Ref. CBD.LT. 6426. DITT.SR

12 March 2021

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Design of the Capacity Mechanism
Consultation Submission

Eni Australia Limited (EAL) makes this submission to the Design Development Team of the Northern Territory (NT) Department of Industry, Tourism and Trade (DITT) for the "Consultation Paper: Design of the capacity mechanism".

Background

The Eni group has been present in Australia through its subsidiaries since year 2000. Eni Australia BV is the operator and 100% owner of the Blacktip Gas Project which has supplied domestic gas to the NT since 2009. In January 2019, EAL completed the acquisition of a construction-ready solar photovoltaic (PV) project near Katherine, from Katherine Solar Pty Ltd, a joint venture between Australia's Epuron and the UK-based Island Green Power. This project is about to commence compliance testing. In October 2019, EAL completed the acquisition of two further construction-ready PV projects at Batchelor and Manton Dam, from NT Solar Investments Pty Ltd, a wholly owned subsidiary of Australia's Tetris Energy. These projects are currently under construction.

Response to Consultation Questions

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

The System Controller is a reasonable choice for this task, provided that it is excised from Power and Water Corporation. As we have previously mentioned, there are potential conflicts of interest that make it inappropriate for the System Controller to remain within PWC. It should also be independently and properly regulated to ensure it gives proper consideration on costs to all system participants, including customers, when making choices about system security.

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?*

The most important factor for this question is the reliability standard that will be used. EAL requests that the reliability standard be specified as early as possible in this process as meaningful comment on other questions heavily depends on the quantum of this standard. Otherwise, the proposed arrangements appear suitable to allow retailers to contract their requirements directly, while allowing the Reliability Manager to act as a back stop.

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)? If no, please explain your answer.*

While four years is a good balance between the need for contracting certainty and the time required to build new infrastructure, project development timeframes can be considerably longer. There is also considerable uncertainty about expected retirement dates for incumbent generators, which should be known to the market in order for new capacity developers to plan their investment decisions.

Therefore, there would appear to be some benefit for all participants if expected capacity obligations were to be provided by the System Controller on a longer time period than just four years and there was an obligation on existing generators to publish their retirement dates well in advance, as in the NEM. In the latter case, if generator retirement announcements were provided four years ahead then this would align well with the proposed timeframes in the capacity mechanism.

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?*

Due to load forecasting errors, it is not clear, or guaranteed, that these resets will be relatively minor. They could introduce significant financial obligations regarding over or under investment, in the context of an overall load shape that has changed significantly in recent years and is likely to continue to change in unpredictable ways. As long as errors in the forecasts of the Reliability Manager are compensated by the overall market, rather than individual participants, then this situation appears unavoidable to some extent.

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

With the age of the existing generation fleet, there would appear to be some merit in differentiating the reliability of incumbent generation compared to the likely higher reliability of new entrant generation. With approximately 100 trips per year on the DKIS attributable to generation, normal benchmarks of the reliability of generation plant do not seem to apply to the incumbent fleet and this should be recognised in their accreditation of capacity.

In addition, while the ELCC approach is well understood, the “devil is in the detail” regarding auditing the ability of generators to start (or black start) and provide capacity for different periods. For example, if a generator was to be liquid fuelled and have fuel storage for x hours,

how will this be deemed to be sufficient for capacity purposes? Especially when the capacity mechanism may be the primary reason for the existence of such a generator when the market is no longer over-supplied with capacity. The same argument applies to batteries, where the impact of different storage durations on the capacity mechanism has not been made clear.

So without a more complete picture of how the ELCC concept will be utilised in practice, it is difficult to comment on how appropriate it might be for the DKIS, as opposed to the WEM for example, which appears to be the nearest implementation of this concept.

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

Given the variability of reliability performance for many incumbent generators on a year to year basis, together with their long track record, there would appear to be no reason to not cast back over a longer time period than 12 months to assess their likely performance going forward. This should act in combination with degradation factors for increasing age as well.

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?*

This is very important. In order to reduce the cost of capital for renewable energy investments, it must be seen to be a low risk investment. The technology itself is inherently low risk and it is imperative that regulations reflect this same outcome for a capital intensive form of generation. Arrangements must be put in place that provide predictable sources of income. Any potential loss of income through the capacity mechanism would otherwise have to be fully compensated through higher energy charges, where renewable generators derive potential windfall gains in any given year without actually doing anything to deserve them and there would be no benefit in terms of reduced energy charges from a plant that already has zero marginal cost to generate, once built.

By the way, EAL prefers the term “variable” compared to “intermittent” plant. Conventional generators are “intermittent” when they trip 100% of their output in an instant, whereas solar and wind variability operates on a much slower time base.

In addition, while variable accreditation is one thing, the methodology proposed in this section differs significantly from that used in other capacity markets such as the WEM, which actually appears to be much simpler. No justification has been provided for this extra complexity where variable generation output isn’t just correlated with peak demand intervals with the overlay of the reliability standard.

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?*

EAL does not believe there are areas of the network where access is likely to be constrained. If this is a reference to covering the contingency of the loss of generation south of Channel Island, then the cheapest approach would always be to provide additional C-FCAS north of Channel Island, in addition to dispatching zero marginal cost generation south of Channel

Island. Curtailing a source of zero short run marginal cost generation in the form of solar, in preference to high marginal cost gas generation, merely to avoid relatively low cost C-FCAS costs, would be a nonsensical outcome.

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? Why would that approach best achieve those outcomes?*

Please see our response to question 7. Consumers are best served by the provision of solutions at lowest cost. Providing a variable, completely unguaranteed income stream against a capital intensive investment, which has no real ability to influence this income stream via its behaviour, provides no mechanism to reduce costs. To the extent the volume and value of accreditation can be guaranteed for a period of time, then it can be used to reduce the cost of energy offered to the market.

10. *Do the arrangements described in section 6 create a satisfactory balance of risk and reward for managing the timing of presentation of capacity? Please explain your response.*

It is impossible to comment on the adequacy of these arrangements without modelling the likely shortfalls against the proposed reliability standard. To the extent they are not adequate, the shortfall would then be made up through excessive capacity being contracted. In addition, this adequacy will change with time as incumbent generation is likely to be much more sensitive to these issues than new generation sources of the future. Some flexibility should be built into these arrangements to ensure they can move with changing circumstances. Given the age of the incumbent generation fleet, these changes could happen quite fast given the four year look ahead of the proposed mechanism.

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? Please explain your response.*

For a properly designed capacity mechanism, there appears to be little benefit in prolonged virtual operation. The challenges of the energy transition, together with the potential limitations of incumbent generators to accommodate it, would appear to justify “getting on with it” instead.

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?*

Information on the retirement dates of the incumbent generation fleet, together with load forecasts on a 10 year look ahead, with appropriate caveats of course, would be very helpful. Likewise, power system studies of the dynamic behaviour of the incumbent fleet are required to determine their technical limitations in accommodating the energy transition.

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? Please explain your response.*

It is difficult to comment on this question without knowing the proposed retirement dates of incumbent generators.

14. *Do stakeholders have an alternative preferred option to implementation through legislative and regulatory change? If so, please describe the approach and provide reasoning for why it is preferred.*

The proposed methodology seems appropriate provided appropriate flexibility can be built into the regulatory structure to accommodate the needs of the energy transition as it evolves over time.

If you have any questions about this correspondence, please don't hesitate to contact Antony Piccinini on +61 400 345 455.

Yours sincerely,

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