Energy Security Board
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10 February 2022

Delta Electricality's Response to Capacity Mechanism Project Initiation Paper

Delta welcomes the ESB's initiation of the Capacity Mechanism Project and includes in this submission a proposal that combines the PRRO with a complementary longer term new capacity incentive consistent with the principles articulated in the Initiation Paper.

The Energy Security Board (ESB) has been tasked by Energy Ministers to "*develop the design for a market mechanism that ensures investment in an efficient mix of variable and firm capacity that meets reliability at the lowest cost"*. The ESB is therefore considering options for a capacity mechanism that would create a:

- separate mechanism for valuing and procuring firm dispatchable generation availability; and
- that delivers a clear, technology neutral, long-term signal for investment to ensure reliable supply is maintained as the market share of intermittent renewable generation grows rapidly.

Delta supports the progress of this work as there are deficiencies in the current incentive framework. The existing Retailer Reliability Obligation (RRO) allows liable participants to manage financial risk but may still result in physical supply shortages. There is a need for clearer long terms signals to incentivise resource adequacy and limit market interventions.

Delta supports a capacity mechanism

Delta supports the physical RRO (PRRO) concept put forward by the ESB in the July 2021 Post-2025 Market Design Final advice to Energy Ministers' paper as an ideal foundation to develop a capacity mechanism. However, enhancements are required to address reliability gaps further into the future and incentivise the right mix of new generation that is delivered at the optimal time. The final capacity mechanism design should be:

- technology neutral, which would include the potential for generation build with longer lead times;
- a targeted, two-pronged, approach that looks to address longer-term reliability shortfalls, as well as valuing capacity in the shorter term; and
- maintains a decentralised approach where possible as this should lead to more efficient investment outcomes to the benefit of consumers.

A capacity mechanism that delivers on these principles is more likely to achieve and contribute to the National Electricity Objective (NEO) as it minimises the risk of over investment in new dispatchable capacity.

As outlined in this submission, Delta proposes a capacity mechanism approach for the ESB to consider. This preferred approach would see a capacity mechanism that is complimentary to the existing market mechanisms and would focus on addressing the reliability 'gaps' that exist in the foreseeable future. The spot market should remain the primary driver for new capacity and the capacity mechanism can be seen as insurance against the market not providing the right capacity at the right time. Delta does not consider now is the time for the ESB to consider a fully centralised capacity market that would effectively overhaul other market frameworks. There is no obvious need to change spot market settings, such as the maximum price, at this time.

Should the ESB prefer a broader change that resembles a centralised capacity market, Delta considers its preferred approach could still be adapted for this purpose.

Further information and responses to stakeholder questions can be found in the attachments:

- Attachment 1 - Delta's proposed capacity mechanism.
- Attachment 2 - Responses to the ESB's stakeholder questions.
- Attachment 3 - Further detail for Delta's preferred capacity mechanism.
- Attachment 4 - Assumptions underlying Figure 2.
- Attachment 5 – Compliance with Energy Ministers' principles

Yours sincerely

Anthony Callan
Executive Manager Marketing

ATTACHMENT 1

Deltas' proposed capacity mechanism

Context

Delta supports the physical RRO (PRRO) concept put forward by the ESB in its 27 July 2021 Post-2025 Market Design Final advice to Energy Ministers' as a basis for a NEM Capacity Mechanism. Its primary advantage over other forms of capacity mechanisms or markets is that the type, timing and quantity of new capacity is determined by the market, not a central planner. The primary shortcoming is that the PRRO's incentives are linked to a retailer's short to medium term load forecasts, which become highly uncertain after three years.

In practice, the PRRO is more likely to incentivise quick delivery resources to meet a medium-term obligation. The PPRO is unlikely to fully address jurisdictional system reliability concerns in the medium to long term, particularly given the number of large thermal generators that are reaching the end of their technical life over the next two decades. The ESB's proposal to address such concerns is jurisdictional strategic reserves. This proposal does not eliminate the fundamental problem of market distortions that naturally arise from jurisdictional involvement in the delivery of new resources, including preferences on technology and locations within the Region.

To address both the shortcomings of the PRRO and eliminate the need for direct jurisdictional intervention in the market, Delta proposes an enhancement to the original PRRO design that:

1. largely retains the PRRO (with amended compliance regime) for the period T to T-3;
2. adds a long-term underwriting functionality based on the PRRO's physical certificate design aspect for the period T-4 to T-15, and
3. provides jurisdictions with an ability to adjust reliability settings.

Figure 1 represents this approach in relation the options put forward by the ESB.

Figure 1 Delta's preferred approach in relation to ESB options

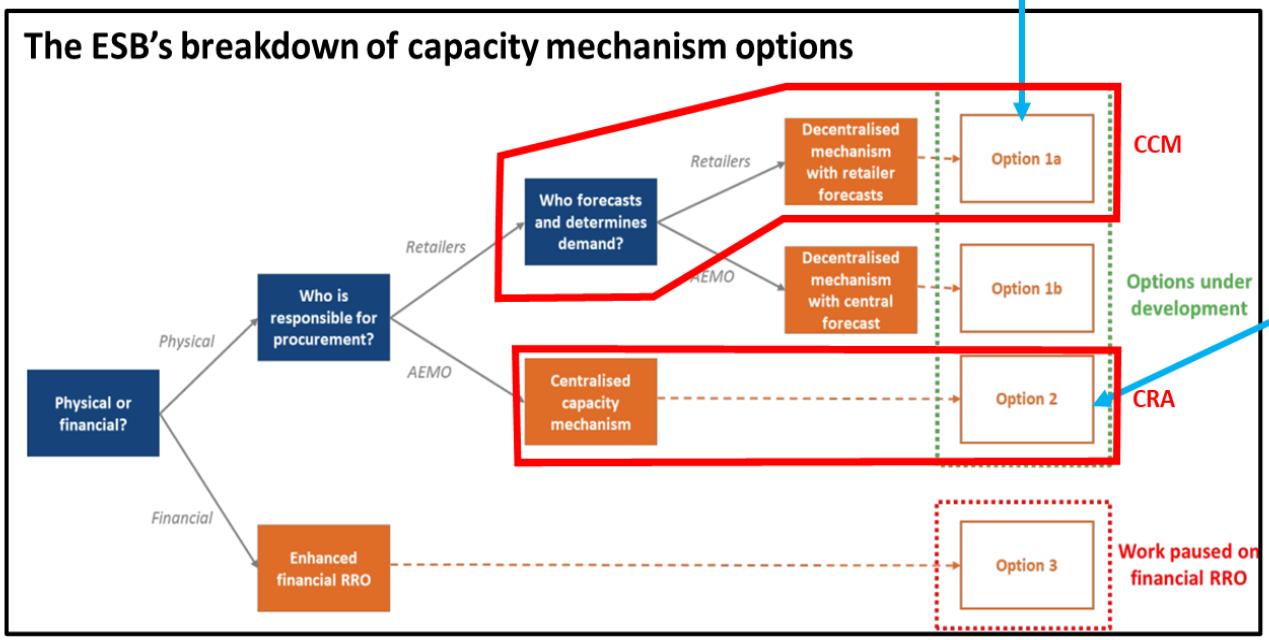
Delta's preferred capacity mechanism features two approaches, depending when the reliability gap appears.

Capacity Certificate Market (CCM)

Reliability gaps forecast up to three years out i.e. **T to T-3**, would be resolved through the PRRO. Liable retailers would need to purchase capacity certificates from generators/demand response participants covering their actual load.
This approach is best represented by the ESB's Option 1a.

Capacity Resource Adequacy (CRA)

Reliability gaps forecast out five years i.e. **T-4 to T-5**, would be resolved through a centralised approach where AEMO would calculate the additional capacity needed to fill the gap and conduct a reverse auction where new generation would compete for the right to supply the capacity at the cleared price. This approach is best represented by the ESB's Option 2.



Ideally, spot and contract prices should be sufficient for the market to incentivise private investment in resources to satisfy reliability standards. However, as noted by the ESB in its Capacity Mechanism Project Initiation Paper[1], the disconnect between investor incentives and government risk means that a mechanism to explicitly value capacity is needed. A fully centralised capacity market relies on the ability of central planners to accurately project future resource needs as a stand-alone market from energy. Such markets tend to deliver an oversupply of capacity given the high level of uncertainty around long term resource requirements. Investment inefficiencies in a capacity market are fully reflected in higher electricity prices for the term of the contracts. Delta's proposal specifically addresses this problem in a way that integrates with AEMO's reliability forecast process – refer to the section headed 'Avoiding Over-Build of Capacity – the Regional Reliability Envelope' in Appendix 1. Importantly, a lower reliability threshold (e.g. based on 50% POE demand) can be used to determine capacity shortfalls as the PRRO will deal with any needed adjustments. The PRRO will be particularly useful in incentivising DER, short delivery capacity and demand responses.

To minimise consumer risk, Delta proposes that resources required beyond three years be underwritten under a capacity mechanism rather than fully funded under a capacity market. Leveraging off the existing PRRO design, physical capacity certificates could be issued via a competitive reverse auction process for a period (e.g. over a 10 year 'benefit period' starting in 5 years' time) in the quantum required to address projected shortfalls in jurisdictional reliability standards. Capacity offers should reflect the 'missing money' not expected to accrue to the project from the future energy market.

The advantages of Delta's proposal are that it:

1. encourages new build to address longer-term reliability risk periods (beyond the 3-year horizon of the PRRO);
2. gives jurisdictions the certainty that capacity will be delivered in a relatively efficient manner to meet their specified reliability standards; and
3. provides certainty for new investment as well as facilitating an orderly retirement of older plant.

Key design elements and descriptions

This section provides a summary description of each of the key design elements of Delta's proposed capacity mechanism (Table 1), along with suggested design settings and a timeline example illustrated in Figure 2 and Figure 3. A detailed description of the key design elements is in Appendix 1, with assumptions underlying Figure 2 in Appendix 2.

As Delta considers the Energy Market should remain the primary driver for new capacity. with the Capacity Mechanism.

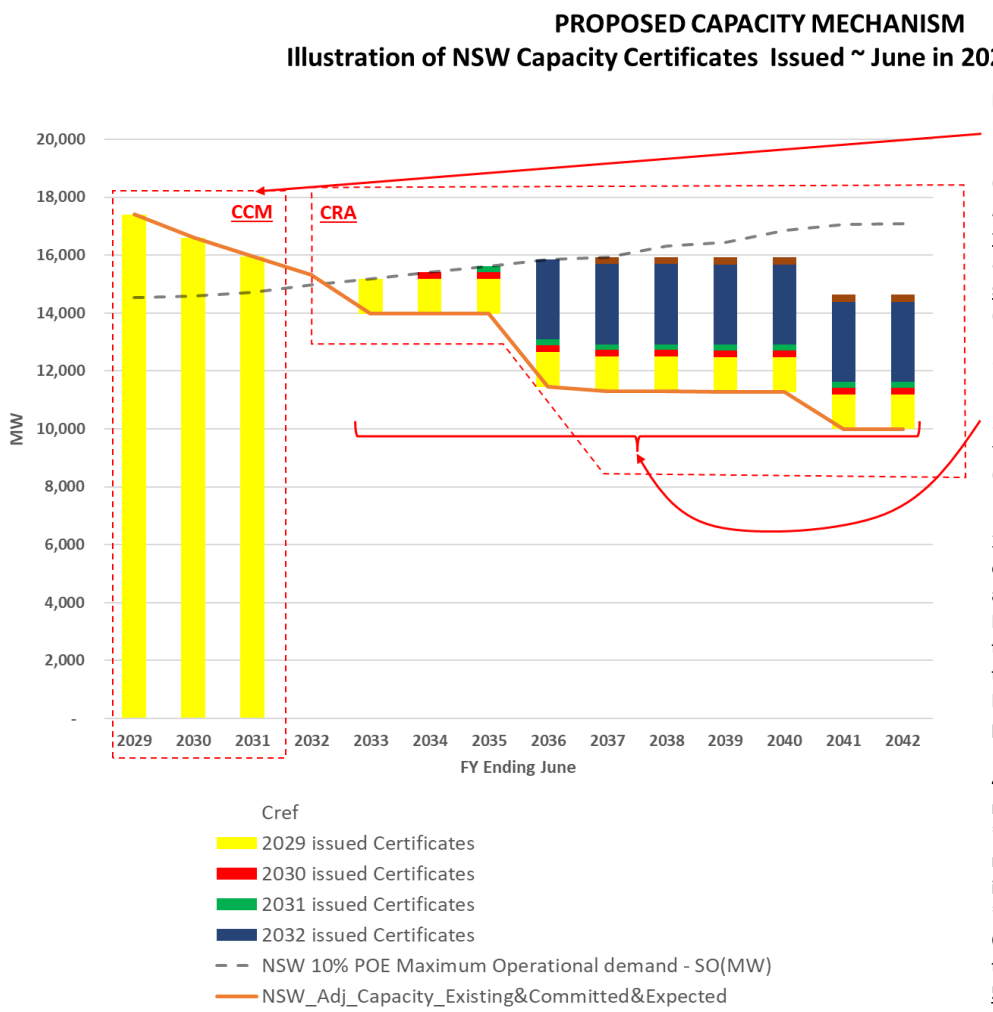
[1] ESB Capacity Mechanism Project Initiation Paper December 2022, P5

Table 1 Design elements of Delta's preferred capacity mechanism

Design Elements and descriptions
Capacity Certificates • 1 certificate = 1 MW. Certificates are fungible, each equivalent to one firm MW of physical capacity in a specific Region with specific calendar Quarter vintage. • Certificates may be backed by physical generation plant, virtual power generation plant which aggregates distributed systems or demand management within the relevant Region.
Capacity Certificate creation Certificates are created by AEMO. Two Certificate Issue timeframes: • The **Capacity Certificate Market (CCM)** component (largely the PRRO): For years 1, 2 and 3, certificates are issued to existing generation and demand-side resources subject to AEMO's rating factors of the firmness for which each resource can provide Firm MW of Capacity within the certificate vintage period. • The **Capacity Resource Adequacy (CRA)** component: AEMO conducts a reliability assessment out to 15 years. For years 4 to 5, if a reliability shortfall is identified for a Region, AEMO conducts a competitive process e.g. using a Reverse Auction with a common Certificate clearing price, for the required new-build capacity to address the identified reliability shortfall. Only advanced projects can participate – e.g. full engineering design, development approval, financing arrangements (not FID), provisional connection agreement.
Funding Capacity Certificates Issued to Successful Auction Participants (Suppliers) AEMO will pay a difference amount to successful auction participants (at T-0 for the quarter) so that, combined with the market value, the auction participants receive an amount equal to the auction clearing price for which the certificate was created. To minimise costs to customers, negative difference amounts apply when the market value of Certificates exceeds the Auction clearing price. AEMO's net payments under this Mechanism are underwritten by and recovered and allocated by the same process proposed by the ESB ('as is applied under the current RRO').
Promoting Trading of Capacity Certificates Delta's proposal promotes liquidity by: • quarterly compliance by Liable Entities creates regular trading volumes; • certificate fungibility opens the possibility of Futures market trading; and • quarterly vintage certificates will match standard NEM energy contract terms.
Capacity Certificate Obligations on Supplier Delta supports the supply-side compliance framework proposed by the ESB in relation to existing capacity with flexibility to adjust payments to new-build capacity not meeting original project availability target.
Capacity Certificate Obligations on Liable Entities Delta proposes quarterly compliance checks, irrespective of whether a reliability shortfall has occurred. Liable Entities must hold sufficient capacity certificates to cover their actual total load, per ESB PRRO proposal.

Design Elements and descriptions
Jurisdiction Reliability Settings The ESB proposed a Jurisdictional Strategic Reserve. Delta proposes that jurisdictional reliability concerns and the Council of Ministers' guidelines can be met through additional settings within the PRRO so new-build occurs within a single capacity framework, leading to more optimal outcomes. Potential jurisdictional settings could be: a) Jurisdictional Reliability Standard: Jurisdictions may set a stricter reliability measure to apply to their Region by nominating a regional expected USE percentage to AEMO. b) Jurisdiction Capacity Mechanism Percentage: each Jurisdiction may specify a percentage amount as the minimum percentage of capacity certificates each Liable Entity within that Region must source from suppliers within that Region. c) Jurisdictional Technology Preferences for Capacity: each Jurisdiction may nominate preferred technology types for new-build capacity within their Region that are to be supported by the Capacity Mechanism.

Figure 2 Illustration of Delta's preferred capacity mechanism



PROCESS:

1. **CCM**: June 2029; AEMO Forecast Regional Annual Maximum Demand, Availability-Adjusted Capacity and issue Capacity Certificates for FY29, FY30 and FY31 to Suppliers up to their Availability-Adjusted Capacity. AEMO conducts this forecast for the **15-year reliability assessment period** with the intention of addressing any Reliability shortfall within a **5-year Reliability support period**, (5 years representing the Financial Close-to-Commercial production timeframe required for some major projects, permitting a broad range of technologies to participate in the Auction).

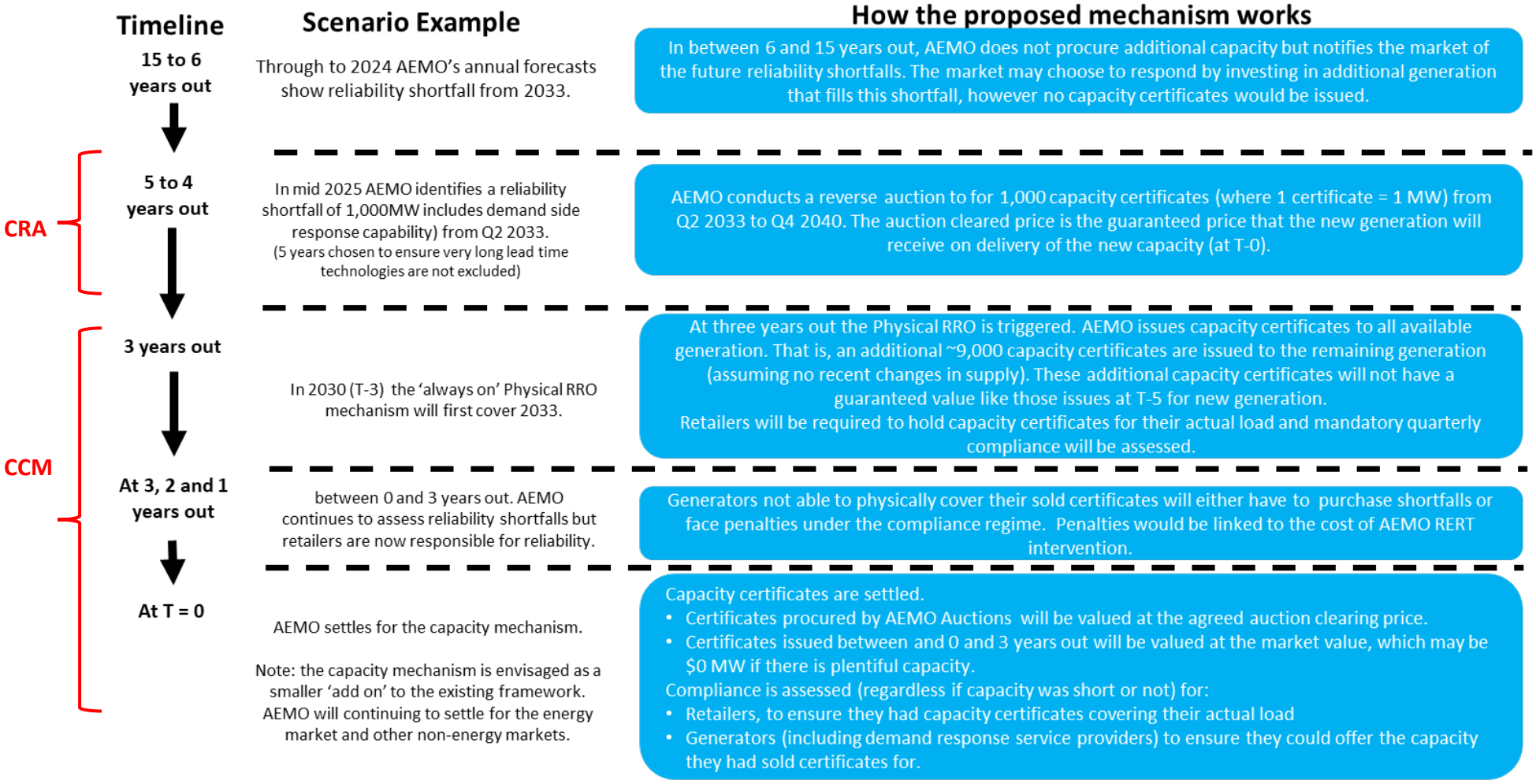
2. **CRA**: June 2029; AEMO Conduct Auction for supply of Capacity to address the 232MW shortfall in year FY33 (yellow bar), Capacity Certificates are issued to auction winners for FY33 to FY42 inclusive (the **10-year benefit period** for new Capacity).

3. **Compliance**: end-FY29; Suppliers trade Certificates and Liable entities purchase certificates ahead of Quarterly Compliance checks and an end of FY29 Compliance evaluation based on actual Maximum Demand at time of actual lowest Regional reliability. At this time, any Certificates issued to auction winners are eligible for a top-up payment from AEMO so that, combined with the Market Price already received, the Supplier receives the auction clearing price.

4. **Repeat**: June of 2030, 2031, 2032 and 2033 : Steps 1, 2 and 3 repeated:
* Trading of certificates reveals a market price of Firm Capacity in the near 3 years and for any future years where Capacity Certificates, issued to auction winners, are traded.
* As the capacity gap between Maximum Demand and Existing Capacity opens up post FY33, auctions are held each year from FY30 to address any gaps (red, green, blue and Brown Bars) within the **5-year Reliability support period**. In this way, resource adequacy in

Note: NSW 10% POE Maximum Operational Demand has been used for illustrative purposes only; AEMO uses a different methodology for determining compliance with reliability targets.

Figure 3 Example of Delta's preferred capacity mechanism



ATTACHMENT 2

Response to stakeholder questions

Table 2 below provides Delta's response to the stakeholder questions raised throughout the initiation paper.

Table 2 Delta's response to stakeholder questions

Stakeholder questions	Delta's response
Design principles and assessment criteria	
1. Considering the design principles from Energy Ministers, are there any additional assessment criteria the Board should use when assessing identified issues and possible solutions?	The assessment criteria appear to capture the breadth of issues covered by the design principles developed by the Energy Ministers. Delta notes, in relation to Ministers' principles 12 and 13, that its proposed capacity mechanism allows jurisdictions to tailor reliability settings for their region (see design features in Attachments 2 and 4). This feature should effectively avoid jurisdictional interventions, such as the mooted Federal Government-supported Kurri Kurri gas-fired power plant. While Delta agrees in principle with the assessment criteria, it is likely that some criteria may have competing objectives, and therefore the ESB will need to prioritise some criteria over others when it does its assessment. Delta generally agrees with the ordering of the assessment criteria, as indicated on page 9 of the initiation paper, where reliability, risk allocation and technology neutrality are prioritised. NEM investment incentives have been influenced by the growing divergence of the Energy Market Price Cap (MPC: currently $15,100/MWh) in the NER and the Value of Customer Reliability determined by the AER (VCR: NEM average $40,990 /MWh $2019). It should be recognised that Liable Entities exposed to MCR may make contracting decisions that may be sub-optimal from the point of view of customers exposed to VCR. A capacity mechanism will serve to, at least in part, bridge this reliability value gap to better align future capacity decisions with customer preferences.

Stakeholder questions	Delta's response
	The capacity mechanism offers/prices should reflect the 'missing money' not expected to accrue to projects from the future energy market. The energy market should remain the primary driver for new capacity and the capacity mechanism can be seen as insurance against the market not providing the right capacity at the right time. Accordingly, the energy spot market setting should not change and the maximum market price (Market Price Cap) should not be lowered.
2. Do you agree with the proposed approach to how the ESB will incorporate and address the Energy Ministers' design principles?	It is clear that Jurisdictions want to maintain the ability to set the reliability of electricity supply. The costs to achieve regional reliability standards can be regionalised which would provide more transparent price signals for the market. To fully integrate jurisdictional reliability preferences Energy Ministers could have the ability to specify a nominated reliability standard for their jurisdiction. On the issue of achieving the Energy Minister's defined objective of a "design for a market mechanism that ***ensures investment in*** an efficient mix of … capacity that meets reliability at lowest cost" (Delta's emphasis), Delta submits that this objective indicates that the emphasis should not just be on the short-term least-cost dispatch of existing resources (important as that is) but the primary emphasis should be on achieving least cost in the sense of minimising LRMC over an investment timeframe, inclusive of all costs including capital costs. Achieving this means that the right mix of new-build capacity and its timing are parameters for which there are deterministic solutions. Delta's proposal includes market mechanisms to achieve both short-term (T-0 to T-3 years) Capacity certificate market solutions (the CCM component) and a longer-term (T-4 to T-15 years) mechanism to ensure capacity resource adequacy in the optimal technology mix (the CRA component).
Approach to the design	
3. Are there specific design choices from international capacity markets the ESB should explore in a NEM context?	Each of the international examples presented may offer learnings and features that should be considered by the ESB. Delta's preferred approach draws similarities with the Irish example. In particular, the following should be explored further:

Stakeholder questions	Delta's response
	The effectiveness and importance of longer contracts for existing and new generation, as developed for the Irish market. Delta considers longer contracts of 10+ years will provide the certainty needed to incentivise investment. • Centralised forecasting and procuring capacity through auctions, as developed for Irish, UK and parts of the US. With the appropriate checks and balances, Delta considers AEMO would be best placed to conduct these functions.
4. Are there other international examples of valuing capacity that the ESB should consider?	*Intentionally left blank*
5. What design choices do stakeholders consider would work well for the NEM?	In Section 2 above, Delta has outlined its proposed capacity mechanism which adopts approaches similar to the ESB's option 1a and 2 depending on how far out the reliability gap is identified.
6. Are there design choices from these international examples that stakeholders consider will not work well in the context of the NEM?	Delta considers any of the international examples that have only a shorter-term focus will not be appropriate for the NEM as they will incentivise more short-term delivery investments, which will disadvantage generation investment with longer term delivery time frames, which may ultimately result in higher cost than would otherwise be efficient being passed onto customers. In other words, it is not clear whether any of the international capacity markets would deliver on the Energy Minster's objective of "***ensures investment*** in an efficient mix of … capacity that meets reliability at lowest cost" (Delta's emphasis). Delta is also not aware of whether any international capacity mechanisms contain design features that will accommodate jurisdictional preferences that may lead to different reliability standards in different regions within market.

Stakeholder questions	Delta's response
Core design areas for any mechanism that explicitly values capacity	
7. Do you have any views on whether there are other design areas the ESB will need to consider in the design of a capacity mechanism?	*As per Delta's response to Question 2 and 6 above, Delta considers the primary purpose of a capacity mechanism is ensuring capacity resource adequacy by delivering new-build capability compliant with jurisdictional preferences and in an optimal technology mix to yield lowest costs to consumers.* *While not explicitly outlined in the ESB's design areas, the ESB has proposed a Jurisdictional Strategic Reserve. Delta proposes that Jurisdiction reliability concerns and the Council of Minister's guidelines can be met through additional settings within the Resource Adequacy component of Delta's proposed Capacity Mechanism (i.e. the T-4 to T-5 period) so new-build occurs within a single Capacity framework, leading to more optimal outcomes.* *See further detail in '*Table 3 Design elements of Delta's preferred capacity mechanism*'.*
8. Has the ESB accurately reflected the trade-offs to be considered for each core design area?	It is not clear how or if the trade-offs considered apply to the issue of ensuring resource adequacy by delivering new-build capability.
Derating methodology	
9. Do stakeholders have views on the definition of reliability at risk periods?	Yes. Current modelling available to Delta suggests supply scarcity is more likely to occur over a 4-hour period between 1700hrs and 2100hrs in May and June and between1730hrs and 2130hrs in July and August. It is also to be expected that during the peak solar months of December and January, when generators may take advantage of lower demand during the holiday season to schedule some outages, the combination of lower levels of synchronous generation and higher dependence on VRE

Stakeholder questions	Delta's response
	may increase exposure to supply scarcity from weather events. Patterns such as this will require dedicated modelling of weather impacts on the NEM. Moreover, actual supply scarcity patterns are likely to change over time as VRE penetration increases. Risk periods have the potential to become both deeper and of longer duration at times of VRE 'drought'. Dedicated modelling of weather impacts should reveal the extent to which this may occur.
10. Which of the above derating methods would work best and why?	Delta considers AEMO would be best placed to advise on this given its extensive resources dedicated to forecasting methodologies and processes. Delta's view in relation to VRE de-rating is that there is insufficient historical data for large-scale wind and solar farm output to understand the potential distribution and correlation of outcomes due to weather. Delta submits that extensive simulation of weather events on VRE output will be required to better understand the distribution of potential outcomes in relation to the risk periods. Delta's view in terms of other generation technologies is that a model using historical achieved availability in relation to the risk periods should suffice.
11. Are there any other issues the ESB needs to consider when developing the approach to defining capacity?	Delta notes the ESB has observed that some VRE in relatively remote REZ areas may be subject to transmission constraints. Another issue is that Loss Factors can be significant which can also reduce the capacity available at Node. Delta notes that an alternative approach to address both the above issues is implementing nodal pricing in the affected sub-regions but Delta has no view on the relative benefits of the alternative approaches but recommends the approach in Delta's answer to Question 14. In terms of de-rating the capacity of various systems, it will be important to have a deep understanding of the impacts of issues such as: • correlations between temperature de-ratings of transmission elements with large-scale solar farm output;

Stakeholder questions	Delta's response
	• thermal cut-outs or other protections on power equipment that may operate with high correlation across sub-regions (eg high-temperature cut-outs on wind turbines); and • under-frequency tripping of small-scale (rooftop) solar inverters.
Forecasting methodology	
12. In the context of the NEM, what do you consider to be the main advantages and disadvantages of the three options outlined above?	Delta considers the advantage of a decentralised approach is that it allows the market to find the most efficient outcomes to resolve reliability gaps. Delta considers this is appropriate in the shorter term (over the T to T-3 period) as the market is more liquid and participants have relatively more certainty over their load and generation forecasts. It would also reduce the influence of market power between small and larger liable participants. A centralised approach over the shorter period would run the risk of over procurement which could increase costs passed onto customers unnecessarily. However, Delta considers if the market only focusses on the shorter-term reliability gaps (over the T to T-3 period), it may miss opportunities to value and incentivise lower cost generation solutions that have longer investment lead times. Over the longer-term (e.g. the T-4 to T-15 period), a centralised approach is more appropriate as the market does not provide appropriate signals to incentivise investment to fill reliability gaps as there is less certainty and no liquidity in the trading market. Delta has proposed a capacity mechanism that performs a reliability assessment over 15 years, and issues capacity certificates for capacity commencing operation up to 5 years out, using both a decentralised and centralised approach depending on the timeframe. Further detail is provided in Section 2 and Appendix 1. Without a "Capacity Resource Adequacy" (**CRA**) component to a capacity mechanism, any of the models proposed could lead to scarcity pricing of Capacity Certificates at T-0. Given Delta's view expressed in the answer to Question 1, that there is a divergence of incentives between customers who value reliability at the Value of Customer Reliability (**VCR**: NEM average $40,990/MWh $2019) and Liable Entities who value reliability at the Market Price Cap (**MPC**: currently $15,100), an easy way for Liable Entities to avoid penalties is to shed customer load ahead of T-0 by declining to provide

Stakeholder questions	Delta's response
	new or renewed retail contracts covering the impending reliability shortfall period. This is likely to lead to higher prices to customers and a concentration of risk on the ROLRs. Delta considers these are poor outcomes in terms of the NEO. Delta is aware that there may be concerns that the Capacity Resource Adequacy (CRA) component of this proposed Capacity Mechanism could lead to over-build of capacity should the conduct of the reliability forecasting process be too conservative. If it is considered necessary to explicitly address this issue, Delta proposes a Regional Reliability Envelope approach as illustrated in Appendix 1 below.
Procurement methods	
13. Which of the procurement approaches is best suited to the NEM and why?	Similar to the above, Delta considers the best approach to procurement depends on how far out the reliability gap is that capacity is sought for. Over the shorter term (T to T-3) a decentralised approach is best as it will allow supply and demand to achieve the most efficient price for capacity. That is, liable participants are required to procure capacity from capacity certificate holders (e.g. generators and demand response providers) for their forecast load. Unlike energy markets hedging, within the T to T-3 window Delta's proposed Capacity Mechanism mandates a base level of Certificate trading for each certificate vintage which, supported by secondary trading markets such as new physical-delivery Futures products, improves price discovery. Over the longer term (T-4 to T-5), which lacks investment signals, it is more appropriate for a centralised approach where AEMO procures additional future capacity delivered at a future date (T), through a reverse-auction where the winning bidder/s are awarded capacity certificates for a guaranteed value, redeemed at T. Given retailers, the largest Liable Entities, typically have a declining forward contract duration curve (their contracted retail load declines year-on-year so that their retail exposure in T-4 will be a small fraction of the that at T) they will have little incentive to secure Capacity Certificates beyond T-3 and therefore a different entity needs to be responsible for ensuring CRA. Delta proposes AEMO as the most appropriate entity with the necessary skills to conduct this process.

Stakeholder questions	Delta's response
Transmission constraints	
14. Which of the options outlined above can be expected to work best in the context of the NEM?	For consistency, the capacity mechanism should adopt the final decision made by the transmission access reform work. That is, under the current framework a derating approach should be used, but if the CMM is implemented the locational pricing approach should be adopted for consistency.
15. Are there any other issues the ESB needs to consider when developing the approach to transmission constraints and interconnectors?	In regard to inter-regional interconnectors, the level of capacity support across each interconnector could be deterministically modelled (similar to in-region capacity) to a de-rating factor reflecting similar availability levels. Interconnectors do have special characteristics however in that they tend to concentrate risk, equivalent to an entire large power station, onto a single asset so that when failure does occur it has a large consequence. Interconnectors are usually very reliable but failures do occur from time to time, with both short term (e.g. lightning strike) and long term (extreme weather events have blown over kilometers of transmission line) impacts. Jurisdictions may have their own view as to the extent they are prepared to rely on Capacity not located within their Region to achieve their regional reliability targets and their views will need to be accommodated otherwise the likelihood of direct Jurisdictional intervention is increased. Delta's proposed Capacity Mechanism has settings that accommodate such Jurisdictional preference. In regard to the costs of transmission augmentation to build out constraints due to high VRE build in a sub-region, Delta's view has historically been expressed that these costs should be borne by the causers (after all, solar or wind farm proponents have options such as co-locating battery energy storage systems, which can relieve constraints caused by their projects) but in the interests of consistency, Delta supports the approach in its answer to Question 14.
Market power mitigation	
16. Are there any suggestions for other ways that market power could be mitigated?	Delta's proposed approach only values additional capacity that is needed to fill the reliability gap when issuing capacity certificates over the T-4 to T-15 period. This ensures that existing generation does not play a role in setting the capacity price and reduces the total costs that are passed onto the customers.

Stakeholder questions	Delta's response
	Delta acknowledges that this approach does value new and existing capacity differently, but argues it is a targeted approach to remove reliability gaps, minimise costs borne by customers and meet any Jurisdictional targets. This approach also provides incentives to existing generators to fill reliability gaps before they eventuate at T-5 where capacity certificates may be sought through the proposed auction process. Set penalties linked to the New Entrant level (the auction clearing price for the relevant vintage Certificate) should be sufficient to remove incentives for the exercise of Market power by suppliers.
17. What kinds of market power issues are likely to be of the greatest concern	Strategic behaviour in the capacity certificate contract market during the T-0 to T-3 period could, for Liable Entities facing a strict must cover 100% of actual load mandate, be used to extort above-market prices for certificates without some design element to address that aspect. As noted above in response to 16, Delta suggests a penalty price that would effectively create a ceiling price for the contract market, as the liable entity could choose to pay the penalty rather than a higher market price.
18. Are there any other issues the ESB needs to consider when developing the approach to market power mitigation?	In short: The objective of the capacity mechanism is to ensure resource adequacy (i.e. no chronic/systemic resource scarcity at T-0) and over the long term that will be met by Delta's proposal, however operational incidents will occur that may generate short-term reliability shortfalls within the T-0 to T-3 timeframe and existing tools like the RERT would be deployed to address them. Market power over the pricing of Certificates within the T-0 to T-3 period is a secondary concern which Delta considers may be adequately addressed through caps on the non-compliance penalties applied to the participants.
Incentives and compliance	
19. Which of the options for demand side incentives and compliance would work well, or not work well, and why?	Delta agrees with explicit penalties and suggests these be applied on the basis of a Quarterly Certificate compliance regime (irrespective of whether a reliability shortfall occurs in that Quarter or not). In terms of appropriate levels of penalties for Liable Entities, refer Delta's response under the 'Market Power Mitigation' questions, compliance penalties could be set at a multiple (e.g. 1.5x) the new entrant Certificate costs plus RERT.

Stakeholder questions	Delta's response
20. Which of the options for supply side incentives and compliance would work well, or not work well, and why?	Delta agrees with explicit penalties and suggests these also be applied on the basis of Quarterly Certificate compliance regime (irrespective of whether a reliability shortfall occurs in that Quarter or not). New entrant costs for the relevant capacity certificate vintage may be a useful reference for Supplier Penalties too. References to Trading Interval – related penalties are not supported: If a Certificate supplier's availability in a Quarter is better than the de-rating factor applied to them but their availability during a particular TI is not, should they be penalised? Delta considers the answer to that question should be no. Refer to Delta's answer to Question 21 regarding the separation of the Capacity and Energy Markets.
21. Are there any other issues the ESB needs to consider when developing the approach to penalties and compliance?	A Capacity Mechanism that is designed to encourage timely new build capacity options to replace retiring capacity will render Jurisdictional direct interventions unnecessary. In terms of compliance penalties generally, Delta is of the view that: 1. The Energy Market and capacity mechanism should be kept separate. Their purposes are different, the capacity mechanism is to achieve reliability targets are met, the energy market is to achieve efficient dispatch to minimise costs of energy, i.e. the "reliability options model" proposal links these Markets in a way Delta considers unnecessary and is not supported. 2. NEM investment incentives generally have been distorted for years due to the growing divergence of the Energy Market Price Cap (MPC: currently $15,100/MWh) in the NER and the Value of Customer Reliability determined by the AER (VCR: NEM average 40,990 $/MWh $2019). Valuing capacity is a step towards narrowing this gap between investment in alternative Capacity options of new build generation (and other) investment compared with network investment.

ATTACHMENT 3

Further detail for Delta's preferred capacity mechanism

Table 4 Further detail on design elements for Delta's preferred capacity mechanism

Design Elements Description
Capacity Certificates • I certificate = 1 MW, equivalent to one firm MW of physical capacity within a Region; • Certificates may be backed by physical Generation plant, virtual power generation plant (which aggregates distributed systems) or demand management within the relevant Region; • Each Certificate has a specific vintage of (i.e., applies to) a calendar Quarter; • Certificates are multiple-shot, i.e., there is no limit to the number of occasions within a Quarter that a Certificate may be relied upon by AEMO • Certificates of the same vintage and Region are fungible.
Capacity Certificate creation • Certificates are created by AEMO • AEMO provides registry services to maintain a record of holders of current certificates. • Certificates are created for and on behalf of Jurisdictions to satisfy their nominated reliability standards within the relevant Region • Certificates are created to identify and encourage the market to fill future shortfalls in reliability as identified by AEMO in its annual reliability assessment Two Certificate Issue timeframes: • The **Capacity Certificate Market (CCM)** component: For Years 1, 2 and 3, Certificates are issued to existing generation and Demand-side resources subject to AEMO's rating factors of the firmness for which each resource can provide Firm MW of Capacity within the certificate vintage period. • Certificates are purchased by Liable Entities from certificate holders directly or from trading in secondary Certificate markets. • The **Capacity Resource Adequacy (CRA)** component: AEMO conducts a reliability assessment out to 15 years. For years 4 to 5, if a reliability shortfall is identified for a Region, in sufficient time to enable participation by the broadest range of technology types, AEMO shall conduct an auction process to build new capacity to address the reliability shortfall: o AEMO's process is to be competitive, e.g., using a Reverse Auction with a common Certificate clearing price for the required new-build capacity to address the identified reliability shortfall; o certificates are issued to the successful Auction participants (Suppliers). Design settings are needed to ensure project Capacity is built in the quantum and technology of the successful tenders. Design options include a) Auction participants must meet pre-qualifying criteria (e.g. Development Approval in place, project engineering studies are complete, Connection Agreement is completed or well advanced); or b) successful auction suppliers must provide an enforceable undertaking to deliver the project Capacity;

Design Elements Description
○ certificate clearing price provide a forward Capacity value signal; and ○ AEMO underwrites the price that a proponent receives for certificates created as a result of a new build auction process • AEMO to regularly publish information on potential reliability shortfalls between the present and covering a [15]-year period (the **reliability assessment period**) • AEMO to conduct auctions to address identified reliability shortfall periods that occur between the present and [5] years (the **reliability support period** - Note the reliability support period should be set to accommodate the time typical commercial projects take to achieve commercial operation from their Date of financial closure plus a maximum [10]-year **benefit period**). Note that AEMO may, but should not be required to, issue Capacity Certificates for projects commencing operation in later years such as Year 5. The reliability support period has been selected as 5 years as a technology-neutrality measure, ensuring that any projects that required a longer lead-time could participate in the Capacity Mechanism Auction process. If a project responding to a reliability shortfall Auction required only a 4-year lead-time Delta would expect that AEMO would only issue Capacity Certificates to such a project commencing operation in 4 years' time. By deferring Capacity Certificate issuance until the latest year that projects can actually be delivered new-build Capacity is supported based on the least forecast error. • AEMO may issue certificates for any quarter within the reliability assessment period relating to a project that commences operation within the reliability support period.

<u>Avoiding Over-Build of Capacity – the Regional Reliability Envelope</u>

Delta is aware that there may be concerns that the Capacity Resource Adequacy (CRA) component of this proposed Capacity Mechanism could lead to over-build of capacity should the conduct of the reliability forecasting process be too conservative.

Delta considers its proposed Capacity Mechanism can be readily adapted to address this particular concern, if considered necessary.

It is important to note that a conservative reliability setting is not needed – the CCM (largely the existing PRRO) will deal with any shortfalls within the T – 3 timeframe.

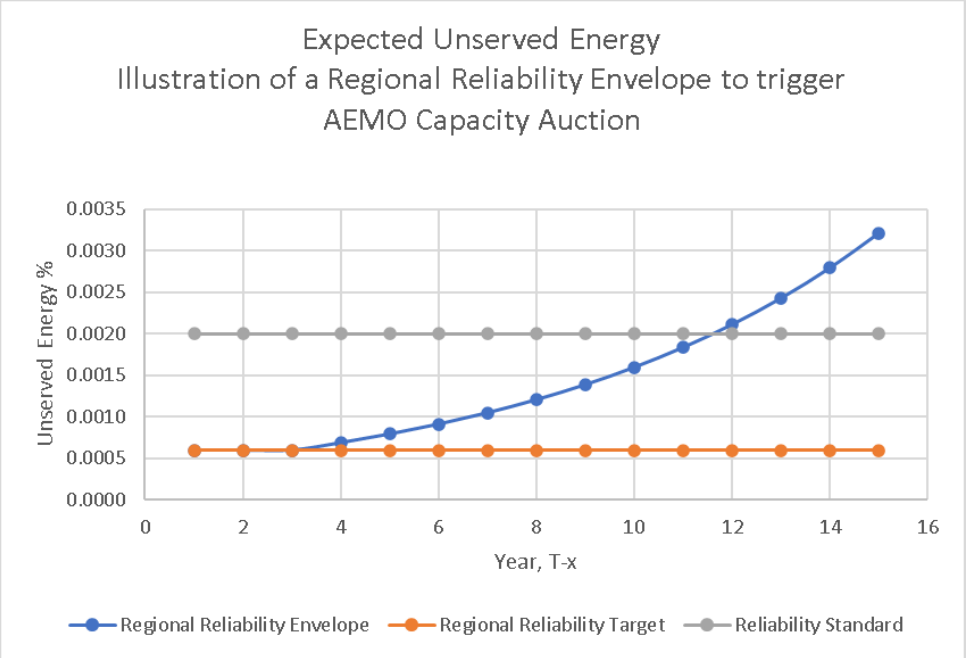
One design approach is to apply a Regional Reliability Envelope (**RRE**) which is to be used in substitution for the Regional Reliability Target (**RRT**) as the trigger point for AEMO to conduct Capacity Certificates Auctions for future periods. The RRE is defined below using the equation and illustrated in the diagram:

RRE (in units of Unserved Energy %) for forecast year **x** is defined as:

RRE(**x**) = **RRT***(1+**u**)^MAX(0, **x**-**k**); where

RRT = Regional Reliability Target %	a target specified by the Jurisdiction and set to **0.0006%** for illustrative purposes. A 0.002 is more appropriate.
u = Forecast uncertainty factor	specified by the regulator and set to **0.15** for illustrative purposes
k = the forecast year after which the RRE diverges from RRT	specified by the regulator and set to **3** for illustrative purposes

Design Elements Description



An RRE defined in this manner recognises that there is an "uncertainty cone" of potential outcomes from any forecast but still ensures that large, identified reliability shortfalls are at least addressed in part, bringing potential future shortfalls "within reach" of what can be realistically achieved within shorter timeframes over which forecast uncertainty is much smaller.

In the interests of clarity, Delta is not, at this stage, recommending the use of the Reliability Envelope to substitute for the Regional Reliability Targets in future years. Delta considers that unintended side effects of this approach may be to:

a) dilute the Capacity Mechanism's effectiveness in removing any need for Jurisdiction interventions; and

b) make AEMO Capacity Auctions occur, on average, nearer to T=0, narrowing the range of capacity solutions to those able to be deployed in the reduced time available which will make achieving the Energy Minister's objective of an "efficient mix of Capacity…" more difficult.

Delta has confidence in AEMO's capabilities. The purpose of including the Reliability Envelope concept in this summary is to illustrate the proposed mechanism's flexibility to address any 'Over-Build' concern if the regulator considered it necessary.

<u>Funding Capacity Certificates issued to successful Auction participants (Suppliers)</u>

All certificates within the Present to 3-year window are traded at market value, including Certificates issued to successful Auction participants.

AEMO will, at the Quarterly compliance assessment for each Certificate vintage (i.e., at T-0), need to pay a difference amount to successful Auction participants so that, combined with the market value already received, the Auction participants receives an amount equal to the Auction clearing price for which the certificate was created. To minimise costs to customers, negative difference amounts apply when the market value of Certificates exceeds the Auction clearing price (i.e., any Certificate surplus value over the Auction clearing price can offset any AEMO payments due in later Quarters with a true-up at the end of the [10]-year **benefit period**).

Design Elements Description
AEMO's payments under this Mechanism are underwritten by and recovered and allocated by the same process proposed by the ESB ('as is applied under the current RRO').
Promoting Trading of Capacity Certificates The use of the PRRO Capacity Mechanism to effectively reveal the market's value of Capacity will be enhanced by measures to promote liquidity and trading of Certificates. Delta's proposal contains elements that promote liquidity in certificate trading: *Fungibility* All Certificates of a particular Vintage and Region should be equivalent to 1 firm MW of Capacity and are therefore fungible. Fungibility encourages the establishment of Futures trading in Certificates (settlement by physical delivery). *Quarterly Compliance by Liable Entities* The ESB's 'Final Report' preference that the PRRO only trigger Liable entity compliance on "a reliability shortfall having occurred" (RERT activation or dispatch, or unserved energy) is not adequate and not consistent with the objective of achieving resource adequacy that a Capacity Mechanism should achieve. Under the ESB's 'Final Report' preference for the PRRO, liable Entities have little incentive to build their Certificate holdings towards compliance if a reliable shortfall is not expected. Delta proposes a Quarterly compliance assessment to apply to all Quarters within the initial 3-year window. This mandated frequency for compliance ensures Liable Entities are never too far away from compliant levels should unforeseen events trigger a reliability shortfall and will generate a base level of liquidity in Certificates trading. *Quarterly Vintage Certificates* Quarterly Vintage Certificates will match the NEM's standard contracting terms for energy. This will facilitate liquidity through, for example, Suppliers stapling Certificates to energy contracts covering the same term, improving liquidity. *Trading between Sellers* Suppliers trueing-up their Certificate position around planned outages will add liquidity to the certificate market and promote efficient outcomes in terms of outage scheduling.
Capacity Certificate Obligations on Supplier Certificates represent an obligation to make the equivalent of 1 MW of firm physical capacity available for dispatch within the Vintage Quarter. Delta supports the Supply-side Compliance framework proposed by the ESB in relation to existing Capacity. Only 'shovel ready' projects should be considered. The project must have development consent, full engineering design, financing and a network connection agreement (provisional). In relation to certificates issued to new-build capacity, certificates would have been issued based, inter alia, on assumptions as to plant availability; • If there are occasions when the certificate obligations are not met (not including periods of any days which exceed POE50, and there is either RERT activation of dispatch, or Unserved Energy is incurred), AEMO may pro-rate the certificate

Design Elements Description
payment (refer section headed 'Funding Capacity Certificates issued to successful Auction participants (Suppliers)' above) to reflect the actual availability. • If there are periods which exceed POE50, and there is either RERT activation of dispatch, or Unserved Energy is incurred), and the Certificate obligations are not met, AEMO may apply a penalty and net that from any current or future amounts due to the Supplier. The Compliance regime for Suppliers should also address and apply to successful Auction participants who do not meet their target delivery date for new Capacity. AEMO should, once aware that a successful Auction participant's project has been delayed or cancelled have the option to conduct a special Auction for new Capacity, if time permits, to augment RERT capabilities. Penalties must be sufficient to enforce Certificate compliance by Sellers.
<u>Capacity Certificate Obligations on Liable Entities</u> As for the ESB's PRRO proposal, Liable Entities must hold sufficient Capacity Certificates to cover their actual total load. Delta proposes Quarterly Compliance checks, irrespective of whether a reliability shortfall has occurred. In most Quarters a reliability shortfall will not occur, in these Quarters Compliance assessments may be made in relation to Liable Entity actual load for the period(s) in the Quarter when Regional reserve margin is at its lowest (i.e., when the Region is at greatest risk of a reliability shortfall). Penalties must be sufficient to enforce certificate compliance by Liable Entities. Potential supplier market power concerns from withholding certificates may be addressed by applying penalties equal to a multiple (e.g. x1.5) of the New Entrant Certificate price - this would effectively create a ceiling price for the contract market, as the liable entity could choose to pay the penalty rather than a higher market price.
<u>Jurisdiction Reliability settings</u> The ESB proposed a Jurisdictional Strategic Reserve. The Council of Ministers set guidelines for this proposal that complicate its implementation as proposed. Delta believes Jurisdiction reliability concerns can be addressed, and the Council of Minister's guidelines be met through additional settings within the PRRO which would have the advantage that new-build occurs within the single Capacity framework, leading to more optimal outcomes. Proposed Jurisdictional settings are: d) <u>Jurisdictional Reliability Standard</u>: the NEM reliability standard is that forecast expected Unserved Energy (USE) should be less than 0.002% in any Region in a year with a stricter Interim Reliability Measure (IRM) of expected USE not exceeding 0.0006% applying in the period through to 30 June 2025. Government sponsored generation projects, however, continue to be announced. Delta proposes that Jurisdictions may set a stricter reliability measure to apply to their Region by nominating a regional expected USE percentage to AEMO. AEMO

Design Elements Description
manages the PRRO Capacity Mechanism to bring expected regional reliability into line with Jurisdictional settings. e) Jurisdiction Capacity Mechanism Percentage: The ESB had already identified that Certificates should have a Regional property but did not address the extent to which inter-regional certificate could be used by liable entities to satisfy their PRRO compliance obligations. AEMO will have a view on what physical limits might apply to a Region's load being supported by Capacity from other Regions. The proposed 'Jurisdiction Capacity Mechanism Percentage' setting would allow each Jurisdiction to specify a percentage amount as the minimum percentage of Capacity Certificates each Liable Entity within that Region must source from suppliers within that Region. f) Jurisdictional Technology Preferences for Capacity: The Council of Ministers' guidelines include the ability for a Jurisdiction to nominate preferred technology types for new-build capacity within their Region that are to be supported by the Capacity Mechanism. PRRO auctions for new-build capacity to address future reliability shortfalls can include any nominated Jurisdictional technology preferences.

ATTACHMENT 4

Assumptions underlying Figure 2

Purpose

Figure 2 has been prepared for the purposes of illustration only using a simple deterministic approach to compare whether there is a deficit in NSW Capacity to serve the NSW 10%POE Maximum Operational Demand. It is illustrative only and in no way intended to substitute for the current methodology.

AEMO uses a different methodology for determining future expected levels of Unserved Energy for comparison with reliability targets which Delta supports.

Maximum Demand

Maximum Demand data is from AEMO's Forecasting Portal using the Draft 2022 ISP |Operational Demand Sent-Out |NSW | Step Change Scenario | P10 settings.

Demand Side Measures

Are as already included by AEMO in their Demand forecast.

NSW Capacity

NSW electricity supply capacity uses AEMO's November 2021 Generation information spreadsheet, using Existing less withdrawal, plus AEMO's Generator Nameplate Capacity and for NSW Committed, and Anticipated Projects except for Snowy 2.0 where one third of Snowy 2.0 Capacity is assumed available in FY25 and the remaining two thirds available in FY26.

ATTACHMENT 5

Compliance with Energy Ministers' principles to guide capacity mechanism development

Delta Electricity's proposed Capacity Mechanism was developed with the Energy Ministers' principles in mind and incorporates features to specifically address jurisdictional preferences. These are outlined in the table below.

Table 5 How Delta's proposed Capacity Mechanism complies with the Energy Ministers' principles

No.	ENERGY MINISTERS' PRINCIPLES TO GUIDE CAPACITY MECHANISM	DELTA'S PROPOSED CAPACITY MECHANISM COMPLIANCE
1	be consistent with the **National Electricity Objective**	Delta's proposed Capacity Mechanism (**CM**) will support the NEO primarily through better management of the transition to a high VRE future NEM. The **CM** is specifically intended to identify forecast reliability shortfalls and then call for investment in new capacity to address them. The principal outcome of the **CM** is ensuring long term resource adequacy in capacity through competitive processes, improving the reliability of supply to all customers with the most cost-effective mix of plant. The signals for the value of capacity will assist the orderly retirement of ageing thermal capacity by mitigating the effect of energy price shocks.

2	focus on **affordability, reliability, security,** and **continued emissions reduction** of electricity supply	The **CM** itself is technology-neutral but there is a proposed technology setting available to jurisdictions should that be required for a Region. The **CM** is principally designed to secure resource adequacy in capacity however, as most types of capacity can usually provide other essential system services, there will be additional system security benefits that should be maximised as a result of AEMO's objective of achieving a least-cost capacity mix. AEMO's least-cost mix objective should also over address the long-term affordability of electricity supply. The transition of the NEM to a high-VRE future is already underway and the **CM** will help usher that future in. The **CM** will secure reliability of supply by addressing the challenges during the transition to and during that low emissions future.
3	provide a **signal to value capacity** that best supports the needs of the NEM	Delta's **CM** explicitly, by design, provides signals for the value of capacity, both in the relatively liquid and highly traded T-0 to T-3 timeframe where liable entities are matching their quarterly Capacity Certificate (**Certificate**) holdings to their quarterly forecast maximum load, and over the longer term through the price outcomes of the reverse auctions for new-build capacity conducted by AEMO to address forecast reliability shortfalls.

4	**complement existing energy only market** design and well-functioning **markets** for **financial contracts,** and other reforms in development	Yes. Delta's **CM** features to promote the trade (contracting) in Certificates include: a. The quarterly compliance regime in the T-0 to T-3 period necessitates trading volumes; b. The **CM** design that certificates be fungible*; c. The **CM** design aligns certificate vintage with the Energy market trading convention of calendar quarters; The above properties b and c: d. simplify the specification of physical-delivery Futures products in Certificates; and e. Certificates may be stapled to energy derivatives, allowing certificate trading to 'piggyback' on Energy market trades. Also please refer Item 7 for comment regarding inter-regional contracting. * Note: Once Certificates are issued to suppliers in a Region, they are completely fungible in the hands of the liable entities in the same Region. Inter-regional fungibility exists subject to meeting any technical (interconnector transfer) or jurisdictional limits, refer Item 7.

5	**minimise regulatory burden** for market participants	The **CM** proposed by Delta also suggests that AEMO manage the Certificate Register. AEMO already knows the actual load that liable entities are exposed to. This places AEMO in the position of being able to perform important functions including: • quarterly liable entity compliance checking can be largely automated • actual liable entity compliance with any specified jurisdictional '% within Region' rules • the actual capacity mix versus the least-cost capacity mix can be monitored so future Certificate Auctions can move the mix closer to the least cost ideal. Liable entities will be required to undertake new activities to forecast their maximum load and to purchase Certificates to cover that Load. Delta considers the forecasting component is likely to be only an incremental additional burden as most liable entities forecast their load in detail already for energy hedging purposes. The additional Certificate trading burden would be no more burdensome than alternatives such as a capacity market and could be substantially mitigated through the stapling of Certificates with energy derivatives.

6	**safeguard energy consumers**. In particular: a. ensure costs and revenues are efficiently and fairly allocated; and b. avoid duplication of costs to secure reliability.	The **CM** design is intended to provide jurisdictions with settings so that their reliability and other objectives can be met within the one Capacity Mechanism process, helping to avoid duplication. By securing resource adequacy in capacity through competitive processes and through the transparency of published reliability forecasts and auction results, overbuild (duplication) of capacity should be avoided. At times of capacity oversupply, Certificate market clearing prices would be expected to be low with all Certificate suppliers will receive the market price. Scarcity pricing of capacity should be rare as the **CM** will have ensured adequate capacity supply, instead Suppliers who built new capacity in response to a Certificate Auction will receive a top-up (positive or negative) payment so they, in net, receive their Auction clearing price.
7	ensure sharing of resources across the NEM by **supporting inter-regional contracting**	The **CM** allows for inter-regional trade in Certificates subject to: a. any jurisdictional limits on the % of Certificates liable entities must acquire from within the Region; b. Possible jurisdictional limits on technology (if a jurisdiction has specified that is wants no new build of Technology A within its own Region, then a design question arises as to how best to implement that preference at the compliance assessment stage, the alternatives being to either permit or exclude (excepting the Region's grandfathered facilities) Certificates of a particular technology against that Region's load; and c. AEMO's assessment on the MW quantum of physical interregional capacity that can be considered available to support a region's reliability shortfall.

8	provide **greater certainty around closure dates** of exiting generation	By recognising the value of capacity that all generators provide to the NEM, a **CM** will provide an additional revenue stream to all participating generators. At times of capacity oversupply, Certificate market clearing prices may be low but all Certificate suppliers will receive the same market price. A thermal generator in service at its minimum load with a fuel cost of, say, $60/MWh incurs a negative margin whenever spot energy prices are below $60/MWh. For thermal generators close to retirement, any separate revenue stream mitigates the revenue shock from periods of low or negative spot energy prices. By reducing revenue uncertainty, retiring thermal generators can plan future operations with greater certainty.
9	**mitigate** reliability risks presented by **unexpected closures** of existing capacity	Refer the response to item 8. While Delta's **CM** renders unexpected closures are made less likely, they could still occur. Delta's **CM** includes that AEMO should be able to conduct special Auctions at any time, including within the T-0 to T-3 period, to address identified reliability shortfalls as some capacity technologies may be able to provide additional capability within the time available. The RERT remains the backstop for unexpected reliability shortfalls occurring in the short term.
10	encourage the **timely replacement** of existing capacity through driving commitments to new investment within reasonable notice periods of closure of existing capacity	Achieving timely, least-cost new-build capacity is precisely what the **CM** is designed for. In addition, the **CM** increases the certainty of capacity closures as described in Item 8.

11	to the extent it does not conflict with state and territory policies, be **technology neutral** to ensure a focus on the ability of each resource to deliver generation on demand, for the periods when it is most needed a. Jurisdictions must be able to determine, via their regulation, provided for in the National Electricity Law framework, which technologies are eligible for participation in a capacity mechanism in their region.	Delta's **CM** itself is technology neutral, however technology does play a part in the implementation of the mechanism in important ways: a. The extent to which specific facilities can provide firm capacity to address reliability risk periods will depend in part on their technology (e.g. obviously Solar PV will not be able to provide firm capacity outside daylight hours). b. the proposed **CM** specifically allows jurisdictional technology preferences (where specified) to be implemented. Implementation would be via conditions in Auction terms and conditions expressed on a Regional basis. c. the ESB advises that the Energy Ministers, separate to these 'Principles', have given AEMO an objective: "the ESB's work is to *develop the design for a market mechanism that ensures investment in an efficient mix of variable and firm capacity that meets reliability at the lowest cost."* Delta notes this objective implies a target mix of technology types that minimises long-run costs as the ideal mix.
12	recognise relevant **state and territory policies and investment schemes** to account for bespoke arrangements to retain and replace existing capacity	The **CM** does not constrain sovereign decisions of the States or Territories. It does provide jurisdictions with optional settings to tailor capacity outcomes in their Region. Jurisdiction-supported projects are free to participate in **CM** processes including the Certificate market between T-0 and T-3 and in Certificate Auctions, but only auction winners may receive AEMO top-up payments to receive at T-0, in net, the auction clearing price.

13	**enable jurisdictions to opt out**, via the National Electricity Law framework	Opting out of the **CM** simply means that if a jurisdiction chooses to opt a Region out of the **CM**, from that time forward AEMO would, for that Region: a. Issue no Certificates; b. Conduct no **CM** compliance checks; and c. conduct no Certificate Auctions. The system would revert to a similar situation as at present where AEMO conduct its Reliability Assessment and Reliability Forecasts, published each year, and either the jurisdiction or the market makes decisions on any new-build capacity to address any reliability shortfalls. It should be recognised that in an interconnected system there will be spill-over effects such as increased reliability levels due to capacity built in one Region may help increase reliability in adjoining regions. If reliability costs are regionalised, then differences in Regional reliability targets could result in cross-subsidies between consumers in different Regions.

14	**enable jurisdictions to opt in**, through triggered thresholds for the mechanism	The **CM** includes three optional jurisdictional settings for tailoring Delta's **CM** outcomes within a jurisdiction, if required: Proposed jurisdictional settings are: a. Jurisdictional Reliability Standard: jurisdictions may set a stricter reliability measure to apply to their Region by nominating a regional expected USE percentage to AEMO. b. Jurisdiction Capacity Mechanism Percentage: each jurisdiction may specify a percentage amount as the minimum percentage of Certificates each Liable Entity within that Region must source from suppliers within that Region. c. Jurisdictional Technology Preferences for Capacity: each jurisdiction may nominate preferred technology types for new-build capacity within their Region that are to be supported by the Capacity Mechanism. Delta's **CM** assumes the default starting point, unless advised otherwise by a jurisdiction, would be: • all Regions are opted-in until advised otherwise; and • all regions have the same reliability standard (expressed as Expected Unserved Energy %) until advised otherwise.