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Design Development Team
Northern Territory Electricity Market Priority Reform Program
Department of Treasury and Finance

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Submitted via e-mail: electricityreform@nt.gov.au

Re: Design of the capacity mechanism consultation paper

Power and Water Corporation (Power and Water) appreciates the opportunity to make a submission on the Reliability priority changes consultation paper on the *design of the capacity mechanism* released as part of the Northern Territory Electricity Market (NTEM) Priority Reform Program.

Power and Water performs two important roles in respect of the three regulated power systems in the Northern Territory, one as the Network Operator and the other as the Power System Controller (System Controller). This submission is made from the System Controller's perspective given the proposal for the Reliability Manager role to be performed by the Power and Water in its capacity as the System Controller.

Power and Water agrees with the Northern Territory Government's view that there is a need to undertake reform to support reliability as part of the NTEM Priority Reform Program. An effective capacity mechanism will incentivise investment in generation needed to deliver reliable supply to customers and will reduce the risks of potential capacity shortfalls.

The attached submission focuses on a number of areas where Power and Water considers further analysis and information is warranted as the detail design of the mechanism is progressed. The successful implementation and application of the mechanism will depend on participants having both appropriate incentives and a comprehensive understanding of the operation of the mechanism. This requires both sufficient transparency in the arrangements, and appropriate identification and management of the risks under the mechanism. Testing the proposed mechanism under various scenarios will help to achieve this.

Power and Water is committed to work closely with the Design Development Team to ensure that the Northern Territory Government's preferred policy solutions are workable from a system operation perspective and the policy objectives are achieved at least costs for consumers.

If you have any questions about this submission, please contact Zaeen Khan on 0422 727 925 or email zaeen.khan@powerwater.com.au.

Yours sincerely

A handwritten signature in blue ink that reads "Djuna Pollard".

Djuna Pollard
Chief Executive Officer
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Power and Water submission in response to the design of the capacity mechanism consultation paper

1. Response to Chapter 2 – Reliability standard and assessment framework

1.1. General comments

While the consultation paper acknowledges that it is not intended to cover the reliability standard, Power and Water considers it important to recognise the significant relationship and interdependencies in reliability standard setting and the reliability framework. Setting the reliability standard should be prioritised, as it would be challenging to design and apply any capacity mechanism without knowing the form of the reliability standard.

The consultation paper notes that the form and level of the reliability standard would be progressed through a separate process. Power and Water assumes that alignment with initial expectations of capacity requirements in the development of the reliability standard is important, and as such the following specific reasons, outline why the System Controller should be involved in the development of the standard:

- a) The consultation paper noted that expert assistance would be sought to undertake modelling of the impact on the supply of electricity delivered to customers (for different levels of reliability) and the associated capital and operating cost implications.¹ Power and Water agrees with this approach. However, we are of the view that the System Controller should be closely involved in this work and have some oversight over the modelling.

This is because the analysis undertaken for the purposes of setting the reliability standard should aim to develop and use the same process and assumptions to be used in determining capacity needs. If modelling is done externally using different assumptions, there is a risk of some methodology misalignment between the reliability standard and capacity needs determined by the System Controller as the proposed Reliability Manager.

- b) The reliability standard will represent an economic trade-off between the desired level of electricity supply reliability and the associated capital and operating cost implications. To perform this cost-benefit analysis, we expect that cost data would be required, potentially, including from the System Controller.

It is important that the capacity mechanism adequately supports market entry and provides value to customers. To achieve this, the design of the capacity mechanism needs to complement the wider Government policy objectives.

1.2. Response to consultation paper questions

Question 1: What other matters need to be considered in determining who should undertake the Reliability Manager function for the DKIS?

Power and Water agrees with the proposal for the Reliability Manager function to be undertaken by the System Controller. However, it should be noted that the System Controller does not currently have the resources nor funding to undertake this role. In addition, oversight of the Reliability Manager role by the Utilities Commission should be considered and incorporated into the processes.

¹ Department of Treasury and Finance, NTEM Priority Reform Program – Reliability priority changes, consultation paper, p. 5.

We are of the view that, in its role of the Reliability Manager, the System Controller would need additional information, particularly around the performance of existing generators, the projected entry of new generation and data on maintenance cycles. Historical data alone would not be sufficient to perform the functions of the Reliability Manager.

2. Response to Chapter 3 – Approaches to achieving the reliability standard

2.1. General comments

The consultation paper raises the suggestion that the Northern Territory Government would have the option to require a certain percentage of capacity to be sourced from renewable sources.² Power and Water agrees on the need to consider the interactions between the capacity mechanism and Government policy, but it is unclear how this would be effective in achieving the intended objective.

Generally, a renewable energy target is based on energy generated, not capacity. Requiring a certain level of capacity to be made up of renewable generators is unlikely to be an efficient way to meet an energy target. Further it may be also difficult to determine whether a generator's capacity is renewable, as some may have battery storage that can be charged from the grid.

Careful consideration is needed on the role of the capacity mechanism to support the Northern Territory Government's 50% renewable target and the interdependencies between these. Without supporting price signals, the capacity mechanism is unlikely to achieve this target by itself and in the absence of clarification on this matter, there is an unintended potential for investment uncertainty.

Additional complexity in the capacity mechanism may also result in the risk that the mechanism does not meet its intended purpose of ensuring sufficient capacity is in place to meet the reliability standard. Due to the differing nature of the reliability standard to the renewable energy target, the delivery of these objectives should ideally be through two distinct mechanisms to ensure both objectives are met efficiently without unnecessary complexity. Although there may be some efficiencies to be made by planning and forecasting process undertaken by the Reliability Manager to achieve these two objectives, these efficiencies could be maintained through separate mechanisms. Therefore, Power and Water considers that other options should be explored more thoroughly before proceeding on the basis of bundling these two objectives together into a single process.

Furthermore, the capacity procurement approach as outlined in section 3.2 of the consultation paper, could be interpreted as being too complicated leading to higher costs and impacting on the effectiveness of the mechanism. We note the difficulties in trying to strike the right balance in the complexity of the design and appreciate that the Design Development Team has explored a range of approaches.³ This submission raises a number of further opportunities to improve the processes in order to minimise the associated costs and improve participation.

2.2. Response to consultation paper questions

Question 2: Are the proposed arrangements for acquiring capacity an appropriate balance between cost to administer, certainty and flexibility for retailers in choosing how to procure capacity?

Power and Water supports the proposed policy intent to provide retailers with the choice of directly contracting with capacity providers to meet their obligation or leaving the acquisition of capacity to the Reliability Manager. However, an important consequence of this arrangement is that if retailers do not

² Ibid, p. 8.

³ Ibid, pp. 7-8.

procure capacity, it would leave the Reliability Manager with significant risk. It is crucial that the incentives on participants work as intended to encourage retailers to meet their capacity commitments.

3. Response to Chapter 4 – Detailed design elements of the reliability framework

3.1. General comments

In line with the structure of the consultation paper, our response to the Chapter 4 includes our comments in relation to the following design elements:

- Determining the forecast of required accredited capacity
- Allocating capacity requirements to retailers
- Ex-post review and reconciliation
- Capacity price.

Determining the forecast of required accredited capacity (section 4.1 of the consultation paper)

Power and Water considers that the cost and performance of any capacity mechanism are dependent on accurate forecasts and it is challenging to produce accurate forecasts in a transitioning industry. We broadly agree with the proposed approach to forecasting required accredited capacity and appreciate that more detail is needed in relation to the forecasting methodology development and governance of this process, including on the following:

- Power and Water supports the proposed rolling four-year planning period. In our view, this is reasonable and provides an appropriate balance given that usually committed projects take around 3 years to become operational. However, we are concerned that accurate forecasting would become very difficult more than 4 years out. The System Controller would require significant amount of additional data inputs to make such forecasting accurate.
- We agree that System Controller should have a central role in producing forecasts, however there needs to be some regulatory oversight, potentially, in a form of a guideline developed through an open and transparent process. The most appropriate approach might be for the System Controller to determine the forecasting methodology as proposed but with this being subject to a regulatory approval. The methodology will need to be subject to review over time to ensure improvements can be made.
- There would be some interactions between capacity forecasting and network connections. Specifically, we consider that processes would need to be established for a new plant to provide status reporting. This should include consideration of whether penalties should apply if a new plant commissioning is late.

Further detail is needed on how network constraints would be managed for the purposes of the capacity mechanism. Whether network constraints on capacity are applied at the individual plant level to the accredited capacity or through forecast regional requirements needs to be determined.

Expanding the scope of existing annual Transmission and Distribution Annual Planning Report beyond the current five-year horizon for the distribution network and 10 years for the transmission network is likely to be useful for network planners and potential investors. This could take the form of an integrated system plan for the Darwin-Katherine Interconnected System (DKIS) and could possibly include a statement of

opportunities (i.e. capacity available at each node). The timing for such integrated system planning needs evaluating, including how it would align with the Australian Energy Regulator's five-year regulatory cycle and the four year capacity planning period.

Allocating capacity requirements to retailers (section 4.2 of the consultation paper)

In principle, Power and Water supports the Design Development Team's proposed approach, subject to further clarification on the following issues:

- The approach to defining peak events – or hours at risk – when capacity is needed should be further explained. We consider that determining at-risk hours would be a difficult and an important role of the Reliability Manager. With extreme weather, peak issues are becoming more diverse and, with the changing nature of the power system, hours at risk may not always be those at the time of maximum demand. There is a need for clarity on what should be the principles and processes for determining at-risk hours.
- The consultation paper was not clear whether the retailer's demand would be based only on historical market shares or whether other factors would be taken into account when determining a capacity requirement. Our view is that the overall process does require forecasting requirements forward – to determine and fill any shortfall in time. However, it would be difficult to set requirements for retailers especially as they are getting established. This potentially could be dealt with by later trading of capacity certificates and either ex-ante or ex-post compliance checks close to delivery.
- Further consideration should be given to what would be the sanctions/penalties if retailers do not provide sufficient proof that they have met their obligations ex ante. The process under this scenario should be set out including whether retailers will be deemed to have opted into the Reliability Manager procurement option.

Ex-post review and reconciliation (section 4.3 of the consultation paper)

The consultation paper proposes that the Reliability Manager will, on an annual basis, review whether sufficient actual physical capacity was in place and whether each retailer met their capacity obligation. If there is a net surplus and no retailers are in deficit there will be no adjustment required and each retailer will carry the cost of its own surplus. Where there is a net surplus but some retailers are in deficit, retailers will have a further two months to trade on a bilateral basis before mandatory adjustments at the capacity price are made by the Reliability Manager.

In the event that the ex-post review determines that there was a net deficit in contracted capacity, retailers in deficit will pay the Reliability Manager for the amount of their individual shortfall(s) at the capacity price plus a ten per cent premium.⁴

A capacity mechanism aims to ensure the resources are available to deliver the reliability standard - this means delivering reliable supply under a range of extreme outcomes.⁵

A clear process is needed that would specify retailers' accountabilities well ahead of time and how these accountabilities are translated into capacity available when needed. It also should be recognised that availability of capacity would change over time. We recommend considering how the differences between the four-year out expectation and real-time availability may change the actual reliability outcomes.

⁴ Ibid, p. 14.

⁵ How extreme depends upon both the definition of the standard and the at risk hours.

While Power and Water agrees that there is a need to establish processes to ensure that each retailer has carried its allocated share of costs, these processes should not be duplicative. Therefore, we consider that further explanation is needed in relation to:

- International practice is often to reconcile contracted capacity with capacity obligations either ex ante or ex post – not both. It is not clear why ex ante validation and ex post reconciliation are both required. The inclusion of both ex ante and ex post compliance mechanisms risks being over complicated and adding to costs.
- It is not clear why there needs to be a process for both bilateral reconciliation and for centralised reconciliation. If parties know they will be subject to central reconciliation at the capacity price, there will be little incentive to trade bilaterally at a different price.

Capacity price (section 4.4 of the consultation paper)

A key gap identified by Power and Water in the propose capacity mechanism is how the procurement and contracting process is expected to work. Our initial views are presented below and we would welcome the opportunity to engage further with the Design Development Team on these matters as the process is developed from a policy and implementation perspective.

- **The methodology to determine the price needs further clarification:** The paper contains some limited discussion about determining the marginal cost of capacity. Power and Water considers more information is needed on how this theoretical approach would work in practice, including:
 - What would happen if the price is insufficient to incentivise entry
 - Whether the capacity price would be determined by what the Reliability Manager has to pay for capacity
 - How a 1 MW increment approach would work given the lumpiness of capacity
 - How any risk of over-procurement is allocated.

It is likely that the Reliability Manager could have to ‘over-procure’ against the target and there would be residual costs of additional capacity which is procured as a result of lumpiness given that it is not efficient to procure capacity in 1 MW increments.

- **The Reliability Manager may be exposed to some financial risk:** It is important for the Reliability Manager to remain cost neutral and not be exposed to any financial risk. We consider that the arrangements for capacity pricing and recovery of costs by the Reliability Manager need further consideration. Specifically, it is not clear whether the benchmark capacity price would be sufficient where the Reliability Manager is contracting for capacity. In practice, the price for capacity is likely to be determined by what the Reliability Manager (and retailers) has to pay to contract for the capacity.

While the benchmark price could apply for some purpose, the Reliability Manager (or the financial body holding contracts procured on the advice of the Reliability Manager) need to recover their actual costs and not be exposed to a difference between the calculated capacity price and its contractual obligations. Once procured, the contracted costs for the term of the contract (potentially 20 years) should be recoverable from customers.

- **Purposes of the capacity price:** It is not clear that it would be possible to calculate one price that can be used for so many different purposes. If the mechanism allows very low prices, this would imply that the availability incentives stop working (as there would be very limited penalty for non-availability).

Further analysis on the capacity price would aid the final design including consideration whether the current approach achieves sufficient incentives for both new entry and availability.

Power and Water understands the policy design intention is for the Reliability Manager to be the last resort procurer of capacity in order to minimise barriers to entry for small retailers. However, the procurement process by the Reliability Manager has not been discussed in any detail. We consider that there is a need to develop the next level of detail in relation to the procurement process with a focus on the following issues:

- There needs to be a clearly defined process and timeline setting out when actions occur under the procurement process. The timeline should allow enough time for the Reliability Manager to undertake the procurement process and have a plant installed and commissioned to maintain reliable supply to customers. There needs to be a clear cut-off point when the Reliability Manager starts the procurement process due to the forecast gap in capacity.
- Whether the Reliability Manager is allowed to only be able to enter into capacity contracts for the year 4 or longer duration of contracts need to be clarified. This should be considered in the context of new generation entry and whether the capacity price for a single year would be a sufficient incentive for new investments.
- More guidance should be provided on how the Reliability Manger should evaluate trade-offs and the need to balance risks and costs, especially considering the length of commitment.

Power and Water also considers that it should be further clarified whether settlement would be with generators/capacity resources or with retailers who have contracted for those resources.

3.2. Response to consultation paper questions

Question 3: Do the proposed timeframes in Figure 1 allow sufficient time between the Reliability Manager advising capacity obligations for Year 4 and retailers notifying the Reliability Manager of their purchasing intentions (that is, either the retailer will procure for itself or the retailer requests the Reliability Manager to purchase on its behalf)?

Power and Water considers that the summary of key tasks and timing needs to be further expanded and include a clearly defined process and timeline for the procurement process by the Reliability Manager. While the timeline should allow participants to solve their own shortfalls before instigating action by the Reliability Manager, it also should allow enough time for the Reliability Manager to undertake the procurement process and have a plant installed and commissioned to maintain reliable supply to customers. There needs to be a clear cut-off point when the Reliability Manager starts the procurement process due to the forecast gap in capacity.

Question 4: What issues and constraints need to be considered in adjusting contracts in response to capacity obligation resets in earlier years (Years 1 to 3), noting the rolling nature of the capacity mechanism should mean these are relatively minor?

There needs to be careful consideration on permitting the ability to adjust contractual commitments after the contract has been entered into. While in practice, such adjustments could be very minor, the ability to do so would create uncertainty and risks for service providers, which in turn could lead to higher prices. This is another example of where greater consideration and explanation would be beneficial on how the Design Development Team envisages the procurement and contracting process being applied.

4. Response to Chapter 5 – Accreditation of capacity

4.1. General comments

Power and Water generally supports the proposed process for accrediting capacity. We agree that the degree to which different capacity sources are capable of contributing to reliability varies due to location, technology type and a range of other factors, which impact on the availability of the plant.⁶ However, more detail is needed to understand how the accreditation process would work, including on the following issues:

- While the Power and Water understands that the concept of the Effective Load Carrying Capacity (ELCC) is used in a number of international markets and also in Western Australia, it is not clear whether this mechanism would be fit-for-purpose for the DKIS given its complexity.
- Intermittent plants to the south of Channel Island may need to be assessed separately, given the constraints on the Darwin to Katherine 132kV transmission line.

4.2. Response to consultation paper questions

Question 5: Is a more complex process warranted for determining accreditation of controllable units? If so, please explain why, and describe your proposed process.

Power and Water considers a more comprehensive accreditation process is warranted. In our view, a long-term probabilistic assessment would be a more effective approach for accreditation of capacity purposes. Rather than considering a single risk scenario that may undermine the risk, the full range of possible outcomes, the likelihood of each of these outcomes and their associated impacts must be considered. For instance, the probability of generator non-starting needs also be included in the assessment.

Question 6: Are the proposed timeframes (previous 12 month performance; 48 hour pre-approval; 30 minute start window) suitable for deriving the discount factor?

Power and Water is of the view that more than 12 months' worth of generator performance data and information would be needed to set a discount factor. Given the stochastic nature of plant outages, the 12-month sample would not be big enough. In addition to the frequency of outages, the mechanism should allow for consideration on the reasons of outages. That is, simply calculating the number of outages might not be enough. The appropriate treatment of new generators with no performance history needs to be explained.

Question 7: How important is certainty in the level of capacity accreditation granted to intermittent plant, noting generators have access to capacity and energy streams of income?

Power and Water considers that generators and investors are better placed to comment on this issue.

We are of the view that further consideration should be given to what implications the reforms may have on entering generation. For example, there may be an incentive for generation/battery storage to delay entry until the start of the capacity mechanism. This is because existing participants may lose an income stream by unbundling energy and capacity and the lack of capacity income may present a disincentive for new entrants.

Question 8: What indicators provide the effective signals to prospective entrants about the benefits of connecting to the network including in areas where access is likely to be constrained?

⁶ Ibid, p. 15.

Power and Water considers that generators and investors are better placed to comment on this issue.

Question 9: What approach – a variable accreditation approach or an approach that preserves the accreditation of incumbents or early movers – is likely to result in long term efficient outcomes and best serve the interests of consumers?

Power and Water agrees that both approaches have advantages and disadvantages. Capacity factors need to be based on capacity that can be delivered during hours at risk. We acknowledge that accreditation factors that change over time could deter investors. However, actual performance is likely to change over time, and there are risks in 'locking in' Effective Load Carrying Capacity - doing so would move risk to customers.

5. Response to Chapter 6 – Management of maintenance via capacity out-of-balance

5.1. General comments

Power and Water would like to stress the importance of setting the incentives right, both for availability of capacity and to incentivise retailers to enter into contracts. The successful implementation and application of the mechanism will depend on participants having both appropriate incentives and a comprehensive understanding of the operation of the mechanism.

Some aspects of the capacity mechanism have insufficient detail in the consultation paper to provide useful feedback, in particular the detail of how accredited capacity is traded as compared to the management of capacity out of balance. This appears as a result of not clearly distinguishing at all times between the two concepts of actual capacity and accredited capacity. To provide feedback in the context of this paper, Power and Water assumes that accredited capacity is used between capacity providers and retailers (bilaterally or via the Reliability Manager) for contracting purposes and the ex-post review with retailer capacity obligations. Conversely, the concept of out of balance capacity is on the basis of actual capacity difference to the accredited capacity when the reserve scaling factors apply and is from one capacity provider to another.

It is also unclear how the variability of actual capacity for intermittent capacity providers would be considered with respect to capacity out of balance. Assuming for the purpose of an example that a solar PV installation with no storage was accredited for some level of capacity it is unclear what level of known interruptions to its available capacity are considered to be planned or unplanned. During overnight periods no actual capacity is available and could be treated as planned or unplanned and have consequences with respect to the scaling factor. The ELCC approach should ensure that if the periods where capacity is most required correspond with the periods that the intermittent provider is unable to contribute to capacity it would result in no accreditation of capacity. However as part of ensuring actual capacity is available when needed, interaction with the ELCC methodology for accrediting capacity needs to be explored further to ensure there are no unintended consequences.

Based on the assumptions above and the information provided in the consultation paper, we are not sure if the price signal would be sufficient which could in turn lead to compliance issues. How to remunerate participants who provide a range of different services should also be further explored. For example, battery storage could arbitrage energy (and therefore support reliability), could supply essential system services (e.g. contingency FCAS) or network support, or some combination of these. It will be necessary to establish processes to understand how participants are operating in real time and how they should be remunerated for each service provided. For instance, the contribution to reliability will be driven by the energy stored.

5.2. Response to consultation paper questions

Question 10: Do the arrangements described in section 6 create a satisfactory balance of risk and reward for managing the timing of presentation of capacity?

The operating incentives from the dispatch and pricing arrangements proposed would appear to be limited. With dispatch pricing based solely on the marginal short run cost of generators, some participants could be indifferent as to what happens in the real-time market. This has been a problem in a number of capacity markets internationally and ‘price adders’ and other arrangements have been instituted to deal with that. The mechanism also may not provide sufficient incentive for participants to plan outages with reasonable notice as short notice approved outages would not have any scaling factor applied under moderate or moderate-high reserve scenarios. Whether the proposed design would strike the right balance between incentives and risks to make it attractive for market participants to ensure capacity is available at the time of need should be tested further under a range of scenarios as part of finalising the magnitude and exact nature of this aspect of the capacity mechanism.

6. Response to Chapter 7 – Transition

6.1. General comments

To assist market participants familiarise themselves with concepts, roles and procedures, the proposal in the consultation paper is to operate the capacity mechanism on a virtual basis until 2025-26, at which point retailers would become fully accountable.⁷

Power and Water supports the intent to assist market participants to understand and prepare for full mechanism operation. In this context, we consider that alignment with the essential system services (ESS) reforms is critical. Smooth transition is key to successful reform implementation.

Power and Water expects that more issues for further work will arise once the modelling has been conducted in respect to the level of the reliability standard and it is possible to compare actual and required capacity. For instance, total capacity may need to be set to what is currently available, as there will be insufficient time to seek contracts or additional capacity, if required. Further this submission highlights a number of aspects of the design where further explanation and consideration would help participants.

The proposed timeline for reform implementation could be tight. After the requisite timeframe for implementation, the subsequent four-year time horizon approximately corresponds to when Territory Generation (T-Gen) is targeting retirement for a significant portion of their generation fleet. This will affect approximately 180 MW of capacity, and will also affect the supply of essential system services, which are currently predominantly supplied by the generators scheduled to be decommissioned.⁸ Given these issues, there may be a need for an interim mechanism that would allow procuring additional capacity while the permanent capacity mechanism is under development and implementation. One option for transition may be running multiple single year auctions as was done in Ireland.⁹ This approach may be relatively simple if

⁷ Ibid, p. 23.

⁸ Utilities Commission, NT Electricity Outlook Report 2018-19, Table 14: Existing and committed generator units in the Darwin-Katherine power system, p. 56.

⁹ As a transitional arrangement, a mandatory Capacity Remuneration Mechanism was introduced in Ireland. The mechanism used reliability options (RO) which were purchased in an annual uniform auction with two types of

retailers' bilateral contacts would meet reliability needs. However, we consider that setting the reliability standard first is critical and it would be challenging to design any reliability mechanism without knowing what the reliability standard is.

Overall, more detail needs to be settled before transition can be worked through. Systems and procedures for accreditation of capacity, forecasting requirements, retailer obligations and the procurement process need to be developed in consultation with industry over a sufficient period of time to resolve issues arising in the detail of implementation before the transitional period commences. A mechanism and a plan (including timetable cognisant of implementation times) should be developed to coordinate work across Government agencies, Power and Water and market participants.

6.2. Response to consultation paper questions

Question 11: Will the proposal to operate a virtual capacity mechanism and the associated timeframes be helpful in assisting participants to understand and prepare for full operation?

Power and Water considers that to operate a virtual capacity mechanism would be helpful for market participants but more information on the mechanism design is needed in the first instance.

Question 12: What other information or initiatives would be helpful to inform participants on capacity mechanism operations in order to prepare for live operation of the mechanism in 2025-26?

Power and Water considers that additional information/analysis on the following issues is needed:

- Development of the reliability standard should be a priority for the Government, as this will inform the design of the capacity mechanism.
- Further consideration of the role of the capacity mechanism to support the Government's 50% renewable target and any interdependencies is needed.
- Further analysis is required on the risks arising from the capacity mechanism and the allocation of these risks under the proposed design. The legislative framework needs to de-risk the mechanism for the System Controller.
- The approach to defining peak events – or hours at risk – when capacity is needed should be further explained.
- More information on the accreditation process is needed.
- The capacity price needs further consideration, particularly given the range of roles it is intended to be used for. A capacity price that could be very low would not be an effective incentive when used in real time.
- Arrangements for transition need to address any immediate capacity issues in advance of the capacity mechanism start.

auctions planned: T-4 and T-1 when auction was held four and one year before delivery, respectively. RO is a financial instrument that entitled the System Operator to receive a difference payment from a generator if the price in the electricity market exceeds a pre-defined strike price. Therefore, the load is hedged against high prices in the spot market. As a first step, EirGrid established how much capacity was needed to secure the supply of electricity in the market, then in an auction it purchased the requisite amount of ROs to cover that capacity. The auction cleared at the minimum price that was needed to procure the desired amount of RO capacity.

- Detail on the regular (presumably consistent with energy settlement timetable) settlement of out of balance capacity of capacity providers based on availability incentives as compared to the annual ex-post review of accredited capacity and retailer obligations.
- There are a range of accountabilities and governance issues that need to be considered with respect to the roles of the System Controller, Utilities Commission and the Government.

Question 13: Alternatively, rather than applying a virtual capacity mechanism until 2025-26, do you consider that an earlier commencement of a full operational mechanism is possible and preferred?

The four-year time horizon approximately corresponds to when T-Gen is targeting generation retirement. Given this and as discussed above, Power and Water considers there may be a need for an interim mechanism that would allow procuring additional capacity while the permanent capacity mechanism is under development and implementation.

7. Response to Chapter 8 – Implementation

7.1. Response to consultation paper questions

Question 14: Do stakeholders have an alternative preferred option to implementation through legislative and regulatory change?

Proportionate legislative arrangements are needed to provide certainty and guidance to all parties. Power and Water agrees with the option for a head of power and high-level framework to be contained in legislation, while more detailed rules, such as the detail of the actual calculation methodologies, should be placed in instruments (the System Control Technical Code or a procedure).

Further work is needed on ensuring that the balance between legislation and regulations is appropriate and practical. The flexibility to amend design features of the framework through the standard process for regulations should be maintained to enable the framework to be amended and refined in reasonable timeframes. It is also important that there is sufficient and clear compliance and governance arrangements to support the implementation of the reliability framework.

Contextually, it is important to note that the framework for regulating the power system industry in the Northern Territory is split across many instruments and overly complex. Although this is partially a result of transition to the NT National Electricity Rules, the introduction of new instruments could exacerbate this issue. The local complexity and inconsistency with respect to the NER could impact the ability of participants to comprehend the arrangements and comply. It could also impact implementation if rule making is required across multiple instruments via different mechanisms which may be difficult to coordinate.

Given the complexity and revenue impacts of the reliability framework, Power and Water recommends that there is adequate time for consultation and engagement on the proposed legislative and regulatory package. As identified in this submission, there are material risks under the framework for service providers which need to be adequately tested and managed in the framework. The proposed framework could also benefit from testing under various scenarios to ensure its robustness for the future. Overall the implementation of the framework must be undertaken in a careful and reasonable process to avoid unforeseen consequences.