to be economically efficient over longer timeframes. Conversely, a solution delivered through the minimum system strength framework, such as the installation of synchronous condensers or contracting for system strength services, is more likely to provide a least cost solution over the long term. However, it may not be able to address short term or newly emerging issues in a timely manner.

TasNetworks therefore suggests that further consideration be given to the merits of alleviating system security concerns via power system constraints. That is, allowing network constraints to be used under the minimum system strength framework to constrain off energy sources which do not provide inertia or fault level contributions. The idea being that this would instead result in dispatch of, and investment in, generation sources which do. TasNetworks acknowledges this may result in dispatch outcomes differing to a traditional merit order dispatch but notes this outcome can occur now with thermal constraints.

In order to inform the use of constraints, the cost of the market impact could be compared with the cost of procuring minimum levels of system strength via other means such as contracts. Where the market impact of the constraint is less than the cost of enabling the service, the constraint could be persisted with. Alternatively, where the cost of the countermeasure delivers a positive market benefit, then the service would be enabled to relieve the constraint.

TasNetworks acknowledges there would be requirements to work through to implement such a solution in a real time environment. However, TasNetworks notes this approach may not be without precedent. TasNetworks understands that AEMO has investigated using the marginal cost of generation to evaluate the economics of dispatch and constraints outcomes. In this regard, TasNetworks suggests AEMO be consulted with to further investigate how this work might be readily applied in this instance.

TasNetworks considers constraints would be a viable option were a system strength shortfall ever declared in Tasmania. Hydro generating units can be dispatched within one or two intervals and compare favourably with thermal plant which may require several hours' notice to come online to be of practical assistance. Moreover, constraints are already used in Tasmania to meet Rate of Change of Frequency (**RoCoF**) and minimum fault level requirements. There would therefore seem to be little reason to dismiss extending the use of such constraints to address system strength short falls where this can be done in a timely and economically efficient manner.

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?**

TasNetworks considers there are two further issues with implementing a variable shortfalls framework beyond those identified in the consultation paper. Variable shortfalls are unlikely to be useful in those regions where system strength issues have no seasonality, e.g. Tasmania. In addition, suppliers may consider contracts are not worth the negotiation effort given their shorter length. As a result, the liquidity of contracts may decrease and the cost of contracting may increase.

QUESTION 16: TNSP MEETING THE SHORTFALL

1. **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?**

TasNetworks considers the use of constraints under the minimum system strength framework may be a viable solution to system strength issues and one that would better facilitate achievement of the NEO.