



Reliability Panel c/- Australian Energy Market
Commission GPO Box 2603
Sydney NSW 2000

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Dear Sir/ Madam,

Form of the Reliability Standard and Administered Price Cap, reference REL0086

ENGIE Australia & New Zealand (ENGIE) appreciates the opportunity to respond to the Reliability Panel (“the panel”) in relation to the Issues Paper (“the paper”) for the Review of the Form of the Reliability Standard and Administered Price Cap (“the review”).

The ENGIE Group is a global energy operator in the businesses of electricity, natural gas and energy services. In Australia, ENGIE has interests in generation, renewable energy development, and energy services. ENGIE, the owner of Simply Energy, is also a leading provider of electricity and gas to business and retail customers accounts across Victoria, South Australia, New South Wales, Queensland, and Western Australia.

Many uncertainties about the transition from thermal to a variable renewable energy based grid

ENGIE agrees with the premise of the review that there are many uncertainties about the transition from a National Energy Market (NEM) underpinned by dispatchable thermal generation to one based on variable renewable energy (VRE). A key issue for the panel to determine is whether the transition will require new approaches to incentivising investment and justifying market interventions while maintaining the efficient economic outcomes that the NEM has delivered.

The focus of the review is investigating whether the form of the reliability standard needs to change from its current form of 0.002% forecast unserved energy (USE), for a region in a financial year. The paper states that change may be required due to the increased risk of high-impact low probability (HILP) events in a VRE grid when compared with one that relies on thermal generation. The paper refers to this risk as ‘tail risk’.

ENGIE understands the paper’s explanation of this risk, that it is driven by the increased impact of weather on generation output. The paper explains that while meeting a forecast 0.002% average annual USE standard, weather impacts on VRE may be of longer duration, and potentially involving more widespread load shedding, than impacts on a thermal grid from plant outages. In short, action can be taken to manage the duration of plant outages, but no-one can make the sun shine or the wind blow.

Information needed for stakeholders to comment on the panel's proposed decisions

ENGIE considers that a key requirement of the review is to provide stakeholders with the information they need to comment knowledgeably on the panel's potential recommendations. ENGIE considers that this information includes the items listed below, which are generally addressed in the paper and would benefit from being kept front of mind throughout the review:

1. The criteria that will be used by the panel to decide on the future form of the reliability standard.

ENGIE supports the panel's intention to base its decision on meeting the NEO and applying its General Assessment Principles, such that the panel will exercise its judgment so the future framework:

- Allows efficient price signals while managing price risk;
- Delivers a level of reliability consistent with the value placed on that reliability by customers; and
- Provides a predictable and flexible regulatory framework.

2. The future system with high levels of VRE that will be used to understand the potential impact of weather-generated HILP events.

ENGIE supports the panel's intention to model the future system with the proposed approach:

- AEMO ISP model in PLEXOS to generate a database of USE events out to 2040;
- Plus modified VRE data to match events such as long-term VRE droughts;
- Includes impact of weather events on grid demand due to reduced output from customer-owned photovoltaic (PV) generation; and
- Includes overall constraints of VRE and network congestion

3. The frequency, duration, and scale of HILP events forecast for a future system with high levels of VRE under a 0.002% USE reliability standard.

4. Potential economic impacts of forecast HILP events from 3.

5. How alternative forms of the reliability standard impact the forecast HILP events and their economic impacts.

6. How alternative forms of the reliability standard impact the costs of the system.

7. A comparison of the reduced economic impacts from 5 and the increased costs from 6, to understand how alternative forms of the reliability standard increase or decrease overall net economic benefits.

Similar to the AEMO ESOO, the outputs of the modelling and the conclusions drawn from it can vary widely depending on the inputs chosen. ENGIE strongly urges the panel to provide stakeholders with an opportunity to comment on the proposed inputs before the modelling is undertaken. AEMO has provided stakeholders with this opportunity for previous ESOO modelling to reduce the risk that stakeholders consider the results invalid due to disagreement with the inputs selected.

ENGIE considers that the weather inputs and thermal plant forced outage inputs (if thermal plant forced outages are selected rather than modelled as random events) are critical inputs that should be provided to stakeholders for comment before detailed modelling is commenced.

Alternative forms of the reliability standard

The paper asks stakeholders to comment on a number of alternative forms of the reliability standard. ENGIE considers that further comment on the merits of alternative forms requires modelling results that show how each alternative would interact with the reliability settings and deliver different levels of investment. These results would better enable stakeholders to understand how the form, rather than the level, of the standard impacts investment. ENGIE looks forward to seeing these results in future phases of the review.

Nonetheless, rather than replacing average annual USE, which is well understood, consider retaining it, and adding an additional measure to reflect the impact of weather driven HILP events.

Form of the APC

The events of 2022 showed that the APC, at that time, did not reflect the costs of generation (including the opportunity cost of using gas for generation). As generation costs are dynamic, the APC should be set at a sufficiently high level to ensure the market will clear.

ENGIE appreciates that linking the APC to gas costs has growing support; however, while this was a useful concept to capture the collective minds of bureaucrats and industry participants to the need for change, on further reflection a dynamic APC is less than ideal.

First, a dynamic reference price undermines the generally sensible principle of settings stability upon which the market has so successfully operated. A monthly, quarterly, or some other changing reference point is less than ideal. This is important as when participants are entering into financial contracts or making decisions about plant the more clarity on pricing variables the better.

Second, gas may be the fuel de jour, but this may not always be the case. Thus, the case for linking the APC to diesel, batteries, hydrogen, or some other technology or fuel is likely to be ever changing.

Third, the appeal for complexity is not borne out of necessity. While a dynamic price has captured imaginations, simplicity should be preferred when it will best serve the markets needs.

On the basis of the above, ENGIE believes the APC should be set at a fixed priced sufficiently high enough to ensure the market clears at times of stress. Fortunately, such a change has already been made and the rationale for changing it from its current interim level before the next reliability settings and standard review seems limited.

Responses to questions for stakeholders raised in the paper

In addition to the overall comments above, ENGIE is providing the following responses to questions raised in the paper:

- 1.1 *Do stakeholders agree with the way reliability risks in the current framework are set out? If so/not, why?*

ENGIE agrees with the way the paper sets out the reliability risks in the current framework.

1.2 Are there other reliability risk factors the panel should take into account?

The paper looks to have covered the key risk factors associated with a shift to a high VRE system, specifically the increased risk of weather-related HILP events.

1.3 Does the current form of the standard best reflect the value that consumers place on reliability?

The current form is well established and evidence that it no longer reflects the value that consumers place on reliability would be required to justify a change.

1.4 Are there other issues stakeholders see with the current framework that the panel should consider?

Application of the current framework to the market impacts of extreme gas prices in 2022 led to costs being imposed on retailers and other market participants that were outside the scope of hedge agreements. As a result, retailers and other market participants experienced wholesale costs above the level they had hedged to avoid. ENGIE considers that the panel should consider how the reliability framework will operate if unanticipated significant changes occur in future.

2.1 Do stakeholders have any feedback on the principles and high-level approach proposed?

ENGIE agrees that the panel should make its decision on the form of the reliability standard by applying the NEO and the General Assessment Principles wet out on page 22 of the paper.

2.2 Are there additional high-level principles that the panel should consider when making its recommendations for this review?

No. It is important that the panel makes its decision on economic grounds as proposed on page 23 of the paper and is not impacted by potential political pressure to incentivize system reliability that exceeds economically efficient levels.

3.1 Do stakeholders have any feedback on the specific objectives and criteria?

ENGIE supports the specific objectives and criteria set out on page 23 of the paper.

3.2 Are there other relevant considerations that could be included as objectives or criteria?

ENGIE would only support the inclusion of additional objectives or criteria after stakeholder consultation on them, given that agreed objectives and criteria are fundamental to the panel's decision about the future form of the reliability standard.

4.1 Is using AEMO's ISP and overlaying realistic weather-driven dark doldrums as a source of USE events the best approach?

ENGIE supports the proposed approach of using AEMO's ISP as the basis for modelling, in order to allow comparison of alternative scenarios against the ISP's development pathway. ENGIE supports examination of future years where higher levels of VRE is present to better understand how weather driven HILP events may impact customers. It is crucial that future weather scenarios are realistic, to avoid attention being focused on unrealistic outages. ENGIE considers that the weather inputs are critical inputs that should be

provided to stakeholders for comment before modelling is undertaken, to reduce the risk that stakeholders consider the results invalid due to disagreement with the inputs selected.

5.1 Do stakeholders have any feedback on the proposed modelling approach?

ENGIE supports the proposed modelling approach to understanding impacts on costs, generator utilisation and USE patterns as described in the final 2 paragraphs of page 26 of the paper as well as the mapping of this information against flexibility, capacity and energy risk to analyse different candidate metrics, as described on page 27 of the paper.

6.1 Should random forced outages be included or is the proposed method to apply tailored outages on thermal plant appropriate?

As set out on page 27 of the paper, the review has the choice of modelling USE based on random forced outages of thermal generation or selecting plant outages and identifying their impact. ENGIE considers that random forced outages, as used by AEMO for the ESOO, are more appropriate for quantifying the impact of weather-related HILP events on USE. An important aim of the review's modelling is to identify the impacts on USE of HILP weather events. To deliver this aim requires modelling that makes it possible to isolate these impacts from other events, which means taking account of thermal plant forced outages in a way that gives comparable overall results with the ISP base case that is the counterfactual. The ISP modelling, as described on page 27 of the paper, accounts for thermal plant outages by derating them by their forced outage rate and using a 10% probability of exceedance (PoE) demand forecast to deliver a development pathway that takes account of thermal plant outages overall. Selecting specific plant outages for the review's modelling will not give comparable results to the base case, as they will not take account of all potential forced outages and the probabilities that they occur. Modelling thermal plant forced outages as random events will take them all and their probabilities into account and will better enable comparison with the ISP counterfactual base case than selecting specific plant outages. ENGIE considers that the thermal plant forced outage inputs (if thermal plant forced outages are selected rather than modelled as random events) are critical inputs that should be provided to stakeholders for comment before modelling is undertaken, to reduce the risk that stakeholders consider the results invalid due to disagreement with the inputs selected.

7.1 Do stakeholders have feedback on the potential statistical metrics?

The presentation of potential metrics in pages 31 to 35 of the paper suggests that a hybrid multi-metric standard that considers average annual USE and HILP weather driven USE could be a reasonable way forward. As stated on page 35 of the paper, this type of standard would be as restrictive as its most constraining element, which the discussion in the paper suggests would be the HILP weather-driven metric, rather than the average annual USE metric. This may be appropriate, as it makes explicit that the reliability standard is seeking to manage both average annual USE and USE from weather driven HILP events.

ENGIE considers that the following candidate metrics set out on pages 33 and 34 are not pursued, as they do not reflect the USE associated with HILP events, or the impacts of HILP event frequency and duration, as well as the remaining candidate metrics:

- Mean of USE

- MPMR
- EMR
- A quantile of USE
- Expected USE divided by supply

7.2 *Do stakeholders have feedback on the relationship between the potential statistical metrics and customer value of reliability?*

The metric chosen will need to be able to be used along with the customer value of reliability to determine the price settings that incentivize investment. Future papers issued under the review should provide examples of how candidate metrics and customer value of reliability would be used to determine the price settings. This will give stakeholders an understanding of how different candidate metrics would be applied in practice.

7.3 *Changing the form to include risk aversion, take account of tail risk, or exclude certain event types, may result in higher market price settings. Are there other factors to consider besides the value customers place on reliability and the cost of new generation in making this decision, which will impact the market price cap?*

Yes, price volatility, which drives uncertainty and increases the costs faced by retailers and other market customers.

7.4 *Do customers find the current form of the standard easy to understand? Would a standard that more explicitly precludes certain event types provide customers with a greater understanding of the reliability of the system?*

ENGIE is unable to comment because it has not undertaken research into customer understanding of reliability.

8.1 *Do stakeholders consider the current form of the APC to be fit for purpose?*

The current form of the APC proved to be inadequate to deal with market conditions in 2022 and retailers and other market participants found themselves unexpectedly exposed to material costs that were not hedgeable.

8.2 *If the form of the APC were changed, do you consider it should be:*

- *Indexed to the gas APC?*
- *Dynamically indexed to a price series such as STTM gas hub prices or the ACCC LNG netback price series*
- *Consist of two fixed levels and only increased to the upper fixed level if triggered by a defined circumstance*
- *Indexed to the Consumer Price Index (CPI)*
- *Some alternative form?*

The events of 2022 showed that the APC, at that time, did not reflect the costs of generation (including the opportunity cost of using gas for generation). As generation costs are dynamic, the APC should be set at a sufficiently high level to ensure the market will clear.

ENGIE appreciates that linking the APC to gas costs has growing support; however, while this was a useful concept to capture the collective minds of bureaucrats and industry participants to the need for change, on further reflection a dynamic APC is less than ideal.

8.3 Does the value of the APC impact long-term commercial decision-making (e.g. contracts market) and if so, how?

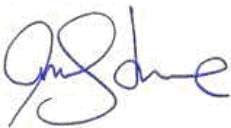
A dynamic reference price undermines the generally sensible principle of settings stability upon which the market has so successfully operated. A monthly, quarterly, or some other changing reference point is less than ideal. This is important as when participants are entering into financial contracts or making decisions about plant the more clarity on pricing variables the better.

8.4 How would changing the form of the APC impact market certainty, and in particular the contracts market?

With any variable risk, parties will be mindful of worse case outcomes, and price accordingly.

Should you have any queries in relation to this submission please do not hesitate to contact me on, telephone, 0477 299 827.

Yours sincerely,



Jamie Lowe

Head of Regulation,
Compliance, and Sustainability