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24 April 2024

Ms Dora Guzeleva  
Director, Wholesale Markets  
Energy Policy WA  
Email: energymarkets@dmirs.wa.gov.au

Dear Ms Guzeleva,

## **Exposure Draft – Demand Side Response Review Wholesale Electricity Market Amending Rules**

The Australian Energy Market Operator (AEMO) welcomes the opportunity to provide a submission on the proposed Amending Rules to implement Review Outcomes 1 - 4 and 12 of the Demand Side Response (DSR) Review.

AEMO supports the findings of the DSR Review, as outlined in [our submission](#) to the consultation process in November 2023, and appreciates the opportunity to support the policy development process as part of the DSR Review Working Group. AEMO also acknowledges that work is being undertaken separately in relation to DER aggregations, outside of the scope of the DSR review.

This submission is based on AEMO's understanding of the proposed Amending Rules as they relate to the policy intent provided in Energy Policy WA's final Information Paper, *Review of the Participation of Demand Side Response in the Wholesale Electricity Market*, published in January 2024. Our detailed feedback is provided in Attachment 1 and minor feedback of a drafting nature has been provided at an officer level.

AEMO supports the proposed drafting in relation to Review Outcomes 1, 2, and 12, and has recommended only minor changes and clarifications in relation to Review Outcomes 1 and 2.

While AEMO remains supportive of Review Outcome 3 (option for hybrid facilities to install revenue quality metering) and Review Outcome 4 (dynamic baseline for Relevant Demand for Demand Side Programme participation) we consider that further work is required to ensure the drafting can effectively implement the policy intent and address gaps.

AEMO looks forward to continuing work with Energy Policy WA on refining the proposed Amending Rules and is available to assist in identifying the design requirements to inform further amendments.

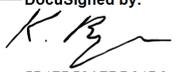
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If you would like to discuss any matters raised in this submission, please contact Mena Gilchrist at [mena.gilchrist@aemo.com.au](mailto:mena.gilchrist@aemo.com.au).

Yours sincerely,

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Kate Ryan

**Executive General Manager – Western Australia & Strategy**

Attachment 1: Comments on DSR Review proposed amendments to the WEM Rules



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### Attachment 1: Comments on DSR Review proposed amendments to the WEM Rules

Review Outcome description	Relevant WEM Rules	AEMO comment
<b>Review Outcome 1</b> <b>Transparency regarding constrained access connections should be provided and, to the extent practicable, constrained access loads should be integrated into the processes in the WEM Rules.</b>	cl.2.27B.6 cl.2.28.3A cl.4.4B.5 cl.4.5.2 cl.4.5.13 cl.7.3.5	In relation to cl.7.3.5, AEMO suggests the reference to 'load' is replaced with 'Constrained Access Load', as this better supports the policy intent of Review Outcome 1.
<b>Review Outcome 2</b> <b>The circumstances in which a hybrid facility comprising a load and an Electric Storage Resource component will be required by AEMO to register as a Scheduled Facility should be clarified.</b>	2.29.4B cl.2.29.4N(b)(ii)	AEMO seeks confirmation that the drafting is intended to allow for a facility of <u>any size</u> to apply for an exemption, either under cl.2.29.4A (5MW - 10MW) or cl.2.29.4M (>10MW), with AEMO's assessment against the criteria referred to under both cl.2.29.4N(b)(i) and cl.2.29.4N(b)(ii).
<b>Review Outcome 3</b> <b>More flexibility will be provided to hybrid facilities by enabling them the option to use Western Power installed revenue quality metering on a single</b>	cl.2.29.6 cl.2.30A cl.2.33.3 cl.2.33.4 cl.2.33A	The WEM Rules generally, and the registration framework specifically, are predicated on the idea that a facility is located at the point of connection to the network, which is also the point at which the facility is metered. For a facility component, the de-coupling of its point of metering from its point of connection to the network impacts on 'downstream aspects' of market participation that require consideration.  The proposed drafting seeks to address how a facility or facility component is to be captured under the registration framework and metering for the purposes of settlement. AEMO considers

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<p><b>component of their facility, for the purpose of settlement in the Short Term Energy Market and the Real-Time Market, including the ESS markets.</b></p> <p><b>The component that is separately metered will be required to be of a different technology type to the of the other components of the facility. The facility in its entirety will need to be located behind a single connection point.</b></p>	<p>cl.4.23A.3 cl.9.5.2 Consequential changes to cl.9.5.5, cl.9.5.7, cl.9.9.5 and cl.9.9.12 to account for the addition of proposed cl.9.5.2A</p>	<p>that further changes are required to address consequential impacts in a several areas, including dispatch, outage management, loss factor calculation, performance standards and settlement.</p> <p><u>Metering</u></p> <p>To participate in the Real-Time Market, provide Essential System Services (ESS), and support the causer pays requirements for FCESS, the installation of Western Power revenue quality metering on a single component of the facility is insufficient by itself, as AEMO requires data granularity within a dispatch interval (&lt;5 minutes) and access in near-real time.</p> <p>AEMO proposes that the metering requirement for a facility component also includes Western Power Supervisory Control and Data Acquisition (SCADA) - or SCADA equivalent telemetry / communications.</p> <p><u>Registration</u></p> <p>Further rule amendments in regard to the Registration framework will be required to ensure the operability of Demand Side Response (DSR) arrangements in support of Review Outcome 3.</p> <ul style="list-style-type: none"> <li>• To enable greater participation in WEM services, AEMO recommends that a facility component behind a connection point be required to register separately and be accredited for any WEM service (subject to meeting the metering and performance requirements for the provision of the service).</li> <li>• AEMO suggests the creation of a new defined term and a new process to allow a facility component behind a connection point to register separately: <ul style="list-style-type: none"> <li>○ The facility component should have its own distinct process that does not rely on the energy producing system being a “Separately Certified Component” (SCC), as a SCC is an explicitly defined term which is “any component of a Scheduled Facility or Semi-Scheduled Facility which AEMO has assigned Capacity Credits.” Consequently, the use of SCC to create this new “Facility” type would not be suitable as it only applies to facility components of existing registered Scheduled Facilities or Semi-Scheduled Facilities.</li> <li>○ The new defined term (for example “Separately Registered Sub Component”) should reflect that a facility component must be behind a connection point and can be registered by AEMO as a “Facility”. Additionally, it must be capable of meeting the below criteria: <ul style="list-style-type: none"> <li>▪ It is of a different technology type to that of the other components behind the connection point;</li> <li>▪ It has Western Power SCADA and revenue quality metering if it is to register the facility component as a Non-Scheduled Facility, Semi-Scheduled Facility or Scheduled</li> </ul> </li> </ul> </li> </ul>

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		<p>Facility and for the purposes allowing settlement of energy, FCESS and Individual Reserve Capacity Requirement; and</p> <ul style="list-style-type: none"> <li>▪ It is able to be assessed separately from its connection point for Certified Reserve Capacity.</li> </ul> <ul style="list-style-type: none"> <li>• Registration Taxonomy, the proposed drafting of cl.2.30A.1 conflicts with existing cl.2.29.1B(c).</li> </ul> <p><u>Further comments - Market Participation</u></p> <p>AEMO provides the following general advice on other areas of the WEM Rules that are likely to require amendment to facilitate the successful implementation of Review Outcome 3. AEMO welcomes the opportunity to work with Energy Policy WA on elaborating the design requirements, and where possible, can assist in drafting.</p> <ul style="list-style-type: none"> <li>• Generator Performance Standards (GPS) and Generator Monitoring Plans (GMP): the proposed drafting moves away from the concept of ‘connection point’, which is used extensively in the GPS and GMP framework. <ul style="list-style-type: none"> <li>○ The Technical Rules and Appendix 12 of the WEM Rules define the connection point of the facility as the point of interconnection with the network.</li> <li>○ AEMO understands that Western Power has no ability to vary the connection point, other than varying what is considered part of the Western Power Network.</li> <li>○ Tranche 6 amendments to the WEM Rules introduced the concept of a Measurement Location to Appendix 12 of the WEM Rules, which gives some flexibility as to where the performance of a Generating System can be measured. A review of implications of measurement locations existing across separate facilities should be considered.</li> </ul> </li> <li>• Injection and Withdrawal: Dispatch processes and WEM Dispatch Engine (WEMDE) processes reference Injection and Withdrawal quantities, which specifies the quantity of power or energy injected or withdrawn at the network connection point (refer to Glossary terms - Injection and Withdrawal). <ul style="list-style-type: none"> <li>○ Note the proposed drafting leaves the point of Injection / Withdrawal unchanged at the amount sent into a network.</li> <li>○ Any limits on the intervening network (between connection point and facilities), which may reduce the ability of both facilities to fully inject or withdraw (e.g. where sharing Declared Sent-Out Capacity), will not be available to AEMO without obligations on the Market Participant to provide limit advice.</li> </ul> </li> </ul>

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		<ul style="list-style-type: none"> <li>• Loss Factors and energy losses: the proposed drafting does not address energy losses or other issues that occur between the meter and the point of dispatch.               <ul style="list-style-type: none"> <li>○ A facility's Loss Factor is measured at the 'sent out' point into the Network, so the materiality of this issue depends on how far the separately registered sub-component is from the connection point, as losses will be higher. The existing Loss Factor (provided by Western Power) for the network connection point may be no longer be appropriate for the separately registered sub-component.</li> </ul> </li> <li>• Outage management: changes to the facility definition and taxonomy may impact the outage rules. As rule amendments are not proposed, AEMO is unclear on whether this review has been undertaken.</li> <li>• Contingency Reserve Raise cost distribution: the proposed drafting does not consider consequential changes to Appendix 2A as a result of allowing multiple facilities to register behind a single connection point.               <ul style="list-style-type: none"> <li>○ The Runway Share calculated in Appendix 2A effectively treats each facility as an independent contingency, whereas under the proposed drafting multiple facilities behind a single connection point would effectively be a single contingency. As such, consideration needs to be given to how to treat such facilities under Appendix 2A to achieve an equitable cost distribution.</li> </ul> </li> </ul>
<p><b>Review Outcome 4</b></p> <p><b>DSP performance will be measured against a dynamic baseline. The dynamic baseline for DSP participation on business days will be based on an ex-ante '10 of 10' methodology incorporating a 'day of adjustment'.</b></p> <p><b>A 20% cap will be placed on upward adjustment but downward adjustment will be uncapped. Weekends and days in which the DSP is dispatched will be excluded</b></p>	<p>cl.2.16.9(c)</p> <p>cl.2.16A.3A</p> <p>cl.4.26.2CA</p> <p>cl.7.6.15</p> <p>Appendix 10</p>	<p>AEMO is supportive of Review Outcome 4 and notes that a similar methodology is used for Supplementary Reserve Capacity and Non-co-optimised Essential System Services, and also has application in the National Electricity Market (NEM).</p> <p>The move to a dynamic baseline for Relevant Demand (RD) represents a significant change to current arrangements, where RD is calculated annually using the top 200 hrs (and accommodating maintenance). The proposed approach calculates RD only in response to an activation event, which is inconsistent with other clauses in the WEM Rules which require RD to be calculated for all Trading Intervals in the Capacity Year.</p> <p>While AEMO understands that 'ex-ante' in the context of Review Outcome 4 refers to the use of interval meter data for the ten <i>previous</i> days, the calculation can only be undertaken after the trading day (ex-post).</p> <p>The move to an ex-post calculation is inconsistent with some publication obligations. As such, there are a number of consequential changes which will need to be addressed throughout the remainder of the WEM Rules, for example:</p>

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<p><b>from the dynamic baseline calculation.</b></p> <p><b>The methodology will be adjusted on weekends and public holidays to be a '4 of 4' approach using the last 4 weekend days or public holidays.</b></p> <p><b>The dynamic baseline will apply for DSP dispatch compliance and reserve capacity testing. Ex-post examination of data to investigate any undesirable behaviour will be provided for.</b></p>		<ul style="list-style-type: none"> <li>cl.4.25A.3 requires AEMO to evaluate performance against RD during a Verification Test, whereas the proposed Appendix 10 will only calculate RD for a dispatch event.</li> <li>cl.4.26.1A and cl.4.26.2D require AEMO to calculate the Reserve Capacity Deficit refund and Reserve Capacity "Shortfall" for a Demand Side Programme (DSP) respectively, for all Trading Intervals using RD as an input, whereas the proposed Appendix 10 will only calculate RD for a dispatch event.</li> <li>cl.7.13.1G(a)(iii) requires AEMO to publish estimated RD for a Dispatch Interval up to a week before the Dispatch Interval, whereas the methodology proposed in Appendix 10 will only allow AEMO to estimate the RD after the dispatch event (so that dispatch times are known) and when Meter Data Submissions (or alternative data sources) are received.</li> <li>The concept of a Consumption Deviation Application made under cl.4.26.2CD is not compatible with the new definition of RD and therefore should be removed from the WEM Rules or updated.</li> </ul> <p>In addition, AEMO has identified several matters within Appendix 10 that must be addressed to ensure a workable and effective solution:</p> <ul style="list-style-type: none"> <li>It is proposed to use two separate "Adjustment Windows" within a same day in case of two DSP activations more than four hours apart. This may result in a second "Adjustment Window" intersecting with a previous activation, resulting in an unreasonable "Baseline Adjustment". AEMO recommends adopting only one Adjustment Window per Trading Day, based on the first "Activation Event".</li> <li>The proposal includes an adjustment cap of 20% of the Average Metered Energy. This should be 20% of the Average Unadjusted Baseline Energy (which is consistent with Wholesale Demand Response in the NEM). Using Average Metered Energy could result in extremely high percentages being calculated unintentionally.</li> <li>AEMO notes that the current formulation for Baseline Adjustment is only functional as long as the Average Unadjusted Baseline Energy is always negative (i.e. Withdrawal), and is prone to divide-by-zero errors. If the equation should be compatible with DSPs who may be Injecting (and to mitigate divide-by-zero errors), an alternative formulation should be adopted.</li> <li>The proposed Appendix 10 automatically excludes Business or Non-Business Days for activations on Non-Business and Business Days respectively. DSPs may prefer not to differentiate between Business and Non-Business Days when determining their RD. Furthermore the limitation to four Non-Business Days is a small sample size which may be susceptible to outliers.</li> </ul>

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		<ul style="list-style-type: none"> <li>• An Adjustment Window of only two Trading Intervals (one hour) represents a small sample size which may be susceptible to outliers and is inconsistent with approaches in other jurisdictions, for example the NEM which uses three hours.</li> <li>• There are various instances where informal language should be replaced with formal language, for example replacing terms like "metered consumption", "metered value", and "actual consumption" with "Metered Schedule as determined in accordance with cl.9.5.2 and cl.9.5.2A or similar.</li> <li>• The proposed Appendix 10 performs calculations for each Associated Load separately and sums them to obtain the RD for the DSP. Consideration should be given to whether the Associated Loads' consumption should be summed prior to performing the calculation, for consistency with other calculations in the WEM Rules (such as Verification Tests and Reserve Capacity Refunds) which treat the DSP's Associated Loads as a portfolio.</li> </ul> <p>Finally, in relation to the Explanatory Note in section 2.16A and the proposed drafting for cl.2.16A.3A, AEMO suggests the reference to 'sole purpose' could be replaced with 'dominant purpose' to improve enforceability. As it is currently drafted, AEMO considers that 'sole' purpose has the potential to allow for any other reason, however minor, to be considered compliant.</p>