



Government of Western Australia
Department of Mines, Industry Regulation and Safety
Energy Policy WA

Review of the Participation of Demand Side Response in the Wholesale Electricity Market

Information Paper

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Working together for a **brighter** energy future.

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Executive Summary

The Demand Side Response Review

The Coordinator of Energy (Coordinator), in consultation with the Market Advisory Committee (MAC), has reviewed the participation of Demand Side Response (DSR) in the Wholesale Electricity Market (WEM) in Western Australia under clause 2.2D.1 of the WEM Rules (the DSR Review). This review focused on large-scale demand side response resources participating in the Wholesale Electricity Market (WEM). Distributed energy resources and the participation of aggregators is being progressed by another workstream within EPWA.

The purpose of this review was to ensure that DSR has adequate incentives to participate in the WEM and is compensated appropriately for the provision of its services.

DSR will play an important role in the WEM in the future, because of:

- the changes to the nature of the demand profile and the generation mix in the South West Interconnected System (SWIS) since the commencement of the WEM in 2006;
- the transition to a low emissions energy system characterised by increasing levels of intermittent and distributed generation; and
- the important flexibility / firming service DSR can provide in a market with ever increasing levels of intermittent and distributed generation.

The importance of DSR as a flexibility/firming resource in the WEM was also highlighted during the Reserve Capacity Mechanism (RCM) Review modelling work. Therefore, it is important to ensure that there are no barriers to the participation of DSR in the different WEM components.

The MAC constituted the DSR Review Working Group (DSRRWG) to support the DSR Review. More information on the DSR Review is available from the Energy Policy WA (EPWA) website¹, including

- the Scope of Work for the review;
- the Terms of Reference for the DSRRWG;
- papers and detailed minutes for all DSRRWG meetings and relevant MAC meetings;
- a Demand Side Response Review Consultation Paper; and
- all stakeholder submissions to the Consultation Paper.

¹ DSRRWG: <https://www.wa.gov.au/government/document-collections/demand-side-response-review-working-group>

MAC: <https://www.wa.gov.au/government/document-collections/market-advisory-committee>

Design Proposals and Rationale

Review Outcomes

Review Outcome	Rationale
<p>Review Outcome 1</p> <p>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. The WEM Rules will set out:</p> <ul style="list-style-type: none">• the requirements for Western Power to share information on constrained access loads with Australian Energy Market Operator (AEMO); and• the manner in which AEMO integrates constrained access loads in determining the Reserve Capacity Target and Network Access Quantities. <p>Changes to the commercial and regulatory framework to set out the information that must be made available to a customer seeking to connect on a constrained basis will be developed by Energy Policy WA (EPWA) as a part of the process of transferring the content of the Access Code to the Electricity System and Market Rules following the passage of the Electricity Industry (Distributed Energy Resources) Amendment Bill 2023. In the interim, EPWA will work with Western Power to ensure the relevant information is made available to potential constrained load customers on a more informal basis.</p>	<p>Constrained access connections for loads are becoming more commonplace. The disconnect between the constrained access connections framework and the WEM may have an impact on the overall efficiency of both the RCM and the Real-Time Market.</p> <p>Integrating this process in the WEM Rules will add certainty and transparency. It is important to consider these matters now, before constrained access connections increase, while striking the right level of transparency and integration. It is also important that parties seeking to connect a load on a constrained basis have visibility about the terms and conditions of their connection.</p> <p>Submissions were generally supportive of this outcome, with some suggesting that the framework for connection of new loads be modified. This is out of scope for this project. One other submission suggested a minimum size for constrained loads. Discussion at the Demand Side Response Review Working Group (DSRRWG) concluded that only larger loads are likely to be interested in negotiating access terms.</p>

Review Outcome	Rationale
<p>Review Outcome 2</p> <p>The WEM Rules will be amended to clarify the circumstances in which a hybrid facility comprising a load and an ESR component will be required by AEMO to register as a Scheduled Facility, and when it will have the flexibility to choose between registering as a DSP or Scheduled Facility.</p> <p>This registration will apply to the entire facility, unless a component is separately metered (see section Error! Reference source not found.).</p>	<p>A hybrid facility comprising a load and an Electric Storage Resource (ESR) component cannot register as both a DSP and as another facility type (e.g. a Scheduled Facility). Further, this hybrid facility may not have a choice whether to register as a DSP or a Scheduled Facility as AEMO may require it to register as a Scheduled Facility. If AEMO does require this, this hybrid facility can only receive capacity credits for its ESR component and not as a DSP.</p> <p>EPWA considers that the WEM Rules should be clear about the circumstances in which a hybrid facility will have flexibility and when it will be required by AEMO to register in a certain way.</p> <p>All submissions from DSR proponents supported this outcome. AEMO maintained its preference that a hybrid facility with an ESR component over 10MW should be required to register as a hybrid facility.</p>

Review Outcome	Rationale
<p>Review Outcome 3</p> <p>More flexibility will be provided to hybrid facilities by enabling them the option to use Western Power installed revenue quality metering on a single component of their facility. for the purpose of settlement in the STEM and the Real-Time Market, including the ESS markets.</p> <p>The component that is separately metered will be required to be a of 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.</p> <p>The WEM Rules will be amended to require Western Power to publish standard contract terms and costs for this type of metering. This contract should clarify liabilities, roles and responsibility such that facilities can make an informed decision on the basis of cost and risk associated with these arrangements against the forecast benefits.</p> <p>Settlement rules will also be amended to accommodate this.</p>	<p>Providing hybrid facilities (capable of providing DSR) with the choice of what services they provide and with access to a variety of possible revenue streams has the potential to provide market wide benefits. With Western Power revenue quality metering on a component behind the connection point, it would be possible to use different components of a facility to provide different WEM services at the same time. This type of arrangement would allow the individually metered component to be operated and settled independently.</p> <p>However, revenue quality metering comes at a cost, so it should not be something operators of hybrid facilities are required to install if they do not wish to do so.</p> <p>Submissions were generally supportive of this outcome, with some suggesting that the complexities and costs needed further consideration. EPWA notes proponents would be free to determine whether the benefits outweigh the costs and complexities based on their individual circumstances.</p> <p>One submitter noted that EPWA should be looking at alternative lower cost options instead of Western Power metering. However, in order to comply with the <i>National Measurement Act 1960</i>, data from Western Power revenue grade metering must be used for settlement.</p>

Review Outcome	Rationale
<p>Review Outcome 4</p> <p>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'.</p> <p>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 from the dynamic baseline calculation.</p> <p>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.</p> <p>The dynamic baseline will apply for DSP dispatch compliance and reserve capacity testing.</p> <p>Ex-post examination of data to investigate any undesirable behavior will be provided for.</p>	<p>There was general support for the adoption of a dynamic baseline during the RCM Review as well as during the DSR Review. The RCM Review recommended that the performance of DSPs should be measured against a dynamic baseline, rather than the static baseline in the status quo². The rationale for this outcome can be found in the Reserve Capacity Mechanism Review Information Papers (Stage 1) and (Stage 2).</p> <p>During the RCM Review, it was noted that the introduction of a dynamic baseline may increase the potential for gaming. This review outcome will assist to prevent gaming of the baseline.</p> <p>EPWA is recommending a '10 of 10' methodology for determining the dynamic baseline. A 10 of 10 methodology used by a number of electricity markets internationally, and also the Australian National Electricity Market. This approach has been determined to reasonably reflect a DSP's load available for curtailment, and of the options investigated best meets the principles set out in section 3.3, and in particular strikes the best balance between simplicity and accuracy.</p> <p>Submissions were generally supportive of this outcome. Some members of the DSRRWG suggested that there should be the ability for certain participants to request to have a different baseline applied to them, provided they could prove that it was statistically accurate.</p>
<p>Review outcome 5</p> <p>No change will be made to DSR participation in the SRC mechanism.</p>	<p>A recent procurement of Supplementary Reserve Capacity (SRC) and subsequent review of this mechanism by the Coordinator of Energy indicates that the SRC framework already provides for the effective participation of DSR.</p> <p>Submissions were generally supportive of this outcome.</p>

² Review Outcome 4, Reserve Capacity Mechanism Review Information Paper (Stage 1) and Consultation Paper (Stage 2), 3 May 2023.

Review Outcome	Rationale
<p>Review Outcome 6</p> <p>The Metering Code has been amended such that Western Power must share energy data to AEMO on request, to the extent necessary for AEMO to fulfil its functions in the WEM. AEMO will be required to keep the information that it receives confidential.</p>	<p>One of the issues raised in DSRRWG discussions was that Western Power is currently limited in the energy information it can provide to AEMO because of the confidentiality obligations in the <i>Electricity Industry (Metering) Code 2012</i> (“The Metering Code”).</p> <p>This issue was also raised in the recent SRC Review. During the SRC Review, EPWA identified that AEMO’s ability to measure the performance of some of the services provided by DSR, for example in relation to demand response aggregations, was impeded by the current obligations.</p> <p>All submissions were supportive of this outcome.</p>
<p>Review outcome 7</p> <p>No change will be made to DSR participation in the STEM.</p>	<p>While there may be some barriers to DSR participating in the STEM directly as they cannot meet the bidding requirements, they may participate via the relevant retailers. There may be complexities and costs associated with facilitating direct DSR participation in the STEM. During consultation, it was concluded that there was limited demand for direct DSR participation, and that the benefits may not outweigh the complexities of implementation.</p> <p>Submissions were generally supportive of this outcome. AEMO noted that it has not identified any barriers in the current market that would prevent DSR participation in the STEM.</p>
<p>Review outcome 8</p> <p>No change will be made to DSP participation in the Real-Time Market.</p>	<p>Following discussions with the DSRRWG, EPWA considers that flexible loads are already provided with the opportunity to participate in the Real-Time Market, and DSPs are required to be available during the daytime hours. Further changes to the Real-Time Market to allow bidding by DSPs are likely to be complex and costly without significant benefits to justify such changes.</p> <p>Submissions were generally supportive of this outcome.</p>

Review Outcome	Rationale
<p>Review outcome 9</p> <p>No change will be made to DSR participation in the Real-Time Market.</p>	<p>DSRRWG members acknowledged that scheduled loads are able to participate in the RTM but were also of the view that direct participation by DSR in the Real-Time Market is likely to have low uptake due to the costs and effort outweighing the benefits. It was also noted that the willingness to participate in the Real-Time Market may change over time or could appeal to hybrid facilities (such as a large load with on-site energy producing system).</p> <p>Submissions were generally supportive of this outcome. Some members of the DSRRWG proposed that DSR participation in the Real-Time Market needed to be encouraged or incentivised. However, customer awareness and education is outside the scope of the WEM Rules and this project.</p>
<p>Review outcome 10</p> <p>A specific service to address the minimum demand issues in the SWIS will not be developed at this time.</p>	<p>DSRRWG members discussed the need for developing a standard service to address minimum demand in the context of AEMO having already triggered Non-Co-optimised Essential System Services (NCESS) twice to procure minimum demand services. While there was some support for this, it was ultimately concluded that it is best to see if the increasing penetration of ESR, the new flexible capacity product and the Real-Time Market pricing outcomes will address this issue in the medium-term.</p> <p>Submissions were generally supportive of this outcome. The DSRRWG discussed the idea of developing a standard service to address minimum demand, but concluded that in the medium term it is better to monitor the effects of increased levels of Electric Storage Resources, the new flexible capacity product and changes to the Real-Time Market.</p>

Review Outcome	Rationale
<p>Review Outcome 11</p> <p>The size and potential technical limitations (such as the telemetry requirements) for providing ESS will be reviewed to ensure that there are no unnecessary barriers for the provision of ESS by technically capable DSR. This Review will occur through a separate project to be carried out by EPWA, which will assess the content of all WEM Procedures to assess whether there are any matters that are more appropriate to set out in the WEM Rules.</p>	<p>The DSR Review considered what technical limitations (such as the telemetry requirements) were appropriate for providing ESS services.</p> <p>Telemetry requirements must strike the right balance between ensuring AEMO has the minimum level of information it requires to achieve security and reliability objectives, whilst not imposing unnecessary costs on participants. For example, if information is not required in real time, such as for AEMO to be able to assess compliance and performance, data can be provided ex-post and avoid (or significantly reduce) the need for telemetry.</p> <p>Submissions were generally supportive of this outcome, noting the telemetry is a barrier to DSR participation. AEMO noted the need for data to allow it to assess performance and compliance, but noted this could be achieved through other means (e.g. high speed data recorders).</p>
<p>Review Outcome 12</p> <p>No changes will be made to the ability of DSR to register as both an Interruptible Load and a DSP, and provide Contingency Reserve Raise services at the same time it receives capacity credits. However, a methodology for the rotation of DSP dispatch will be developed and included in the WEM Rules.</p>	<p>Without a rotational method for DSP dispatch in the WEM Rules AEMO must determine which DSP to dispatch each time and on what basis. If a rotation method is included in the WEM Rules, the dispatch of DSP will be more equitable by preventing excessive dispatch of particular DSPs over time.</p> <p>Submissions were generally supportive of this outcome. One DSRRWG member expressed concern about a rotational method resulting in a loss of flexibility for AEMO. EPWA considers that, on the balance, a rotational method is more equitable and will not limit flexibility in emergency situations</p>

1. Introduction

Under Clause 2.2D.1(h) of the WEM Rules, the Coordinator of Energy (Coordinator) has the function to consider and, in consultation with the Market Advisory Committee (MAC), progress the evolution and development of the Wholesale Electricity Market (WEM) and the WEM Rules.

The Coordinator, in consultation with the MAC, has reviewed the participation of Demand Side Response (DSR) in the WEM (the DSR Review).

2. Background

2.1 Current Participation of DSR in the WEM

Currently, DSR can participate directly in the WEM as:

- A Demand Side Programme (DSP) in the Reserve Capacity Mechanism (RCM);
- An Interruptible Load providing Contingency Raise services;
- A Scheduled Facility participating in the Real-Time Market for energy and/or Essential System Services (ESS); or
- Provider of Non-Co-Optimised Essential System Services (NCESS) or Supplementary Reserve Capacity (SRC) services.

Loads also participate indirectly in the WEM as they:

- pay for the consumption of energy through retail contracts; and
- pay for capacity based on their Individual Reserve Capacity Requirement (IRCR).

2.2 The Need for the DSR Review

DSR will play an increasingly important role in the WEM in the future because of the important flexibility and firming services it can provide in a market with ever increasing levels of intermittent and distributed generation. The importance of this has also been highlighted during the RCM Review modelling.

Therefore, it is important to ensure that there are no barriers to the participation of DSR in the different WEM components.

The purpose of this review is to ensure that DSR:

- faces no barriers and has adequate incentives for participation in the WEM; and
- is compensated appropriately for the provision of its services.

2.3 Guiding Principles

The guiding principles for the review of the participation of DSR in the WEM are that any recommendations should:

- meet the Wholesale Electricity Market Objectives;
- facilitate the orderly transition to a low greenhouse gas emissions energy system;
- be cost-effective, simple, flexible and sustainable;
- allocate risks to those who can best manage them;
- provide investment signals and technical capability signals that support the reliable and secure operation of the power system;
- ensure that the value of DSR can be maximised for the benefit of those who provide it and the WEM as a whole; and
- ensure that DSR is not under or over-compensated for its participation in any of the WEM components.

2.4 Scope of the Review

The Coordinator, in consultation with the MAC, set the following objectives for the DSR Review:

- identify the different ways DSR can participate across the different WEM components;
- identify and remove any disincentives or barriers to DSR participating across the different WEM components; and
- identify any potential for over- or under-compensation of DSR (including as part of hybrid facilities) as a result of its participation in the various market mechanisms and provision of Network Services (through NCESS).

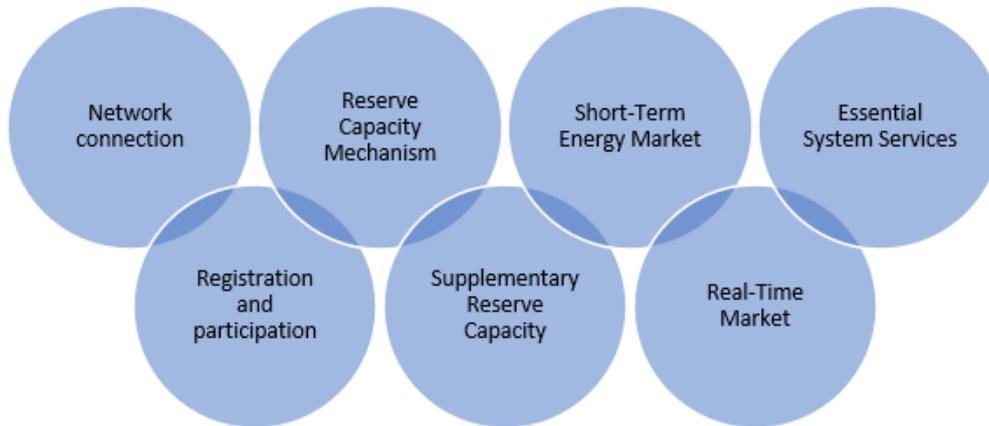
The following aspects related to the participation of DSR are out of scope for this review:

- certification of DSPs;
- treatment of IRCR; and
- DER (Distributed Energy Resources), also known as 'behind the meter' devices. The participation of DER is being addressed through other work underway in EPWA.

2.5 Purpose and Structure of this Paper

This paper presents the Review Outcomes for the DSR review, reflecting the analysis undertaken by EPWA and the input of stakeholders. This paper is for information only. It presents the Review Outcomes in all the WEM components as shown below.

Figure 1: Components of DSR participation considered in this Review



Appendix A provides a summary of the feedback on the DSR Review Consultation Paper and EPWA's responses to the feedback.

3. Review Outcomes

3.1 Constrained access for Loads

As a general principle, currently demand customers have unconstrained network access. More recently, some new loads connecting in congested parts of the network are being placed on 'runback schemes' by Western Power. These customers can have their consumption limited when the network is congested, and are referred to as 'constrained access loads'.

The number of new constrained access loads is expected to increase over time, as more regions are expected to become congested in the transition to a low carbon emissions system and as more customers pursue electrification.

While it is acknowledged that Western Power does share some information about constrained access loads to AEMO, there is no clarity about what must be provided across planning and operational timeframes. The disconnect between the constrained access connections framework and the WEM may have an impact on the overall efficiency of both the RCM and the Real-Time Market. Integrating this process in the WEM Rules will add certainty and transparency.

While there are many benefits to allowing loads to connect on a constrained basis, there are some issues with the operations of these schemes as they currently stand, including:

- Runback scheme connections currently lack transparency and are not fully integrated in the market. For example, the number, the demand and location of these constrained access loads is not transparent to the market.
- Effective integration into the market is also not currently provided for. For example:
 - the triggers for curtailment are not transparent to AEMO and the WEM; and
 - whether and how the effect of this curtailment is considered in system operation, or in the RCM/planning processes more generally, is not clear.

Proposal 1

The Consultation Paper³ proposed that:

Transparency regarding constrained access connections should be provided for and, to the extent practicable, constrained access loads should be integrated into the processes in the WEM Rules.

The WEM Rules should set out:

- *the requirements for Western Power to share information on constrained access loads with AEMO;*
- *the manner in which AEMO integrates curtailable loads in determining the Reserve Capacity Target and Network Access Quantities; and*
- *how curtailment of constrained access loads is considered in the Real-Time Market and constraint equations/optimisation processes.*

³ Review of the Participation of Demand Side Response in the Wholesale Electricity Market, Consultation Paper, 21 September 2023 available here: <https://www.wa.gov.au/government/document-collections/demand-side-response-review>

Changes to the commercial and regulatory framework to set out the information that must be made available to a customer seeking to connect on a constrained basis will also be developed.

Submissions in response to the Consultation Paper were generally supportive of this proposal. Some submissions suggested reviewing and modifying the framework for the connection of new loads. This is out of scope for this Review, rather the intent is to ensure there is transparency for proponents who may wish to connect a load on a constrained basis about the terms and conditions of doing so.

One submission suggested that a minimum load size threshold should be implemented. This matter was discussed at the Demand Side Response Review Working Group (DSRRWG) meeting held on 29 November 2023, and some members considered it unnecessary as only larger loads would be likely to be interested in negotiating access terms.

With regard to real-time market integration, discussion at the DSSRWG indicated that all current constrained load connections are post-contingent⁴. In future, if there are pre-contingent constrained load arrangements these arrangements will need to be factored into limit advice and constraint equations to facilitate this and allow efficient operation of the Real-Time Market. Given this, and that the number of these arrangements at this time is relatively low, the WEM Rules will not be amended at this time to change the way that curtailment of constrained loads is considered in Real-Time Market operation.

Review Outcome 1

Transparency regarding constrained access connections will be provided and, to the extent practicable, constrained access loads should be integrated into the processes in the WEM rules. The WEM Rules will set out:

- the requirements for Western Power to share information on constrained access loads with Australian Energy Market Operator (AEMO); and
- the manner in which AEMO integrates constrained access loads in determining the Reserve Capacity Target and Network Access Quantities.

Changes to the commercial and regulatory framework to set out the information that must be made available to a customer seeking to connect on a constrained basis will be developed by Energy Policy WA (EPWA) as a part of the process of transferring the content of the Access Code to the Electricity System and Market Rules following the passage of the Electricity Industry (Distributed Energy Resources) Amendment Bill 2023. In the interim, EPWA will work with Western Power to ensure the relevant information is made available to potential constrained load customers on a more informal basis.

3.2 Registration and participation

3.2.1 Registration of hybrid facilities

A hybrid facility comprising a Load and an Electric Storage Resource (ESR) component cannot register as both a DSP and as another facility type (e.g. a Scheduled Facility). Furthermore, a hybrid facility with an ESR may not have the option to register as a DSP if AEMO requires it to register as a Scheduled Facility. A hybrid facility registered as a Scheduled Facility can only receive capacity credits for its ESR component and not for its DSP.

⁴ With the exception of the Eastern Goldfields Load Permissive Scheme

Proposal 2

The consultation paper proposed that:

The WEM Rules should be amended to clarify the circumstances in which a hybrid facility comprising a load and an ESR component will be required by AEMO to register as a Scheduled Facility. The WEM Rules should also be clear whether there is any flexibility for the relevant market participant to register such a facility as a DSP and receive capacity credits accordingly.

All submissions from DSR proponents supported the proposal and stated their preference for ensuring registration flexibility and allowing for the ability of a hybrid facility to register as a DSP.

AEMO maintained its preference that a hybrid facility with an ESR component over 10MW should be registered as a Scheduled Facility. EPWA notes that there may be circumstances where hybrid facilities with an ESR component connect in a constrained part of the network, and in these circumstances those facilities should have the option to register as a DSP.

Review Outcome 2

The WEM Rules will be amended to clarify the circumstances in which a hybrid facility comprising a load and an ESR component will be required by AEMO to register as a Scheduled Facility, and when it will have the flexibility to choose between registering as a DSP or Scheduled Facility.

This registration will apply to the entire facility, unless a component is separately metered (see section **Error! Reference source not found.**).

3.2.2 Participation of hybrid facilities

Currently, the WEM considers a hybrid facility as a single facility for dispatch, as metering accuracy requirements mean that settlement can only be based on a measurement by a Western Power revenue quality meter.

Proposal 3

The consultation paper proposed that:

More flexibility should be provided to hybrid facilities by enabling them to use Western Power installed sub-metering for the purpose of participation and settlement in the STEM and the Real-Time Market, including the ESS markets.

Submissions received were generally supportive of this proposal. However, some submissions suggested further consideration of practical matters such as technical feasibility, operational complexities and site access.

One submitter suggested sub-metering would be cost prohibitive and likely to increase barriers for DSR participation. EPWA notes that sub-metering is entirely optional under this proposal. Market participants will be free to determine whether sub-metering is commercially viable for them.

One submitter noted that EPWA should be looking at alternative lower cost options instead of Western Power metering. However, in order to comply with the *National Measurement Act 1960*, data from Western Power revenue grade metering must be used for settlement.

In its submission Western Power highlighted that practical considerations need to be taken into account. Western Power expanded on this during the DSRWG meeting held on 29 November 2023 noting that the following issues should be considered:

- physical access to the customer side of a meter and the condition of customer owned equipment;
- the need for a minimum safety standard for customer equipment; and
- additional liability and risk adding to Western Power costs.

Further consideration will be given to the complexities that may arise during the drafting of the relevant WEM Amending Rules, however EPWA considers that these are best managed through contractual arrangements between Western Power and its customers.

Review Outcome 3

More flexibility will be provided to hybrid facilities by enabling them the option to use Western Power installed revenue quality metering on a single component of their facility for the purpose of settlement in the STEM and the Real-Time Market, including the ESS markets.

The component that is separately metered will be required to be of a different technology type to the rest of the components at the facility. The facility in its entirety will need to be located behind a single connection point.

The WEM Rules will be amended to require Western Power to publish standard contract terms and costs for this type of secondary metering. This contract should clarify liabilities, roles and responsibility such that facilities can make an informed decision on the basis of cost and risk associated with these arrangements against the forecast benefits.

Settlement rules will also be amended to accommodate this.

3.3 Measuring the performance of DSPs in the Reserve Capacity Mechanism

Currently each DSP is allocated Certified Reserve Capacity based on its “Relevant Demand”, which is the lower of:

- the aggregate IRCRs of its Associated Loads; and
- its historical 95% Probability of Exceedance consumption during the 200 intervals with the highest generation.

One of the Review Outcomes of the RCM Review was that the performance of DSPs should be measured against a dynamic baseline, rather than the static baseline in the status quo. The rationale for this outcome can be found in the Reserve Capacity Mechanism Review Information Papers (Stage 1)⁵ and (Stage 2)⁶.

Proposal 4

The consultation paper proposed that:

⁵ [epwa_reserve_capacity_mechanism_review_information_and_consultation_paper.pdf \(www.wa.gov.au\)](https://www.wa.gov.au/system/files/2023-08/reserve_capacity_mechanism_review_-_information_paper_stage_2.pdf)

⁶ https://www.wa.gov.au/system/files/2023-08/reserve_capacity_mechanism_review_-_information_paper_stage_2.pdf

The dynamic baseline for DSP participation will be based on an ex-ante 'X of Y' methodology incorporating a 'day of adjustment'. A cap will be placed on upward adjustment but uncapped for downward adjustment.

Ex-post mitigation through examination of data could still be followed to detect any undesirable behavior that is not being mitigated through ex-ante measures.

Submissions were supportive of this proposal.

Two submitters suggested a '10 of 10' approach and one submitter suggested a '5 of 10' approach.

This matter was further discussed at the DSRRWG meeting of 20 November 2023 in which members generally supported the proposal. Some members suggested that there should be the ability for certain participants to request to have a different baseline applied to them, provided they could prove that it was statistically accurate. EPWA agrees that this is reasonable (in limited circumstances), and this will be addressed during the drafting of the relevant WEM Amending Rules.

EPWA developed the following principles to assist in determining the approach to the dynamic baseline.

- Minimise time and cost to implement.
- Allow for as wide participation as possible including aggregation of smaller loads.
- Align with the NEM as much as possible and practical.
- Closely reflect and predict the underlying load.
- Use a simple and understandable approach.
- Utilise a proven concept used by other markets.
- Ensure the approach is consistent with other aspects of DSP participation in the RCM.

A 10 of 10 approach is used in the CAISO, as well as the Australian NEM. Based on studies done by other jurisdictions, including in the NEM, a '10 of 10' approach closely reflects the underlying load and accounts for variation in demand profiles.

A summary of the proposed design, as it relates to business days is presented below in Table 2. The WEM Rules will also include a methodology for weekends and public holidays that mirrors the approach in Table 2 below, however uses the 4 most recent weekends or public holidays to establish the baseline.

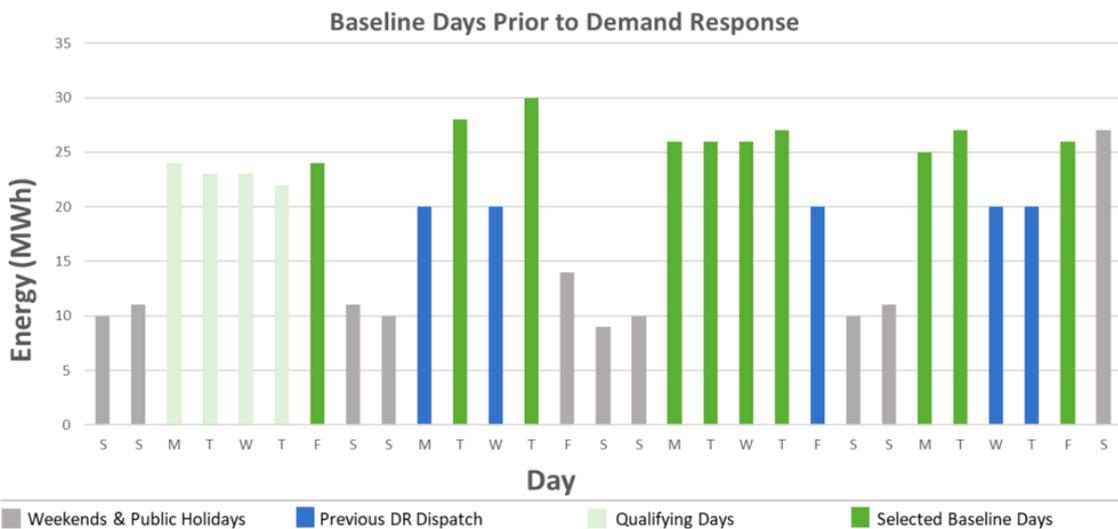
Table 2: Design summary of dynamic baseline

Design Element	Proposed Approach	
Baseline window	10 most recent eligible days	Data from all 10 of the 10 most recent eligible days will be used to create the baseline (see Figure 2 below for further information)
Exclusion rules	Exclude weekends, public holidays and DSP event days	Weekends, public holidays and DSP dispatch events will be ineligible, as these days do not best reflect the underlying demand on expected high demand days.
Calculation type	Average value	The baseline will be based on the average of load for each hour over the included days.

Adjustment window	1 hour looking back from the DSP dispatch notice	Following a DSP dispatch instruction the unadjusted dynamic baseline will be adjusted using demand data from the one hour prior to the dispatch instruction (see Figure 3 below for further information).
Baseline adjustments	Scalar	Adjustments to the baseline will be made (upwards or downwards) depending on the underlying load's consumption during the adjustment window. The dynamic baseline will be adjusted such that the adjusted baseline more closely equals the observed load immediately prior to the dispatch instruction. Adjustments upwards will be capped to 20% above the unadjusted dynamic baseline, and adjustments downwards will be uncapped. This adjusted baseline will be used for dispatch compliance assessment and Reserve Capacity testing.
Ex-post review	Allowed	The Economic Regulation Authority will be provided the ability to undertake an ex-post review of the dynamic baseline and be able to take appropriate action should they find evidence of gaming.

An example of how the baseline window for a business day would be determined is outlined in Figure 2 below. Weekends, public holidays and demand response dispatch days have been excluded from the calculation, and an average consumption for each hour would be calculated based on the consumption during the dark green days to create the dynamic baseline. Further consultation on which days should be excluded from the baseline window will be undertaken through the Exposure Draft of the relevant draft WEM Amending Rules.

Figure 2: Worked example of baseline window determination for dynamic baseline

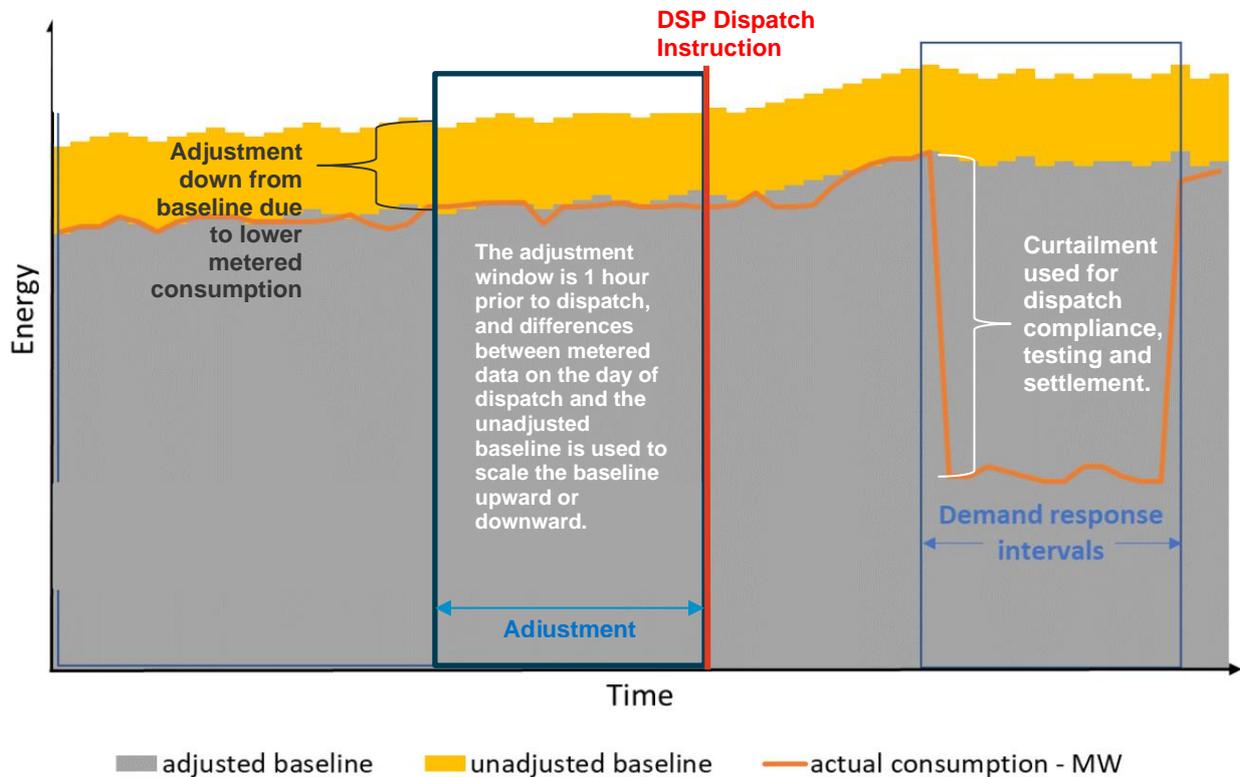


Source: [AEMO Wholesale Demand Response: High Level Design](#)

Figure 3 below demonstrates how the adjustment mechanism would work. In this example, metered consumption leading up to the dispatch instruction was lower than the baseline would indicate. The dynamic baseline is adjusted down by the same percentage and the demand response is measured from that baseline for the purposes of compliance, reserve capacity testing and settlement. This information will not be used in real time when a dispatch

instruction is issued, and the dispatch instructions for DSPs will continue to be expressed as a quantity of curtailment.

Figure 3: Worked example of a day-of adjustment for dynamic baseline



Source: [AEMO Wholesale Demand Response: High Level Design](#) (amended to demonstrate proposed design in the WEM)

Review Outcome 4

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’.

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 from the dynamic baseline calculation.

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.

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.

3.4 Supplementary Reserve Capacity (SRC)

The SRC mechanism is a market mechanism which provides additional reserve capacity to the WEM in circumstances in which available reserve capacity is deemed insufficient to maintain system reliability.

Six months before the start of a capacity year AEMO can seek SRC if AEMO considers there will be inadequate reserve capacity. All services, including DSR, are eligible to participate if they satisfy the eligibility criteria.

Proposal 5

The consultation paper proposed that:

No change is made to the SRC mechanism, as the SRC framework already provides for the effective participation of DSR.

Most submissions were generally supportive of the proposal.

One submission suggested that the SRC framework could be improved to increase DER participation. EPWA currently has a separate workstream that is reviewing and considering DER arrangements.

Another submission suggested that the performance of the SRC framework be reviewed after this hot season to assess DSR participation. EPWA notes that the Coordinator of Energy must review the SRC framework after each SRC tender process.

Review outcome 5

No change will be made to DSR participation in the SRC mechanism.

3.5 Amending the Metering Code

AEMO's ability to measure the performance of some SRC services based on DSR is impeded due to issues with metering data availability.

EPWA proposed to make amendments to the WEM Rules to require Western Power to provide AEMO with the metering information necessary for the performance measurement of SRC services based on DSR.

Proposal 6

The consultation paper proposed that:

The Electricity Industry (Metering) Code 2012 (Metering Code) be amended so Western Power must share metering data on request to AEMO, to the extent necessary for market purposes, and with AEMO keeping that information confidential.

All submissions were supportive of this proposal.

AEMO's submission proposed changing the Metering Code to require Western Power to remove a meter from the deemed accumulation meter list, if requested by AEMO. EPWA notes that making this change now would be premature as there will be a separate project on the gradual reduction of the Notional Wholesale Meter that will be progressed in due course.

Review Outcome 6

The Metering Code has been amended such that Western Power must share energy data to AEMO on request, to the extent necessary for AEMO to fulfil its functions in the WEM. AEMO will be required to keep the information that it receives confidential.

3.6 Short Term Energy Market (STEM)

While DSR participation in the STEM is not explicitly prohibited, DSR may not be able to comply with the STEM bidding requirements.

Proposal 7

The consultation paper proposed that:

Steps should be taken to remove impediments from the WEM Rules to allow direct participation by DSR in the STEM.

Submissions were generally supportive of the proposal. However, AEMO noted that has not identified any barriers in the current market that would prevent DSR participation in the STEM.

This proposal was further discussed at the DSRRWG meeting held on 29 November 2023. It was highlighted that DSR could participate in the STEM via the relevant retailers, and there may be complexities and costs associated with facilitating direct DSR participation in the STEM. It was concluded that there was limited demand for direct DSR participation, and that the benefits may not outweigh the complexities of implementation.

Review outcome 7

No change will be made to DSR participation in the STEM.

3.7 Real-Time Market

3.7.1 DSP participation

A DSP with capacity credits is required to be available for dispatch for 12 hours each day, the hours for which are set by AEMO. AEMO issues Dispatch Instructions to a DSP if it reasonably considers that the dispatch of that DSP is required to restore or maintain Power System Security or Power System Reliability. Further changes to the Real-Time Market to allow bidding by DSPs are likely to be complex and costly without significant benefits to justify such changes.

Proposal 8

The consultation paper proposed that:

No changes be made to DSP participation in the Real-Time Market.

All submissions responding to this proposal were supportive of this proposal.

Review outcome 8

No change will be made to DSP participation in the Real-Time Market.

3.7.2 DSR Participation

Loads that are not part of a DSP⁷ have the option to participate in the Real-Time Market by registering as a Scheduled Facility. Scheduled Facilities can bid withdrawal quantities and prices into the Real-Time Market. Loads that want to participate in the Real-Time Market must weigh up the costs and risks with the potential benefits.

Proposal 9

The consultation paper proposed that:

No change is made to DSR participation in the Real-Time Market as the participation of flexible loads is already provided for.

All submissions responding to this proposal were supportive of this proposal.

⁷ A load cannot be registered concurrently as both a DSP and as another Facility, apart from an Intermittent Load.

At the DSRRWG meeting on 29 November, some members put forward the view that DSR participation in the Real-Time Market needed to be encouraged or incentivised, and that retail contracts should better reflect market signals. Other members expressed a view that exposure to Real-Time Market pricing carries risk for large loads, and that there are better opportunities to participate through the RCM.

This review is concerned with impediments in the WEM Rules, and none have been identified. To the extent that any customer awareness or education is required to incentivise DSR participation, this is outside the scope of this Review.

Review outcome 9

No change will be made to DSR participation in the Real-Time Market.

3.8 Provision of Market Services

3.8.1 Minimum demand service

An increasing challenge in the SWIS is that the minimum operational demand is falling as behind-the-meter PV generation increases. In response, EPWA is coordinating and leading the Low Load Project⁸. This project is to ensure appropriate mechanisms are in place to manage the reducing minimum demand on the SWIS. However, consideration was given through this Review to whether any adjustments to the market mechanisms could or should be made to create a market service that can respond to low demand.

Proposal 10

The consultation paper proposed that:

No changes be made for a specific service to address the minimum demand issues in the SWIS at this time.

All submissions were generally supportive of the proposal.

One submitter recommended that households and small businesses be directly incentivised to address minimum demand, instead of doing so through a market solution. EPWA notes that DER participation is addressed in a separate EPWA workstream.

The DSRRWG discussed the idea of developing a standard service to address minimum demand in the context of AEMO having already triggered NCESS twice to procure minimum demand services. While there was some support for this, the working group concluded that in the medium-term, it is better to monitor the effects of increasing penetration of ESR, the new flexible capacity product and Real-Time Market pricing. If those developments have sufficient effect on minimum demand, a new product may not be necessary.

Review outcome 10

A specific service to address the minimum demand issues in the SWIS will not be developed at this time.

⁸ <https://www.wa.gov.au/system/files/2022-08/EPWA-SWIS%20Low%20Demand%20Project%20Stage%201.pdf>

3.8.2 Ability to participate in Frequency Co-optimised Essential System Services (FCESS)

During the review it was highlighted that technical limitations placed on ESS providers, such as a size and telemetry requirements, may be limiting participation of DSR.

Proposal 11

The consultation paper proposed that:

The size and potential technical limitations (such as the telemetry requirements) for providing ESS should be reviewed to ensure that there are no unnecessary barriers for the provision of ESS by technically capable DSR.

Submissions were generally supportive of this proposal.

Two submissions noted that that telemetry is an unnecessary barrier for DSR participation.

One submission commented on the specific technical limitations placed on DSR providing FCESS. This submission suggested that the FCESS requirement for loads to respond within 400ms is a barrier to participation and instead proposed a scaled approach.

At the DSRRWG meeting held on 29 November 2023, AEMO addressed this specific procedure requirement noting that AEMO is amending the accreditation requirements to allow for a slower response time (with compensation adjusted according to speed factor).

At this meeting, AEMO noted its need for data that will allow it to assess performance and compliance. While this does not require real-time telemetry, it does require data to be captured that can confirm that a service has been delivered. This could be, for example, through high-speed data recorders.

Review Outcome 11

The size and potential technical limitations (such as the telemetry requirements) for providing ESS will be reviewed to ensure that there are no unnecessary barriers for the provision of ESS by technically capable DSR. This Review will occur through a separate project to be carried out by EPWA, which will assess the content of all WEM Procedures to assess whether there are any matters that are more appropriate to set out in the WEM Rules.

3.8.3 DSPs providing Contingency Reserve Raise services

Currently, a DSP can also register as an Interruptible Load and be accredited to provide Contingency Reserve Raise services. Consideration was given to the interaction between its obligations in the provision of each market service.

Proposal 12

The consultation paper proposed that:

No changes are proposed to be made to the ability of DSR to register as both an Interruptible Load and a DSP, and provide Contingency Reserve Raise services at the same time it receives capacity credits. However, a methodology for the rotation of DSP dispatch will be developed.

Submissions were generally supportive of this proposal.

This issue was discussed at the DSRRWG meeting held on 29 November 2023. One stakeholder expressed a concern that having a method for rotation of DSPs might result in a loss of flexibility and worse outcomes for the market. While this might reduce flexibility, without it there is no guidance for AEMO on what basis to rotate DSPs. A rotation method will ensure

dispatch during normal operating conditions is more equitable, and would not limit AEMO's ability to issue directions in an emergency situation.

Review Outcome 12

No changes will be made to the ability of DSR to register as both an Interruptible Load and a DSP, and provide Contingency Reserve Raise services at the same time it receives capacity credits. However, a methodology for the rotation of DSP dispatch will be developed and included in the WEM Rules.

Appendix A. Responses to the consultation paper

Stakeholder	Stakeholder Feedback	EPWA's Response
<p>Proposal 1: Transparency regarding constrained access connections should be provided for and, to the extent practicable, constrained access loads should be integrated into the processes in the WEM rules.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Synergy • Expert Consumer Panel • Western Power • Newmont 		
AEMO	<p>AEMO supports the broad proposal for defining the parameters for the connection of constrained access loads under the WEM Rules. In progressing the detail, AEMO requests consideration is given to ensure that the WEM Rules empower AEMO to obtain the relevant data from Western Power and to use this in relevant market processes (e.g., the Reserve Capacity Mechanism and PASA processes).</p>	<p>EPWA agrees that the WEM Rules should provide for AEMO to obtain the relevant data from Western Power and to use this in the relevant market processes (e.g., the Reserve Capacity Mechanism and PASA processes). Provisions to achieve this will be included in the relevant WEM Amending Rules.</p>
Expert Consumer Panel	<p>Consideration should be given to Western Power introducing a streamlined and transparent process for loads to connect to constrained parts of the network, potentially including standard constrained-load-connection contracts, to assist load proponents to understand the implications and connect. The Expert Consumer Panel recognises that in some cases, terms and conditions applicable to connection are likely to be specific to the constrained network location and so result in bespoke connection contracts. This may limit the extent of standardisation possible.</p>	<p>EPWA agrees that a streamlined and transparent process for loads to connect to constrained parts of the network should be introduced, potentially including standard constrained access contracts, to assist connection applicants to understand the implications.</p>

Stakeholder	Stakeholder Feedback	EPWA's Response
Synergy	Synergy considers the review of the changes required to the commercial and regulatory framework should also carefully consider the changes required to the access regime. The review should adopt a similar approach to that taken when the Electricity Network Access Code 2004 (ENAC) was amended to support the operation of security constrained economic dispatch in relation to entry covered services, for the export of electricity into the network (generation).	Changes to the commercial and regulatory framework to set out the information that must be made available to a customer seeking to connect a load on a constrained basis will be developed by Energy Policy WA (EPWA) as a part of the process of transferring the content of the Access Code to the Electricity System and Market Rules following the passage of the Electricity Industry (Distributed Energy Resources) Amendment Bill 2023. In the interim, EPWA expects that Western Power will ensure the relevant information is made available to potential applicants seeking to connect a load on a constrained access basis.
Newmont	A minimum load size or aggregation size should be determined for inclusion.	EPWA considered this suggestion and it was discussed further with the DSRRWG. Ultimately, it was agreed that only larger loads would seek to negotiate a connection on a constrained access basis and thus, a minimum size threshold is not required.
<p>Proposal 2: The WEM Rules should be amended to clarify the circumstances in which a hybrid facility comprising a load and an ESR component will be required by AEMO to register as a Scheduled Facility. The WEM Rules should also be clear whether there is any flexibility for the relevant market participant to register such a facility as a DSP and receive capacity credits accordingly.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • Enel X • Expert Consumer Panel • Synergy 		

Stakeholder	Stakeholder Feedback	EPWA's Response
AEMO	<p>AEMO considers that it is essential for AEMO to retain the ability to decide, based on power system security and reliability requirements, that a hybrid Facility (comprising of a Load and an Electric Storage Resource) must register as a Scheduled Facility.</p> <p>AEMO considers that operability (i.e., dispatchability and response measurement) should form part of registration requirements.</p>	<p>The WEM Rules will be amended to clarify the circumstances in which a hybrid facility comprising a load and an ESR component will be required by AEMO to register as a Scheduled Facility, and when it will have the flexibility to choose between registering as a DSP or Scheduled Facility.</p> <p>This registration will apply to the entire facility, unless sub-metering is installed.</p>

Proposal 3:
 More flexibility should be provided to hybrid facilities that are registered in the WEM by enabling them to use Western Power installed sub-metering for the purpose of settlement in the STEM and the Real-Time Market, including the ESS markets.

The following stakeholders indicated that they 'support' or generally support the proposal:

- AEMO
- Enel X
- Expert Consumer Panel
- Newmont
- Shell Energy
- Western Power

Stakeholder	Stakeholder Feedback	EPWA's Response
Expert Consumer Panel	<p>The Expert Consumer Panel notes that under this proposal, the metering would still need to be Western Power's approved, revenue-grade technology. The Expert Consumer Panel note that measurement technology is developing quickly, and new lower cost, but nevertheless accurate, metering technologies are emerging. Western Australia must ensure that the market rules keep up to date with these developments, engaging with national measurement bodies where necessary, because metering costs have traditionally been seen as a material barrier to demand side response.</p>	<p>EPWA understands that there are costs associated with installing Western Power meters. However, EPWA is limited by the national legal framework as to what kinds of meters can be used for settlement purposes.</p> <p>More flexibility will be provided to hybrid facilities by enabling them the option to use Western Power installed sub-metering for the purpose of settlement in the STEM and the Real-Time Market, including the ESS markets.</p> <p>The WEM Rules will be amended to require Western Power to publish standard contract terms and costs for revenue sub-metering. This contract should clarify liabilities, roles and responsibilities such that facilities can make an informed decision on the basis of cost and risk associated with these arrangements against the forecast benefits.</p> <p>Settlement rules will also be amended to provide for calculations for settlement when this type of sub-metering is present.</p>
Shell Energy	<p>Shell Energy recognises the importance of and broadly supports metering accuracy. However, at this stage Shell sees the proposal for installation of settlement grade sub-meters for hybrid facilities as cost prohibitive and likely to increase barriers to entry for DSR participants.</p>	<p>This arrangement is entirely optional and the decision to install a sub-meter is entirely up to the Market Participant to make.</p>

Stakeholder	Stakeholder Feedback	EPWA's Response
<p>Proposal 4: The dynamic baseline for DSP participation will be based on an ex-ante 'X of Y' methodology incorporating a 'day of adjustment'. A cap will be placed on upward adjustment but uncapped for downward adjustment. Ex-post mitigation through examination of data could still be followed to detect any undesirable behavior that is not being mitigated through ex-ante measures.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Enel X • Newmont • Shell Energy • Expert Consumer Panel 		
AEMO	<p>AEMO supports the proposal and suggests the use of the 10 of 10 methodology – for alignment with the Wholesale Demand Response and Reliability and Emergency Reserve Trader mechanisms in the National Electricity Market. AEMO is also open to variations which may result in better outcomes or reduced opportunity for gaming. AEMO further notes that consideration should be given to how the Y days are selected. For example, whether it includes weekdays only; weekdays/weekends depending on the day of dispatch; no distinction; whether public holidays are included; and whether Market Participants be allowed to request specific days be excluded (on the basis maintenance activities).</p>	<p>DSP performance will be measured against a dynamic baseline. The dynamic baseline for DSP participation will be based on a '10 of 10' methodology.</p> <p>Ex-post examination of data to investigate any undesirable behaviour will be provided for.</p>
Enel X	<p>A CAISO 10 of 10 methodology, where all 10 of the 10 most recent eligible days are used in the baseline calculation, is a sensible starting point. A 10/10 baseline will also take into account any load curtailment done by the customer for the purposes of reducing its IRCR. Under a 10/10 baseline, all the previous 10 eligible days are included in the baseline calculation. Where a customer has curtailed load for the purposes of IRCR within that 10-day period, the customer's raw baseline and thus the value that it can receive through the RCM will be reduced.</p>	<p>Data from all 10 of the 10 most recent eligible days will be used to create the baseline.</p>

Stakeholder	Stakeholder Feedback	EPWA's Response
Newmont	Newmont agrees that an ex-ante "X of Y" methodology should be used with adjustments for periods when loads are reduced for maintenance or suspended operations differing from their normal operating levels.	The dynamic baseline for DSP participation will be based on an ex-ante '10 of 10' methodology incorporating a 'day of adjustment'. A 20% cap will be placed on upward adjustment but downward adjustment will be uncapped.
Shell Energy	Shell Energy favours the baseline adopted in the NYISO market using the 5 of 10 baseline with the average of the 5 highest kWh days out of the 10 most recent weekdays. Shell Energy suggests that if this baseline methodology is adopted, there be flexibility applied to the definition of "day" so that the method could differentiate between trading days, weekdays and weekend days.	A 10 of 10 methodology will be adopted. EPWA considers a 10 of 10 baseline would better reflect the underlying demand, whereas a 5 of 10 baseline using the 5 highest demand days tends to result in a higher baseline value. EPWA also supports the suggestion that certain days should be excluded from the calculation of the baseline as they do not accurately reflect the underlying load on likely DSP dispatch days. Weekends, public holidays and DSP dispatch events will be ineligible, as these days do not best reflect the underlying demand on expected high demand days.

Proposal 5:

No change to the SRC mechanism is proposed, as the SRC framework already provides for the effective participation of DSR.

The following stakeholders indicated that they 'support' or generally support the proposal:

- AEMO
- Enel X
- Expert Consumer Panel
- Newmont

Stakeholder	Stakeholder Feedback	EPWA's Response
Shell Energy	Shell Energy does not necessarily agree that the SRC framework already provides for effective DSR participation, as there have not been enough instances to demonstrate this. In practice, the competing markets (SRC, RCM, WEM) increase the amount of value available to participants. Whilst it may be more cost effective and efficient for DSR services to only participate in the WEM during this period, due to the notable increase in demand and forecast shortfall of capacity in the coming years, Shell notes SRC is necessary to ensure reliability and stability of the SWIS. Shell considers that effective participation relies on a more flexible mechanism and suggests that if a review is triggered following this hot season, the 20% cap could be lifted or removal of the 10/10 days would further incentivise participation in the SRC mechanism.	EPWA notes these comments. The WEM Rules require the SRC framework to be reviewed after each SRC tender process, and the learnings from the most recent SRC process will inform the next review.
Synergy	Synergy considers that improvements can be made to assist with increased participation DSR containing DER assets.	EPWA notes this comment. A separate EPWA project is focused on the integration of DER in the WEM. This comment will be considered by the DER Roadmap project.
<p>Proposal 6: Amend the Electricity Industry (Metering) Code 2012 (Metering Code) so Western Power must share metering data on request to AEMO, to the extent necessary for market purposes, and with AEMO keeping that information confidential.</p> <p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Synergy • Expert Consumer Panel • Western Power • Newmont 		
AEMO	AEMO proposes that EPWA considers amending section 3.2 of the Metering Code, to require Western Power to remove a meter from the deemed accumulation meter list if requested by AEMO. This will enable the metering data requested by AEMO to be shared in an operationally efficient manner.	EPWA notes this comment and considers that making this change now would be premature as there will be a separate project on the reduction of the Notional Wholesale Meter that will be progressed in due course.

Stakeholder	Stakeholder Feedback	EPWA's Response
Western Power	The Metering Code currently limits Western Power's ability to provide AEMO with meter readings for some of the relevant NMIs to protect customer confidentiality. As such, there is a need to align requirements on Western Power to provide the information to AEMO.	Noted.
Proposal 7: Take steps to remove impediments from the WEM Rules to allow direct participation by DSR in the STEM.		
The following stakeholders indicated that they 'support' or generally support the proposal: <ul style="list-style-type: none"> • Enel X • Expert Consumer Panel • Newmont 		
AEMO	AEMO has not identified any barriers in the current market that would prevent DSR participation in the STEM. Participation in the STEM is on a participant level, not Facility, and is on the basis of registration and not technology (i.e. a participant with a registered DSP or Intermittent Load can already participate in the STEM).	EPWA notes this comment. After further discussion with the DSRRWG, EPWA is no longer proposing any changes to the STEM. DSR could participate in the STEM via the relevant retailers, and there may be complexities and costs associated with facilitating direct DSR participation in the STEM. There is limited demand for direct DSR participation, and the benefits may not outweigh the complexities of implementation.
Synergy	Synergy seeks to understand expected costs and benefits associated with this proposal, and considers that there is likely to be limited uptake of DSR participation in the STEM.	See comment above.

Stakeholder	Stakeholder Feedback	EPWA's Response
<p>Proposal 8: No changes are proposed to DSP participation in the Real-Time Market.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Newmont • Expert Consumer Panel • Enel X 		
<p>Proposal 9: No change is proposed to DSR participation in the Real-Time Market as the participation of flexible loads is already provided for.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Newmont • Expert Consumer Panel • Synergy • Enel X 		
<p>Proposal 10: No changes are proposed to be made for a specific service to address the minimum demand issues in the SWIS at this time.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Expert Consumer Panel • Newmont 		
AGL	<p>We consider that the planned introduction of electricity storage systems, along with increased underlying electricity demand, justifies no changes being made as is proposed. However, AGL suggests that this should be reviewed at some agreed date, maybe two years' time, to ensure that the situation is monitored before any system issues arise.</p>	<p>Noted.</p> <p>Following discussion with the DSRRWG, EPWA considers that in the medium-term, it is better to monitor the effects of increasing penetration of ESR, the new flexible capacity product and Real-Time Market pricing. If those developments have sufficient effect on minimum demand, a new product may not be necessary.</p>

Stakeholder	Stakeholder Feedback	EPWA's Response
Expert Consumer Panel	<p>Households and small businesses could also be incentivised to help address the challenge by upgrading their electric storage hot water systems to heat in the middle of the day, and enlisting behind-the-meter batteries and electric vehicles in appropriate programs. Larger (business) behind-the-meter PV systems could also be managed to be temporarily turned off during the middle of low system demand days (not preferred); while other flexible loads, such as those mentioned in the consultation paper (page 21), could be set up to turn on in the middle of the day.</p> <p>The Expert Consumer Panel also see an opportunity to engage more effectively with the public around ways they can support system security at the times of the year when the risk posed by minimum demand is greatest. There is now significant research, and experience in Western Australia and other jurisdictions, that shows that the public is willing and able to make a contribution to these challenges when they are engaged the right way.</p>	<p>EPWA notes this comment. A separate EPWA project is focused on the integration of DER in the WEM. This comment will be considered by the DER Roadmap project.</p>

Proposal 11:
The size and potential technical limitations (such as the telemetry requirements) for providing ESS should be reviewed to ensure that there are no unnecessary barriers for the provision of ESS by technically capable DSR.

The following stakeholders indicated that they 'support' or generally support the proposal:

- AEMO
- Enel X
- Newmont
- Synergy
- Expert Consumer Panel

Stakeholder	Stakeholder Feedback	EPWA's Response
Enel X	<p>Enel X has identified two barriers to the participation of DSR in the ESS markets:</p> <ol style="list-style-type: none"> 1. The current FCESS framework requires loads to respond within 400ms. If they cannot respond within this timeframe, they are ineligible to participate in the contingency FCESS market. While a fair proportion of loads can respond within 400ms, this is quite strict and thus rules out many others. Enel X proposes a scaled approach, similar to that which Enel X understands applies to generator/ battery providers of contingency FCESS – that is, you can receive full value if you can respond within 400ms, and less for slower responses, but while still being able to participate in the market. 2. The current FCESS framework applies real time telemetry obligations to an aggregation of loads providing contingency FCESS. Enel X do not believe that real time telemetry should be a requirement for participation in the contingency FCESS markets. Real time telemetry is not required for the NEM's contingency FCAS markets or NZ's interruptible load market. Enel X proposes that AEMO remove telemetry obligations for contingency FCESS providers, or alternatively look at supporting low cost ways for providers to share key information with AEMO. 	<p>EPWA understands that AEMO is currently developing responses to both of these issues, and AEMO intends to update the WEM Procedure in response to these concerns and remove any barriers that are not necessary.</p> <p>AEMO is amending the accreditation requirements to allow for a slower response time (with compensation adjusted according to speed factor).</p>
<p>Proposal 12: No changes are proposed to be made to the ability of DSR to register as both an Interruptible Load and a DSP, and provide Contingency Reserve Raise services at the same time it receives capacity credits. However, methodology for the rotation of DSP dispatch will be developed.</p>		
<p>The following stakeholders indicated that they 'support' or generally support the proposal:</p> <ul style="list-style-type: none"> • AEMO • Enel X • Expert Consumer Panel • Newmont • Synergy 		

Stakeholder	Stakeholder Feedback	EPWA's Response
AEMO	AEMO considers that the methodology for "rotation" of DSP dispatch should not be formally defined, but if it is to be formally defined then it should be specified in a WEM Procedure rather than the WEM Rules. This should allow sufficient flexibility to account for power system security and reliability conditions on the system at the time of dispatch.	While a rotation methodology for DSP dispatch might reduce flexibility, without it there is no guidance for AEMO on what basis to rotate DSPs. A rotation method will ensure dispatch during normal operating conditions is more equitable, and would not limit AEMO's ability to issue directions in an emergency situation.