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Mr Liam Ryan
Executive Director, Strategy and Implementation
NSW Department of Planning, Industry and Environment
Level 11, 323 Castlereagh St
Sydney NSW 2000



EnergyAustralia Pty Ltd
ABN 99 086 014 968

Level 19
Two Melbourne Quarter
697 Collins Street
Docklands Victoria 3008

Phone +61 3 8628 1000
Facsimile +61 3 8628 1050

enq@energyaustralia.com.au
energyaustralia.com.au

Lodged electronically: Electricity.Roadmap@dpie.nsw.gov.au

Dear Mr Ryan

**Issues Paper – Tranche two regulations to support the
Electricity Infrastructure Roadmap – 3 May 2021**

EnergyAustralia is one of Australia's largest energy companies with around 2.5 million electricity and gas accounts across eastern Australia. We also own, operate and contract a diversified energy generation portfolio across Australia, including coal, gas, battery storage, demand response, wind and solar assets, with control of over 4,500MW of generation capacity.

We appreciate the opportunity to provide feedback on the Department's issues paper. We serve around 950,000 electricity customers in NSW and are heavily invested in ensuring they receive reliable and affordable energy, including as part of the large transformation envisaged under the Electricity Infrastructure Roadmap.

EnergyAustralia has already worked closely with the NSW Government in reaching agreement to proceed with the Tallawarra B power station expansion, which will be important in delivering the Government's vision as set out in its Roadmap. We expect to build on this and continue to invest in generation and storage assets in NSW that will form part of this transformation. We look forward to engaging with the Department on regulations and other market design elements that will best enable the prudent and efficient investment that is needed to achieve the Government's objectives.

Our responses to each of the questions asked in the issues paper are set out below.

If you would like to discuss this submission, please contact me on [REDACTED] or [REDACTED].

Regards

Lawrence Irlam
Regulatory Affairs Lead

Questions related to the Energy Security Target

Question 1: *Should the Energy Security Target Monitor define the method to determine the derating factor or should the method be defined in the regulations? If not by derating factors, how else should the regulations address the probabilistic nature of semi-scheduled generators in the context of the deterministic Energy Security Target?*

We recommend that the Target Monitor be given discretion in its approach to determining derating factors, and generally in the calculation of firm capacity, with regulations to set out guidance in doing so.

The issues paper refers to AEMO's approaches for other elements making up the Energy Security Target, which seems appropriate, however the proposed approach to derating wind and solar plant appears to diverge from that currently used by AEMO. We do not have a preference either way however note that for derating in particular there appears to be scope to apply different methods or data sources over time as this is a complex matter. For example, AEMO's 2020 Integrated System Plan noted ongoing work in measuring renewable plant performance during more extreme heat events (deratings as well as shutdown).¹ Regulations should be flexible in accommodating trends in weather and other issues that will arise as the grid continues to evolve.

The Department may wish to consider the following in drafting regulations around derating factors and setting values for firm capacity, including matters the Target Monitor could have regard to:

- Recognition of volatility in using particular historic data. For example, using more historic years or lowering the percentile of maximum demand may capture more observations, while a narrower data set could be more sensitive to unusual weather or operational patterns.
- Quantifying the sensitivity of any shortfalls or surpluses relative to the Security Target due to different methods and data. This might include the use of conservatism and understating plant firmness given consumer impacts (i.e. risk of reliability issues or costs of triggering a response to a Target breach).
- The desire for consistency with, or comparison to, methods as applied in least cost and risk approaches used in the Infrastructure Investment Objectives Report. As with AEMO's ISP/ ESOO this might justify developing deratings for winter as well as for summer.
- Consistency in approaches adopted by AEMO for the ISP and ESOO, which may extend to contentious issues raised in stakeholder feedback in relevant AEMO-led consultations.
- Potential benefits in maintaining a consistent approach over time in derating and firming calculations.
- The appropriate treatment of short-term storage (which may only have very limited duration), demand side participation (which may also be temperature

¹ <https://aemo.com.au/-/media/files/major-publications/isp/2020/appendix--8.pdf>

sensitive) and of interconnectors (the flows over which may actually compete with NSW generation).

- Any specific treatment of the firmness of thermal plant because of condition or risk of early closure. For example, the ESB is currently consulting on enhanced information requirements for use by jurisdictional decision-makers as part of its post 2025 market reforms.

Question 2: *Should the regulations prescribe any other matters for inclusion in the Energy Security Target Monitor's report? If so, what are they?*

We generally agree with the Department's view that the Target Monitor already has discretion to report on other relevant matters, hence prescribing additional matters appears unnecessary. We do note, however that there is likely to be interest in breaches of the Security Target and any Ministerial action, for example, that results in mandatory 'firming' investment, which will materially alter market outcomes and prospects of future investment. It may therefore be prudent to require the Target Monitor to make recommendations to the Minister to address any target breach, in order to promote transparency and visibility of likely interventions (noting the Minister would ultimately retain discretion on what action to take, if any). Such recommendations seem a natural complement to the existing requirement in s. 13(3)(e) to provide information to assist the Minister in taking any such action.

Questions related to the Electricity Infrastructure Investment Safeguard

Question 3: *To what extent are the requirements for carrying out competitive tenders of Long Term Energy Service agreements appropriate? Are there any other requirements that should be considered?*

We consider that the principles set out in the issues paper are appropriate. While the transparency of tender processes is already listed, we consider that this should be expanded, or a new principle added, that ensures transparency of how the relative values of different projects are assessed.

It may also be necessary to revisit some of these principles once Tranche 3 regulations are finalised, particularly how "long term financial value" should be considered.

Question 4: *Do you agree with the matters the Consumer Trustee must take into account when preparing the Infrastructure Investment Objectives Report? Are there any other matters that should be taken into account?*

The Infrastructure Investment Objectives Report will be an important document that provides signals for investors as well as consumers regarding the optimal investment

pathway in NSW that meets the requirements of the Investment Objectives. We agree with the matters listed on pages 19 and 20 of the issues paper in terms of Report content. Much of this reflects concepts that underly AEMO's ISP and ESOO, and so the Report's integration into national planning frameworks will need to be carefully considered. Specifically, the ISP will set out 'Actionable' projects across the NEM based on particular scenario and risk-based assessments, which may differ from investment pathways for NSW contained in the Infrastructure Investment Objectives Report. If these differences cannot be explained, this may create uncertainty for investors. The process and timing by which the Report is released is also important, noting that two-year intervals mirror those of the ISP.

Some example considerations for the Department in terms of the preparation and contents of the Report include:

- the process by which the Report is made is not clear, for example whether there will be any opportunity for stakeholders to provide input, or how the Trustee will gather necessary data e.g. detailed operational data from owners of existing plant or sharing of information with the infrastructure planner, the regulator etc
- amongst other matters, stakeholders will need to understand how divergences in input assumptions, if taken at different points in time, produce different results from AEMO's ISP and ESOO, in addition to differences in methodology and in satisfying NSW-specific regulations
- the Report has a 20 year development pathway horizon, which mirrors the minimum modelling horizon of the ISP, however we understand AEMO intends to extend beyond this for the 2022 ISP, for example in exploring 2050 emissions and other trajectories. As noted below, this 20 year horizon also has implications for whole of life cost-benefit assessments that need to accommodate technologies with different economic lives
- the relative importance of the Energy Security Target in driving optimal investment versus the Reliability Standard
- how the Trustee has given effect to the NSW renewable energy sector plan under section 8 of the EII Act, and had regard to Ministerial directions or Trustee recommendations that may still be pending (for example in relation to REZ network infrastructure under sections 32 and 31(1)(a)).

In shaping investor perspectives around auction processes, the Report should contain more information than is released with the ISP/ ESOO and it may be worth considering the creation of a 'data portal' or similar to access detailed analysis. Tenderers are likely to be most interested in optimal combinations of technology in terms of the 'shape' of output that provide the most long-term financial value, and how this will be timed with respect to progressive tender rounds. This ties to our suggestions around principles of transparency for LTESA tendering as mentioned above. Data that should be published or otherwise made available would include:

- energy supply needs across all hours of the day (and potentially shorter intervals), as well as needs over weekly, seasonal and other timeframes that are

relevant to the Trustee in terms of LTESA auctions and in meeting the Infrastructure Investment Objectives

- assumptions around firming of variable renewable plant, including those with co-located storage (if any)
- granular information on existing generation plant and its modelled output
- information on existing and planned transmission capacity and its operational parameters, including interregional flows, constraints etc
- other information that will be relevant for existing or prospective participants in any REZ-specific or broader transmission access regimes, given likely interactions with LTESA tendering.

The Report will also be an important resource for investors in understanding how each 10-year tender plan changes from that published two years prior, as well as any divergences between the actual and expected amount and type of infrastructure to be constructed. There will also be strong interest in considering the outcomes of previous tenders, namely why they were or were not accepted (subject to confidentiality) and transparency on how relative values were assigned for different types of projects.

Question 5: *In what circumstances should the Consumer Trustee prefer long duration storage over firming infrastructure to meet the reliability standard?*

Noting the Infrastructure Objectives provide an explicit target for long duration storage, the preference for different technologies, including their timing, should be guided by the least cost and risk assessments arising from the Infrastructure Investment Objectives Report. Some factors to consider would include:

- proper consideration of whole of life costs, for example the 20 year horizon for the Report would need to use terminal values or other assumptions for some technologies e.g. progressive derating and mid-life refurbishment costs for batteries
- the eligibility of storage that is below and above 8 hours duration and the impact this might have on optimal technology combinations, and more broadly the investment signal this provides
- the treatment of different storage types and durations from a firmness/ derating perspective
- whether technologies involving the use of hydrogen (for example gas generation assets operating on a blend of hydrogen and natural gas or fuel cells) might be eligible, on the presumption technology preference might reflect carbon content.

Questions on classification of REZ network infrastructure

Question 6: *Are there any other considerations that should be taken into account in classifying REZ network infrastructure in regulations, including the need for, and scope of, sub-classifications?*

Generally, we consider that infrastructure classifications and any subclassifications under NSW regulations should reflect those under the NER in terms of their functionality (i.e. coverage of regulation).

As highlighted in the issues paper, there are likely to be cases where assets will need to be constructed outside of the REZ boundary to support electricity supply inside the REZ, and vice versa. Appropriate cost recovery mechanisms will need to be drafted in regulations to ensure transparency of any contributed assets or funding under the NER framework and that to be established under part 5 of the EII Act.

Question 7: *What types of network infrastructure could be subject to economic regulation under Part 5 of the EII Act?*

As per our suggestion to maintain consistency with NER service classifications, we would suggest the coverage of economic regulation under Part 5 be set out in decisions made by the Regulator. This could include provision for negotiated outcomes as well as direct price regulation, and other detailed considerations in cases where provisions of the NER may not apply. The treatment of these matters will become clearer with Tranche 3 regulations that might disapply or modify NEL and NER provisions under section 41 of the EII Act.