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OPERATIONAL FORECASTING IN THE WEM REVIEW

Alinta Energy appreciates the opportunity to provide feedback on the proposals arising from the WEM Operational Forecasting Review.

Alinta Energy supports initiatives that will improve operational forecasting in the WEM and agree that:

- **AEMO should review its approach to persistence forecasting and how these factors are blended, including the time over which it blends these forecasts (Proposal 1).**
- **AEMO should enhance collaboration with weather providers with the aim of improving weather forecasts used in demand forecasting, with a focus on improving the quality and frequency and understanding of uncertainty (Proposal 2).**
- **AEMO should document its forecasting processes, including the forecasting model and associated technical specification (Proposal 3).**
- **AEMO should review the use of its separate development and production environments for its forecasting system and the change management processes in place (Proposal 3).**
- **Intermittent generation forecasts used in WEMDE should be centralised and produced by AEMO (Proposal 4).**
- **In relation to operational demand forecasting, an obligation for AEMO to publish error metrics would assist in improving the efficiency of the Short-Term Energy Market (STEM) outcomes (Proposal 5).**

In addition, Alinta Energy recommends:

1. **An approach that considers all aspects of efficiency arising from the State Electricity Objective (SEO) should be adopted to assess the impact of forecasting errors.**
2. **The Affected Dispatch Interval provisions within the ESM Rules should be amended to exclude manifestly incorrect data that has arisen from incorrect forecasting data inputs.**
3. **AEMO's forecasting processes should be integrated with all relevant market operation functions and published in relevant WEM Procedures, such as the ST PASA, to provide greater integration and transparency.**
4. **The large load information provisions should remain voluntary and supported by an appropriate incentive scheme to encourage accurate self-forecasting directly to AEMO.**
5. **If progressed, any obligation on large loads to provide consumption forecasts should be imposed on load operators, not Market Participants.**
6. **Consideration should be given to the development of an appropriate model to enable better visibility of DER and unscheduled price-responsive resources in centralised demand forecasting processes and models; and how Project Jupiter can be leveraged to benefit of Market Participants.**

We generally support the Review and its findings, appreciating the growing complexity of supply and demand forecasting resulting from the inherent weather-dependent nature of renewable energy systems. We support proposals 1 through 5 and agree that resolution of the forecasting challenge, for all Rule Participants, is grounded in a way forward that:

1. leverages modern meteorology to improve the accuracy of the locational weather data essential for forecasting renewable generation such as wind speed and direction, temperature, humidity, solar radiation, and cloud cover; and
2. provides for greater visibility of unscheduled resources[1] connected to the SWIS that are capable of changing output or consumption in response to changes in forecasts or market prices.

In addition, we make the following recommendations:

Recommendation 1: An approach that considers all aspects of efficiency arising from the State Electricity Objective (SEO), should be adopted to assess the impact of forecasting errors.

The consultation paper rightly identifies operational forecasting as a key issue impacting market efficiency in the WEM, as recognised in the WEM Operation Effectiveness Report. That report assessed market effectiveness through a broader lens that aligned with the SEO, which not only encompasses price efficiency but also the security and reliability of supply, environmental outcomes, and the promotion of efficient investment and operation of electricity services in the long-term interests of consumers.

The Operational Forecasting in the WEM Review consultation paper's assessment methodology appears to focus on assessing the materiality of sources of forecast errors based on out of merit dispatch and their impact on price. Assessment and considerations of the efficiency impacts of forecasting errors should be broader than. This is because the concept of efficiency in the SEO is not limited to market prices and that a focus on market prices may lead to unintended consequences to the detriment of system reliability, security, investment and environmental impacts. While dispatch that follows the economic merit order will ensure the cheapest or most efficient generators are dispatched first, out of merit order dispatch can occur for several reasons, including system security needs, network constraints, reliability requirements and market interventions. As such the assessment methodology used does not provide a fulsome view of efficiency in the broader context of the SEO. This narrow framing of efficiency risks overlooking other factors and matters that may have a material impact to system reliability, investment, and environmental performance. Such other impacts might include the extent to which renewable energy was curtailed, outages recalled, or FCESS requirements were over forecast.

We recommend that a more comprehensive approach and methodology, that considers the broader aspects of the SEO which may be impacted by forecast errors, is used to assess their materiality.

Recommendation 2: The Affected Dispatch Interval provisions within the ESM Rules should be amended to exclude manifestly incorrect data that has arisen from incorrect forecasting data inputs.

The Affected Dispatch Interval (ADI) provisions within the ESM Rules should be amended to explicitly exclude manifestly incorrect data arising from forecasting errors, as their inclusion introduces significant market uncertainty and undermines investment confidence. While the ADI mechanism is intended to correct dispatch outcomes based on clearly erroneous inputs, applying it to forecasting inaccuracies, particularly those that are subjective or only evident in hindsight, risks retroactively altering market prices in ways that penalise participants who were legitimately dispatched and compliant with the direction given by AEMO.

This retrospective adjustment can distort price signals, erode trust in market processes, and create financial exposure for participants who acted in good faith based on the information available at the time and who are not paid for the services they provided. The Operational Forecasting Review does not address the implications of using the ADI framework to correct forecast-driven errors, despite its potential to disrupt market certainty and efficiency. Excluding forecasting errors from the ADI provisions within the ESM Rules would preserve the integrity of dispatch outcomes, support investment certainty, and ensure

[1] The Australian Energy Market Commission (AEMC) is amending the National Electricity Rules (NER) to enable price-responsive resources to be fully integrated into the planning and operation functions within the NEM such that they will be considered when determining how much energy demand needs to be met. This rule change is a key part of a package of reforms to integrate Consumer Energy Resources (CER).

that accountability for forecast quality is managed through forward-looking improvements rather than retrospective corrections.

Alternatively, the ADI framework should be updated to ensure that participants who are dispatched due to errors are reimbursed for their costs.

Recommendation 3: AEMO's forecasting processes should be integrated with all relevant market operation functions and published in relevant WEM Procedures, such as the ST PASA, to provide greater integration and transparency.

AEMO's operational forecasting processes should be aligned with the ST PASA to ensure a coherent and transparent approach to managing system reliability and market efficiency in the WEM. Forecasting is not a standalone activity, it is foundational to a range of interconnected processes documented in WEM Procedures, such as Dispatch Algorithm Formulation, Facility Dispatch Process, Direction of Registered Facilities in Scarcity Conditions, Low Reserve Conditions, and Outages. Integrating and publishing how the forecasting processes flow through all relevant market operation functions with clear articulation of their role across the WEM Procedures would enhance stakeholder understanding of how forecasts inform operational decisions and market signals.

Alignment with the ST PASA, which focuses on the immediate seven day period, would support more robust scenario planning, improve responsiveness to emerging system conditions, and foster greater confidence in AEMO's operational decision-making. A holistic, integrated and transparent forecasting framework is essential for ensuring that all market operation functions are informed by consistent, high-quality data and that the WEM operates as a unified, resilient system.

Recommendation 4: The large load information provisions should remain voluntary and supported by an appropriate incentive scheme to encourage accurate self-forecasting directly to AEMO.

Large load consumption forecasts should remain voluntary and be supported by an incentive scheme rather than mandated through regulation. Mandating forecasts introduces administrative burdens, compliance costs, and enforcement complexities that may discourage proactive engagement from large users. In contrast, a voluntary framework, supported by incentives, encourages ownership and accuracy in self-forecasting, fostering a collaborative relationship between AEMO and participants.

A more rigid regulated requirement may lead to strained relations and overly cautious or conservative forecasts that may reduce their value to forecasting outcomes and improved system operations. Incentivising accurate and timely submissions, can drive better outcomes without the need for punitive oversight. This approach would support a more dynamic and responsive system operation, ultimately contributing to the SEO by improving the efficiency of electricity services, supporting system reliability, and enabling informed participation in the market, all while reducing regulatory overhead.

Recommendation 5: If progressed, any obligation on large loads to provide consumption forecasts should be imposed on load operators, not Market Participants.

Proposal 6 recommends formalising large load information provisions through regulatory obligation, but if progressed, any obligation to provide consumption forecasts should be placed on load operators rather than Market Participants. This distinction is critical because Market Participants often act as financial intermediaries or aggregators and may not have direct access to the operational data needed to produce accurate forecasts. Imposing this responsibility on Market Participants would introduce unnecessary cost and complexity, including the need to establish new data-sharing arrangements, invest in forecasting systems, and manage compliance risks.

These burdens could outweigh the benefits, especially when load operators, who control and understand their consumption patterns, are better positioned to provide accurate and timely forecasts. For example, a large manufacturing entity operating energy intensive processes can forecast its load based on production schedules and operational constraints, whereas a Market Participant representing that load would lack visibility of these drivers. AEMO's forecasting accuracy would be better served by direct engagement with load operators, rather than a regulated obligation on intermediaries who may not be equipped to fulfil the obligation efficiently or effectively.

Further, any obligations should target the large loads that are most impactful on forecast accuracy, for example, those that are price responsive and more volatile.

Recommendation 6: Consideration should be given to the development of an appropriate model to enable better visibility of DER and unscheduled price-responsive resources in centralised demand forecasting processes and models; and how Project Jupiter can be leveraged to benefit of Market Participants.

While the Operational Forecasting Review has limited its scope to large loads under Proposal 6, there may be a case for broadening this to consider the inclusion of DER and price-responsive resources, such as Virtual Power Plants, community batteries, and flexible large loads, in the centralised demand forecasting models. As they increase in scale these resources, though not scheduled, may materially influence system demand and operational decisions due to their ability to adjust consumption or output in response to market signals or forecast conditions.

Improving visibility of these resources, may improve accuracy and price efficiency, particularly during periods of high volatility or scarcity. Implementing a voluntary forecasting mechanism, like the approach used in the National Electricity Market (NEM), may encourage forecasting transparency allowing operators of these resources to contribute to the accuracy of operational forecasts without imposing rigid compliance obligations. This would support more efficient dispatch and reliability outcomes and align with the SEO by improving the efficiency and transparency of electricity services. Early consideration of price-responsive resources in operational forecasting models by broadening the scope beyond large loads will assist to ensure the forecasting framework reflects the full spectrum of responsive resources shaping the future of the power system.

We understand that Project Jupiter has similar aims to improve visibility of DER. This visibility should be leveraged not only to the benefit of the project participants, but to all Market Participants and to market efficiency.

Thank you for your consideration of Alinta Energy's submission. Should you require further information or wish to discuss any aspect of our submission please do not hesitate to contact me at Jean.Mileto@alintaenergy.com.au.

Yours sincerely

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