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# Demand Side Participation Forecast Methodology

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**August 2020**

Final determination

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# Executive summary

This Final Determination is AEMO's response to issues raised and written submissions received in its 2020 consultation on its methodology for forecasting the level of Demand Side Participation (DSP) in the National Electricity Market (NEM). The consultation follows the Australian Energy Regulator's (AER's) Forecasting Best Practice consultation procedure<sup>1</sup>.

DSP is a key input into AEMO's reliability processes specified in the National Electricity Rules (NER), including the Electricity Statement of Opportunities (ESOO) and its associated Reliability Forecast.

Given the importance of the Reliability Forecast in potentially triggering obligations under the Retailer Reliability Obligation (RRO), AEMO strives to engage with all relevant stakeholders to ensure the methodologies used for each component of the forecast meet stakeholder expectations. This consultation focuses on the DSP forecasting methodology.

As outlined in this document, AEMO generally supports the submissions and in many cases plans to accommodate them.

AEMO addresses stakeholder feedback in this document under the following headings:

- Including RERT panellists in DSP.
- Categories for DSP responses.
- Use of negative values in baseline methodology.
- Use of a three-year history in the baseline methodology.
- Use of 50<sup>th</sup> percentile in baseline methodology.
- Overall baseline methodology.
- Updating DSP more regularly.

A revised DSP forecast methodology document is published together with this final determination, reflecting any updates to the approach as result of the consultation.

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<sup>1</sup> As published in AER's Interim Forecasting Best Practice Guidelines, September 2019, at <https://www.aer.gov.au/system/files/AER%20-%20Final%20Determination%20-%20Interim%20Forecasting%20Best%20Practice%20Guidelines%20-%20September%202019.pdf>.

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# 1. Introduction

AEMO's Demand Side Participation (DSP) forecast is an input into AEMO's reliability and planning processes in the National Electricity Market (NEM), including:

- The Medium Term Projected Assessment of System Adequacy (MT PASA).
- The Electricity Statement of Opportunities (ESOO) and its associated Reliability Forecast.
- The Integrated System Plan (ISP).

AEMO is required to produce Reliability Forecasts<sup>1</sup> in accordance with Forecasting Best Practice Guidelines<sup>2</sup> developed by the Australian Energy Regulator (AER) and Reliability Forecast Guidelines established by AEMO.

AEMO published its Interim Reliability Forecast Guidelines<sup>3</sup> in December 2019 and must consult on and publish final Guidelines by 28 February 2021, according to the National Electricity Rules (NER) clause 11.116.4.

The Interim Reliability Forecast Guidelines outlined methodology documents that explain various processes required to produce the Reliability Forecast. These methodology documents must be consulted on at least every four years using the AER's Forecasting Best Practice Consultation Procedure, to determine:

- The fundamental methodologies needed in the forecasting processes.
- The components on which the forecasts are to be based, and the way they are to be determined and used.
- The stakeholder engagement process for determining the forecasting methodologies, inputs, and assumptions.

The consultation on the DSP Methodology is one of these methodology document consultations undertaken by AEMO.

## 1.1 Consultation process

As outlined above, this consultation has been conducted in accordance with the Forecasting Best Practice Consultation procedure published in the AER's Interim Forecasting Best Practice Guidelines.

On 26 February 2020, AEMO initiated the first stage of the consultation with the publication of its Demand Side Forecasting Methodology Issues Paper<sup>2</sup>, which explained how AEMO intends to forecast DSP. AEMO's 2019 DSP Forecast and Methodology<sup>3</sup> was taken as the starting point, and the issues paper highlighted intended changes to this approach.

The Draft Determination was published 5 June 2020, and received three written submissions from stakeholders in response.

Through this consultation, AEMO has sought feedback on the DSP forecast methodology to inform any changes to be applied in 2020 and beyond.

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<sup>2</sup> See <https://aemo.com.au/en/consultations/current-and-closed-consultations/demand-side-participation-forecast-methodology-consultation>.

<sup>3</sup> See [https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning\\_and\\_Forecasting/NEM\\_ESOO/2019/Demand-Side-Participation-Forecast-Methodology-2019.pdf](https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2019/Demand-Side-Participation-Forecast-Methodology-2019.pdf).

**Table 1** Indicative timeline for consultation

<b>Deliverable</b>	<b>Indicative date</b>
DSP forecast methodology – issues paper published	Completed
Submissions to issues paper due	Completed
DSP methodology discussion at Forecasting Reference Group meeting	Completed
Draft determination published	Completed
Submissions to draft determination due	Completed
Final determination published	21 August 2020

The publication of this Final Determination marks the conclusion of the consultation.

# 2. Issues raised in consultation

## 2.1 First Stage Consultation

AEMO issued a Notice of First Stage Consultation on 26 February 2020.

The AEMO Demand Side Forecasting Methodology Issues Paper asked stakeholders about the appropriateness of the DSP Methodology for use in MT PASA, NEM ESOO, EAAP, and ISP, and whether the Methodology<sup>4</sup> was meeting industry expectations more generally.

AEMO posed six questions to stakeholders as outlined in the box below.

### Questions for consultation

Question 1: Considering the intended purpose of the forecast, are the inclusions and exclusions of the various DSP types appropriate and well explained?

Question 2: Given the purpose of the forecast in AEMO's reliability processes, is the approach for estimating the current level of DSP appropriate?

Question 3: AEMO could ask for a forward-looking MW estimate for existing and future DSP programs for up to three years for all participants.

- What are the pros and cons for such a request?
- In particular, is it feasible for participants to estimate this with a reasonable level of confidence?
- How might AEMO validate the information provided?

Question 4: Is the approach for forecasting future levels of DSP appropriate? And if not:

- What alternative approaches could be considered?
- What data should be used for such assessments and where should it be sourced?

Question 5: Is it appropriate to have an annual update cycle as outlined in the document?

- If not, what data should drive more frequent regular updates?
- Is the proposed trigger appropriate for an out-of-cycle update?

Question 6: What additional DSP statistics from data collected through the DSP process should AEMO consider reporting on? Should AEMO seek additional data from participants for reporting purposes only?

AEMO received five submissions in the first stage of consultation. Copies of these submissions (excluding any confidential information) have been published on AEMO's website<sup>2</sup>.

## 2.2 Second Stage Consultation

On 5 June 2020, AEMO issued a Notice of Second Stage Consultation along with the Draft Report and the draft Guidelines, both of which are available on AEMO's website<sup>2</sup>. AEMO received three submissions in the

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<sup>4</sup> For the methodology, the 2019 DSP Forecast and Methodology document was used as reference: [https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning\\_and\\_Forecasting/NEM\\_ESOO/2019/Demand-Side-Participation-Forecast-Methodology-2019.pdf](https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2019/Demand-Side-Participation-Forecast-Methodology-2019.pdf).

second stage of consultation. Copies of these submissions (excluding any confidential information) have been published on the same page of AEMO's website<sup>2</sup> above<sup>2</sup>. Responses to these submissions are included in this Final Report.

### 2.2.1 Feedback received from stakeholders

AEMO received feedback from the Forecasting Reference Group forum and one-on-one discussions, and three written submissions from stakeholders. The written submissions were from:

- ERM Power.
- Major Energy Users (MEU).
- Energy Users Association of Australia (EUAA).

AEMO would like to thank stakeholders who provided feedback throughout this process. Stakeholder submissions are summarised in Appendix A1.

Key issues raised by stakeholders are summarised under the following headings:

- Including RERT panellists in DSP.
- Categories for DSP responses.
- Use of negative values in baseline methodology.
- Use of a three-year history in the baseline methodology.
- Use of 50<sup>th</sup> percentile in baseline methodology.
- Overall baseline methodology.
- Updating DSP more regularly.

The material issues of each of these categories are discussed in Chapter 3 of this document.

## 2.3 Principles applied in considering this feedback

In considering how to take this feedback into account, AEMO has applied the following principles that align with the AER's forecasting best practice guidelines<sup>5</sup>:

- Forecasts should be accurate, unbiased, and based on comprehensive information.
- Transparency is important to provide stakeholders with confidence in the forecasts.

In particular, in assessing the merit of any proposed changes to the methodology, AEMO has considered whether:

- The change will materially improve the accuracy of the reliability forecasts.
- The expected benefits outweigh the implementation costs borne by AEMO and/or industry participants.
- The change is consistent with existing definitions of demand and supply forecasts. In other words, a potential DSP resource must not already be accounted for in either demand or supply forecasts.
- A consistent standard is applied to future DSP as is applied to other supply options for reliability forecasts and assessments of system security:
  - For the ESOO, the certainty regarding DSP must match the rigor of the generation commitment criteria. That is, there must be evidence of a very high likelihood that the resource will be committed.
  - For the ISP, the modelled DSP must be consistent with the objectives of the agreed scenarios describing a range of possible NEM futures and can include things beyond what is already committed.

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<sup>5</sup> See <https://www.aer.gov.au/retail-markets/retail-guidelines-reviews/retailer-reliability-obligation-interim-forecasting-best-practice-guideline>.

# 3. Discussion of material issues raised

This section discusses the material issues raised by stakeholders along with AEMO’s considerations and conclusions. Appendix A1 summarises all issues raised.

## 3.1 Including RERT panellists in DSP

### Issue summary and submissions

Stakeholders provided further submissions on the inclusion of the voluntary response capability from RERT panellists, that is, the response they provide on a voluntary basis outside periods where they have been contracted to be able to respond. There were also submissions to the Forecast Accuracy Report Methodology consultation on this topic<sup>6</sup>.

### Assessment and conclusion

AEMO has reassessed options for including voluntary (uncontracted) responses from RERT panellists in the DSP forecast and has now concluded that such uncontracted responses can be included in the DSP forecast to the extent the reliability of their response can be assessed and validated based on evidence appropriate to its purpose.

This is detailed in the table below.

Category of demand response	Description
Demand response achievable by organisations registered on the RERT panel in the absence of a RERT contract.	To be included in the DSP forecast only if AEMO deems their historical behaviour provides sufficient confidence in their future response.
Demand response achievable by organisations registered on the RERT panel once a RERT contract has been entered into.	This falls strictly under the definition of RERT and is not included in the DSP forecast.

The following fictional example illustrates the distinction between regular and irregular response of RERT panellists, and subsequent treatment by AEMO when RERT is contracted:

Consider two organisations:

- EzyOff corporation is able to curtail load easily and at low cost.
- HighRoller corporation is able to curtail load only at high pool prices.

Both organisations join the RERT panel.

- EzyOff corporation enters into market driven arrangements and occasionally performs their demand response in the absence of a RERT contract. Their market driven arrangements allow them to choose not to respond at any time, thus they are free to commit to an exclusive RERT contract at any time. EzyOff’s demand response is included in AEMO’s DSP forecast because its strong track record of demand reduction warrants inclusion in business-as-usual forecasts.

<sup>6</sup> See <https://aemo.com.au/consultations/current-and-closed-consultations/forecast-accuracy-report-methodology>.

- HighRoller corporation does not perform any demand response in the absence of a RERT contract. HighRoller's demand response capability is excluded from AEMO's DSP forecast.

In response to an upcoming threat to system security, AEMO contracts both organisations to provide RERT response. Both organisations contract to serve the RERT response, but the additive effect of the RERT response beyond business-as-usual is now only equal to the demand response from HighRoller corporation.

## 3.2 Categories for DSP responses

### Issue summary and submissions

AEMO's DSP forecast is split into a price-driven response and a reliability event response.

ERM Power recommended splitting the reported reliability event response into the responses from Network Loading Control programs (grouped under that name – consistent with what AEMO refers to as Network Event programs) and programs that operate under RERT (under a category called RERT).

### Assessment and conclusion

AEMO acknowledges the need for transparency and has expanded its definition of reliability event response to include "additional adjustments". AEMO will, as much as possible without compromising confidentiality, break down the reliability event responses into subcomponents when publishing the forecast.

AEMO will not, however, add RERT as another category in the presented DSP forecast as suggested, because RERT (with the exception listed in Section 3.1) is excluded from AEMO's DSP forecast and including it in DSP forecast tables could lead to confusion over the size of AEMO's DSP forecasts used in its reliability processes.

To support stakeholder understanding of the scale of NEM demand flexibility, AEMO will endeavour (from 2021 onwards) to publish additional statistics showing the combined response of DSP and other sources of demand flexibility not included in AEMO's DSP definition, such as:

- Contribution from battery storage and/or interruptible electric vehicle charging at time of peak demand.
- Load reduction from controlled hot water loads or hot water loads shifted due to day/night tariffs.
- RERT (excluding any voluntary response from RERT panel members included in the DSP forecast). The previous year's contracted RERT is used in lieu of the unknown upcoming year's contracted RERT.

## 3.3 Use of negative values in baseline methodology

### Issue summary and submissions

ERM Power provided a second-round submission regarding its perception that AEMO's inclusion of negative DSP distribution values causes double counting:

*ERM Power remains concerned by AEMO's use of negative values of DSP in the DSP calculation based on inaccuracy in the allocated "baseline". We consider that whilst variations in baseline can and do occur, this variation in baseline consumption would already be included in AEMO's calculation of probabilistic overall regional maximum demand and as such is already included in AEMO's reliability assessment. Including these values again in the calculated DSP value in effect double counts the same value in the reliability assessment resulting in an overstated potential for unserved energy.*

### Assessment and conclusion

It is important to note the variation referred to is intrinsic in any forecast, and unknown at the time of use. AEMO is not deliberately including a known quantity in two places; AEMO is simply producing a demand estimate (forecast) and a DSP estimate, and both figures necessarily include an error by the statistical definition of the word 'estimate'. As the demand forecast is top down, and the baseline demand estimate of a National Metering Identifier (NMI) employing DSP is at a NMI level, the methodologies necessarily differ and

there is no evidence or reason to believe that their errors are correlated (and therefore consistently either additive or subtractive).

Overall, positive errors in the baseline demand estimate of some NMIs employing DSP tend to be cancelled out by negative errors in the baseline demand for other NMIs employing DSP. Although removing negative DSP values is arguably intuitive in the context of the purpose of DSP at an individual NMI level, doing so removes the ability for errors to cancel out across the wider pool of NMIs employing DSP, and thus increases overall forecast error.

## 3.4 Use of a three-year history in the baseline methodology

### Issue summary and submissions

ERM Power's submission noted:

*The use of observed values over the previous three-year period for what are in effect rare events would of itself add a degree of underestimation of potential DSP, particularly if the analysis includes periods where very high spot market price outcomes have not occurred.*

### Assessment and conclusion

AEMO agrees that the output of any forecast is dependent on the selection of the input data. AEMO views three years of data as providing a reasonable balance between averaging enough days of data and avoiding inclusion of older data that no longer reflects the NMI's current behaviour or operation. The submission did not present reasoning or evidence to support its claim that the error inherent in any particular length of input data is inherently biased towards underestimating DSP, and AEMO has no reason to believe it is.

AEMO agrees that extended periods with an absence or abundance of very high spot prices will affect the DSP forecast, as does the absence or abundance of any condition of interest in any forecast. AEMO will continue to monitor forecast input data for conditions which materially impact the forecast and take appropriate action, including consulting with stakeholders when methodology enhancements are warranted.

## 3.5 Use of 50<sup>th</sup> percentile in baseline methodology

### Issue summary and submissions

The MEU submission pointed out that:

*All end users, even those perceived to have a very flat demand profile, exhibit considerable variation in their electricity usage and it appears that, when assessing its observations of DSP response to be used in DSP response forecasts, AEMO has assumed the DSP provider demand will always be operating at its rated demand. While this approach makes some sense, what is overlooked is that in the AEMO forecast of system demand, it uses a probabilistic approach to forecasting maximum demand which already includes the actual variable usage of every end user. This means that effectively AEMO is using different measures for what DSP might be provided; that is, AEMO uses one measure for the DSP provider and another demand measure for the system demand. The net effect of this approach is to artificially reduce the amount of DSP that will be available for future dispatch.*

AEMO interprets MEU's use of the word 'rated' to mean average, and not the electrical rating applied at time of plant commissioning.

ERM Power considered the 50<sup>th</sup> percentile to be below the amount of DSP available to the market at times of high prices, and consequently recommended a higher percentile be used for reliability purposes.

*... whilst only the 50<sup>th</sup> percentile value is allocated to DSP response, the full value of any observed demand response is added to the historical demand outcomes for use in the forecasts of future maximum demand outcomes...*

## Assessment and conclusion

AEMO agrees with the submissions' broad intentions that the NEM circumstances on which the DSP forecast and the demand forecast are made should be comparable and fit for purpose.

When estimating a NMI's DSP response level during high demand periods, assuming an average or typical demand level (as per MEU's 'rated demand') would typically underestimate DSP and be inconsistent with maximum demand events and forecasts.

Consequently, to capture NMI demand levels consistent with peak demand times, AEMO calculates DSP only during high price events. AEMO's use of the 50<sup>th</sup> percentile relates to selecting the most likely level of response only during high-price events, and is therefore considered appropriate for use with maximum demand forecasts.

The process steps are:

1. Select a pool of half-hours in which the pool price is above \$7,500 per megawatt hour (MWh), which correlates well with 10% POE of total demand, then
2. From within the pool of high price half-hours selected in the previous step, select the central value of DSP response.

In other words:

- AEMO uses the 50<sup>th</sup> percentile of DSP values occurring during prices that correspond to 10% POE demand.
- In doing so, the magnitude of the DSP response is well suited for the maximum demand forecast.

In summary, AEMO considers that the reasoning outlined in its draft determination of using the 50<sup>th</sup> percentile and including negative values is statistically correct and appropriate to its application.

## 3.6 Overall baseline methodology

### Issue summary and submissions

AEMO notes the volume and depth of submissions on DSP baseline methodology. ERM Power, in support of their concerns regarding methodological detail, noted apparently poor DSP forecasting accuracy by comparing ESOO and RERT reports.

### Assessment and conclusion

AEMO acknowledges the complexity and occasionally counter-intuitive nature of statistical models and their interaction, but notes that, overall, the use of statistical models is best practice for accurate forecasting.

As broader context for AEMO's modelling approach, the following options for DSP forecasting appropriate to the distribution of forecast maximum demand are noted:

- Selecting DSP during high price periods – through recognition of the correlation between pool price and high demand.
- Probabilistically modelling DSP – through use of correlations between the distribution of maximum demand and DSP response.

AEMO uses the former method because it economically produces fit-for-purpose forecasts, whereas the latter method has higher costs due to the computational burden.

The figures quoted by ERM Power do not reflect a balanced view of the DSP forecasting performance because they do not account for step changes detailed in the table below.

	2019 ESOO (forecast)	RERT report (actual)	AEMO's comment
Victoria 30 December 2019	185 MW	'at least 240 MW of price responsive load...'	The 2019 forecast was informed by behaviour in the years preceding the 2019-20 summer, and excluded any contribution from RERT providers. The 2019-20 summer saw more DSP responding than previously, though mainly from RERT providers (but beyond what was contracted under RERT). With the updated methodology applied in 2020, this has resulted in an upwards adjustment in the upcoming 2020 DSP forecast.
New South Wales 4 January 2020	93 MW	'up to 360 MW'	The large difference is due to a major site that had not previously been price responsive changing to occasionally respond to price during the 2019-20 summer. This behaviour will be reflected in the 2020 forecast.

A more detailed assessment of events will be published in AEMO's 2020 Forecasting Accuracy Report (FAR), similar to the one in the 2019 FAR<sup>7</sup>.

AEMO conducts annual forecasting workshops to facilitate an efficient exchange of ideas between AEMO and industry experts in relation to structuring and design of multi-model forecasting. The annual FAR is designed to highlight any deficiencies in the forecasting methodologies. The methodologies used to assess performance within the FAR are regularly consulted on.

### 3.7 Updating DSP more regularly

#### Issue summary and submissions

The frequency of DSP forecasts prompted further stakeholder submissions in this stage of the consultation.

The MEU noted that the NEM is becoming more volatile and with volatility comes a need to address forecasts more frequently to ensure the forecast is as accurate as possible. The MEU said it was aware that AEMO updates other forecasting tools elements (like MT PASA and EAAP) more frequently than annually, and considered that the DSP should also be updated on a more frequent basis to reflect changes in the NEM.

#### Assessment and conclusion

AEMO acknowledges that DSP forecasts are an input assumption to MT PASA, but note that costs are incurred in obtaining information, performing forecasts and validating the results.

AEMO will continue to only update DSP forecasts should a material change warrant it.

<sup>7</sup> See: [https://www.aemo.com.au/-/media/files/electricity/nem/planning\\_and\\_forecasting/accuracy-report/forecast\\_accuracy\\_report\\_2019.pdf](https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/accuracy-report/forecast_accuracy_report_2019.pdf)

# A1. Summary of issues raised

**Table 2 Including non-contracted RERT panellists DSP responses**

Organisation(s)	Comment	AEMO response
ERM Power	We believe AEMO reasoning in the Draft determination results in a circular outcome, where the exclusion of observed price-based demand response from the DSP values, based on RERT Panel membership only, makes it more likely that RERT Panel or RERT contracting response is required.	Refer to Section <a href="#">3.1</a>
MEU	The MEU accepts that a provider that has a contract for providing RERT should not be included in observed DSP outcomes for the duration of the RERT contractor has not received payment for being a RERT provider at the time a DSP response is observed. Despite this, the MEU considers that other observed DSP responses (including from a RERT panellist that has not been contracted and/or paid to provide RERT) should be accepted as a DSP provider to the wholesale market and therefore included in the forecast of DSP.	Refer to Section <a href="#">3.1</a>
EUAA	We consider the proposed approach will result in a biased estimate of the level of RERT procurement required. This will result in too much RERT being procured and the risk of a greater than efficient level of costs being imposed on our members who directly bear RERT pass through costs.	Refer to Section <a href="#">3.1</a>

**Table 3 DSP categories**

Organisation(s)	Comment	AEMO response
ERM Power	ERM recommend that to improve clarity that AEMO consider separating out the Network Service Provider's network loading control demand response from the Reliability Events responses into a separate category of Network Loading Control response leaving the centrally dispatched Reliability and Emergency Reserve Trader (RERT) response as its own category renaming the Reliability Events response category to RERT response.	Refer to Section <a href="#">3.2</a>

**Table 4 Methodology: percentiles and negative values**

Organisation(s)	Comment	AEMO response
ERM Power	ERM Power remains concerned by AEMO's use of negative values of DSP in the DSP calculation based on inaccuracy in the allocated "baseline". We consider that whilst variations in baseline can and do occur, this variation in baseline consumption would already be included in AEMO's calculation of probabilistic overall regional maximum demand and as such is already included in AEMO's reliability assessment. Including these values again in the calculated DSP value in effect double counts the same value in the reliability assessment resulting in an overstated potential for unserved energy.	Refer to Section <a href="#">3.3</a>

Organisation(s)	Comment	AEMO response
	<p>Also, as AEMO's process for identifying a price responsive load is based on observations of historical reduction in consumption at a connection point at a time of a price event, we question how steady consumption or an increase in consumption could possibly be identified as demand response.</p> <p>We continue to recommend that for calculating input assumptions for DSP to be used in future planning and reliability forecasts, all negative DSP values should be removed prior to calculation of the response probability curves.</p>	
ERM Power	In considering the level of DSP available to the market, the use of observed values over the previous three-year period for what are in effect somewhat rare events would of itself add a degree of underestimation of potential DSP, particularly if the analysis includes periods where very high spot market price outcomes have not occurred.	Refer to Section <a href="#">3.4</a>
ERM Power	<p>We continue to question the use of the observed 50<sup>th</sup> percentile value from the probability response curves to assess the level of DSP available to the market at times of a reliability event, where very high prices and the threat of involuntary load shedding would lead to a high DSP response. As indicated in our submission to the Issues Paper, whilst only the 50<sup>th</sup> percentile value is allocated to DSP response, the full value of any observed demand response is added to the historical demand outcomes for use in the forecasts of future maximum demand outcomes and half hour demand traces used in the reliability assessment modelling.</p> <p>We continue to assert that this introduces bias in the modelling process and results in an unnecessary conservative assumption being introduced for DSP.</p> <p>We consider that the value used in the reliability assessment should be set at the 90<sup>th</sup> percentile whilst maintaining the priced based response at the 50<sup>th</sup> percentile. We believe this would more accurately reflect the level of DSP expected to be available and respond at times of an actual reliability event.</p>	Refer to Section <a href="#">3.5</a>
MEU	There is a likelihood of DSP provision being lower when system demand is lower but higher when it is needed. AEMO needs to ensure that the forecast DSP reflects what is likely to occur when it is most needed. The MEU considers AEMO's use of the 50 <sup>th</sup> percentile of historically observed DSP to be a conservative assumption and believes use of a higher percentile is justified.	Refer to Section <a href="#">3.5</a>
MEU	AEMO has assumed the DSP provider demand will always be operating at its rated demand. While this approach makes some sense, what is overlooked is that in the AEMO forecast of system demand, it uses a probabilistic approach to forecasting maximum demand which already includes the actual variable usage of every end user. This means that effectively AEMO is using different measures for what DSP might be provided; that is, AEMO uses one measure for the DSP provider and another demand measure for the system demand. The net effect of this approach is to artificially reduce the amount of DSP that will be available for future dispatch.	Refer to Section <a href="#">3.5</a>

**Table 5 Updating DSP more often than annually**

Organisation(s)	Comment	AEMO response
ERM Power	<p>The DSP forecast should only be updated when AEMO determines that an update to the ESOO reliability forecast is required. This fails to acknowledge that the DSP forecasts are also an input assumption to the Medium-Term Projected Assessment of System Adequacy (MT PASA).</p> <p>We continue to recommend that the DSP values be updated when a change in DSP value equal to 0.5% of a regions maximum forecast demand is observed. This in our view would represent an appropriate threshold to trigger an update to the DSP values.</p>	Refer to Section <a href="#">3.7</a>

Organisation(s)	Comment	AEMO response
	However, we agree with AEMO that an update to the ESOO reliability forecast would only be warranted when a material change, either positive or negative, may potentially result. In our view updating of the DSP forecast is separate to a consideration of an update to the ESOO reliability forecast.	
MEU	The MEU notes that the NEM is becoming more volatile and with volatility comes a need to address forecasts more frequently to ensure that the forecast is as accurate as possible. The MEU is aware that AEMO updates other forecasting tools elements (e.g.; MTPASA and EAAP) more frequently than annually and the MEU considers that the DSP should also be updated on a more frequent basis to reflect changes in the NEM.	Refer to Section <a href="#">3.7</a>
EUAA	The aim of the forecasting should be to produce accurate and unbiased forecasts over the whole year, not just at the time of publication of the ESOO or an ESOO update. We would think that to achieve the aims of the AER BFPG would require regular updates of DSP input assumptions as is the case with MTPASA and EAAP.	Refer to Section <a href="#">3.7</a>