



# DEMAND SIDE PARTICIPATION INFORMATION GUIDELINES CONSULTATION

DRAFT REPORT AND DETERMINATION

Published: 20 February 2017





# NOTICE OF SECOND STAGE CONSULTATION – DEMAND SIDE PARTICIPATION INFORMATION GUIDELINES

## National Electricity Rules – Rule 8.9

### Date of notice: 20 February 2017

This notice informs all Registered Participants and interested parties (Consulted Persons) that AEMO is commencing the second stage of its consultation on developing the Demand Side Participation Information Guidelines.

This consultation is being conducted under clause 3.7D of the National Electricity Rules (NER), in accordance with the Rules consultation requirements detailed in rule 8.9 of the NER.

### Invitation to make submissions

AEMO invites written submissions on this Draft Report and Determination (Draft Report).

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so.

Consulted Persons should note that material identified as confidential may be given less weight in the decision-making process than material that is published.

### Closing date and time

Submissions in response to this Notice of Second Stage of Rules Consultation should be sent by email to [energy.forecasting@aemo.com.au](mailto:energy.forecasting@aemo.com.au), to reach AEMO by 5.00pm (Melbourne time) on 06 March 2017.

All submissions must be forwarded in electronic format (both pdf and Word). Please send any queries about this consultation to the same email address.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

### Publication

All submissions will be published on AEMO's website, other than confidential content.

## EXECUTIVE SUMMARY

The publication of this Draft Report and Determination (Draft Report) commences the second stage of the Rules consultation process conducted by AEMO to develop the Demand Side Participation Information Guidelines (Guidelines) under the National Electricity Rules (NER).

The Guidelines will specify the information that Registered Participants must submit to AEMO for AEMO's use when developing or using electricity load forecasts, with the objective of giving AEMO better quality information to further develop and improve its current load forecasting.

AEMO published an Issues Paper in November 2016, in which it proposed that the Guidelines:

- Provide for the annual collection of DSP data in a manner that does not require analysis or interpretation by Registered Participants, which reduces the impact on them and allows AEMO to analyse and interpret the data effectively and efficiently.
- Focus on obtaining details relating to intra-day demand response, either due to price signals or network loading.
- Commence on a date that will be determined after consultation with affected Registered Participants.

AEMO has prepared this Draft Report to communicate key issues, which include:

- How often and when AEMO will require Registered Participants to submit DSP data.
- When the Guidelines will commence.
- The format of DSP data submissions.
- The content and extent of DSP data.
- The onus on Registered Participants to collect data outside existing processes.
- The data AEMO will publish.
- Current industry policy decisions that may affect these Guidelines.

After considering the submissions received, the key points in AEMO's draft decision are:

- The Guidelines will require Registered Participants to submit their DSP data annually, with the first submission scheduled to occur in 2018.
- The format, content, and extent of DSP data is largely consistent with the proposal in AEMO's Issues Paper published in November 2016, with one exception. AEMO has reduced the requirements around historical data, and for Distribution Network Service Providers (DNSPs) with complex load control systems.
- The scope of the obligations imposed on Registered Participants by the Guidelines is to provide data that is obtainable under current processes or within their current systems.

AEMO's draft determination is to make the Guidelines in the form published with this Draft Report.



# CONTENTS

<b>NOTICE OF SECOND STAGE CONSULTATION – DEMAND SIDE PARTICIPATION INFORMATION GUIDELINES</b>	<b>2</b>
<b>EXECUTIVE SUMMARY</b>	<b>3</b>
<b>1. STAKEHOLDER CONSULTATION PROCESS</b>	<b>5</b>
<b>2. BACKGROUND</b>	<b>6</b>
2.1 NER requirements	6
2.2 Context for this consultation	6
2.3 First stage consultation	6
<b>3. SUMMARY OF MATERIAL ISSUES</b>	<b>7</b>
<b>4. DISCUSSION OF MATERIAL ISSUES</b>	<b>8</b>
4.1 Data submission frequency	8
4.2 Data submission timing	9
4.3 Guidelines commencement date	10
4.4 Data submission format	10
4.5 Data granularity	11
4.6 Data content	12
4.7 Scope of request	16
4.8 Publication of data	17
4.9 Concurrent consultations and policy overlap	18
<b>5. DRAFT DETERMINATION</b>	<b>19</b>
<b>APPENDIX A - GLOSSARY</b>	<b>20</b>
<b>APPENDIX B - SUMMARY OF SUBMISSIONS AND AEMO RESPONSES</b>	<b>21</b>
<b>APPENDIX C - ATTACHMENT 1 – DRAFT DEMAND SIDE PARTICIPATION INFORMATION GUIDELINES</b>	<b>34</b>



# 1. STAKEHOLDER CONSULTATION PROCESS

As required by clause 3.7D of the National Electricity Rules (NER), AEMO is consulting on the development of Demand Side Participation Information Guidelines (Guidelines) in accordance with the Rules consultation process in rule 8.9.

In August and September 2016, AEMO held pre-consultation meetings with interested stakeholders to inform the Issues Paper.

AEMO's indicative timeline for this consultation is outlined below. Future dates may be adjusted depending on the number and complexity of issues raised in submissions.

Deliverable	Indicative date
Submissions due on Draft Report	Monday 6 March 2017
Final Report published	Wednesday 19 April 2017

The publication of this Draft Report marks the commencement of the second stage of consultation.

Note that there is a glossary of terms used in this Draft Report in **Appendix A**.

Prior to the submissions' due date, in their submissions, interested parties can request a meeting with AEMO to discuss the issues raised in the Draft Report.

## 2. BACKGROUND

### 2.1 NER requirements

This Draft Report concerns the application of clause 3.7D of the NER, which was introduced by the Australian Energy Market Commission (AEMC) on 26 March 2015.<sup>1</sup>

Clause 3.7D(e) of the NER requires AEMO to develop, maintain, and publish guidelines that require Registered Participants to provide Demand Side Participation (DSP) information to AEMO, and that AEMO must take this information into consideration when developing its electricity load forecasts in accordance with the NER. It further specifies that the Guidelines must specify:

- The information required to be submitted by Registered Participants.
- When the information must be provided and updated by Registered Participants.
- How the information must be provided by Registered Participants.
- AEMO's methodology for assessing the accuracy of DSP information submitted in accordance with the Guidelines.
- The manner and form in which AEMO will publish details in accordance with clause 3.7D(d).

Clause 3.7D(d) of the NER requires AEMO to, no less than annually, publish details on the extent that the information received has informed AEMO's development, or use, of load forecasts.

Clause 3.7D(h) of the NER requires that the Guidelines will commence no sooner than three months following publication of the first version.

AEMO was required to develop and publish the Guidelines by 26 September 2016, with a minimum three months' period before they came into effect. In June 2016, AEMO notified the Australian Energy Regulator (AER)<sup>2</sup> that it would be unable to publish the Guidelines by 26 September 2016, and will now publish these by 31 May 2017.

### 2.2 Context for this consultation

Before the commencement of clause 3.7D, AEMO had a practice of surveying Registered Participants for DSP information, but not all responded, and the responses varied in quality. AEMO could make better use of quality DSP information to improve the efficiency of its market operational functions under the NER, and as an input into its public reporting obligations. This could, in turn, provide Registered Participants and consumers with better information to support investment and consumption decisions.

Clause 3.7D of the NER allows AEMO to establish a process to obtain information on DSP from Registered Participants.

### 2.3 First stage consultation

AEMO issued a Notice of First Stage Consultation on 21 November 2016. AEMO developed and published an Issues Paper, which outlined the questions and issues central to the development of the Guidelines.

AEMO received **seven** submissions in the first stage of consultation. Copies of these submissions (excluding any confidential information) have been published on AEMO's website at:

**<http://www.aemo.com.au/Stakeholder-Consultation/Consultations/NEM-Demand-Side-Participation-Information-Guidelines-Consultation>**.

<sup>1</sup> Australian Energy Market Commission, Final Rule Determination: National Electricity Amendment (Improving demand side participation information provided to AEMO by registered participants) Rule 2015 No. 4.  
<http://aemc.gov.au/getattachment/1a82fefa-a1a1-453d-8afc-11c52a20851a/Final-rule.aspx>

<sup>2</sup> Australian Energy Regulator, Quarterly Compliance Report: National Electricity and Gas Laws (April – June 2016).  
<https://www.aer.gov.au/system/files/Quarterly%20compliance%20report%20April%20-%20June%202016.pdf>



### 3. SUMMARY OF MATERIAL ISSUES

The key material issues arising from the proposal and raised by Consulted Persons are summarised in the following table. Submissions were received from AGL, Energy Networks Australia (ENA), Energex, EnergyAustralia, EnerNOC, Ergon Energy, and United Energy.

No.	Issue	Raised by
1.	Data submission frequency	All Submissions
2.	Data submission timing	AGL ENA Energex EnerNOC Ergon Energy United Energy
3.	Guidelines commencement date	ENA Energex EnerNOC United Energy
4.	Data submission format	ENA Ergon Energy
5.	Data granularity	AGL ENA Energex Ergon Energy
6.	Data content	AGL EnergyAustralia EnerNOC Ergon Energy United Energy
7.	Scope of request	EnergyAustralia United Energy
8.	Publication of data	AGL ENA Energex EnerNOC United Energy
9.	Concurrent consultations and policy overlap	AGL ENA Ergon Energy United Energy

A detailed summary of issues raised by Consulted Persons in submissions, together with AEMO's responses, is contained in **Appendix B**.

## 4. DISCUSSION OF MATERIAL ISSUES

This section addresses each of the material issues raised in submissions, as indicated in Section 3.

### 4.1 Data submission frequency

#### 4.1.1 Issue summary and submissions

AEMO currently uses DSP information in the annual National Electricity Forecasting Report (NEFR), and publishes a separate report to provide AEMO's DSP forecasts for all regions in the National Electricity Market (NEM). AEMO's Issues Paper stated that AEMO intends to collect DSP information on an annual basis.

Five submissions (AGL, EnergyAustralia, EnerNOC, Ergon Energy, and United Energy) supported an annual approach. Other key points raised within the submissions included:

- An annual collection that aligned with current processes would be efficient, but a second request each year would increase costs for Registered Participants.
- There were insignificant data variations across a year to justify a more frequent than annual submission.
- Registered Participants will be largely completing this work manually, and this should be considered when determining the frequency of submissions.
- Automated systems may take one to two years to develop, and until such time, the work is manual and resource-intensive.
- Any change to the frequency would require AEMO to consult with industry.
- Clarification was requested (Energex) regarding whether Registered Participants were required to provide updates across the year, and whether there was an obligation on Registered Participants to maintain the accuracy of data across the year.

#### 4.1.2 AEMO's assessment

In determination of this issue, AEMO considered the following points:

- General support from submissions.
  - The submissions generally supported an annual submission.
- Cost versus benefit.
  - AEMO notes that Energex provided a quantification of expected costs, however, given the changes to the data model detailed in this Draft Report, these expected costs will be significantly reduced and no longer provide a basis to perform a cost-benefit assessment.
  - Given that no other submission provided expected costs, AEMO could not adequately compare Registered Participant and AEMO costs against the expected benefit.

#### 4.1.3 AEMO's conclusion

AEMO considers that the Guidelines should require Registered Participants to submit the requested data annually. For clarity:

- Registered Participants are not required to provide AEMO with updates to the DSP data outside of the annual submission.
- Whilst the Guidelines only require Registered Participants to submit data once annually, AEMO consider it prudent that Registered Participants would maintain an accurate set of data across the



year, and would develop their processes and automated systems so that data submission could become more frequent in the future.

## 4.2 Data submission timing

### 4.2.1 Issue summary and submissions

AEMO must determine when Registered Participants must submit their DSP information. AEMO's Issues Paper stated that AEMO intends to align the information collection process with its current reporting obligations to ensure the currency of the information collected.

The submissions include the following points:

- AGL – "... it may ultimately prove more useful to schedule collection shortly before the summer demand period in order to capture new demand response programs targeted at this period".
- Energex – "Energex currently provides AEMO with information aggregated for each TNI<sup>3</sup> for input into connection point forecasting... The information is provided in March and it would be desirable to align these submissions. A mid-year input (June/July) is least desirable due to an already large workload addressing other regulatory and reporting requirements".
- Ergon Energy – "an appropriate time for collecting the information would be at least one month after the submission of the DAPR<sup>4</sup>, as some of the information contained in the reporting would be used in the development of the DAPR".
- Energy Networks Australia – "AEMO [should] consider aligning reporting timeframes with similarly, related reporting timeframes required by AEMO of NSPs<sup>5</sup>".
- EnerNOC – "We would suggest that AEMO design the timing of the exercise to best suit AEMO's reporting schedule".
- United Energy – "... data should be provided annually around April at the same time as data is provided to AEMO for the National Electricity Forecasting Report (NEFR) and connection point forecasting".

### 4.2.2 AEMO's assessment

In determination of this issue, AEMO principally considered the following points:

- Purpose of the Rule – The Guidelines allow AEMO to obtain better information on DSP for developing or using load forecasts in relation to its functions under the NER. Currently, AEMO produces an annual NEFR. For this data to be most current when producing the NEFR, it must be received during a particular time window that allows AEMO to reconcile any issues, and perform analysis as required, prior to inclusion into any AEMO forecast.
- Cost and impact to Registered Participants – The impact to Registered Participants is most likely minimised by aligning it with current data submission requirements and processes.

### 4.2.3 AEMO's conclusion

AEMO's considers that the most appropriate time of the year for the submission of data is between 31 March and 30 April each year. The first submission window will open on 31 March 2018.

AEMO will open a web portal for Registered Participants to begin their data submissions between 9.00am on 31 March and 5.00pm 30 April each year.

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<sup>3</sup> TNI: Transmission Node Identity.

<sup>4</sup> DAPR: Distribution Annual Planning Report.

<sup>5</sup> NSP: Network Service Provider.

## 4.3 Guidelines commencement date

### 4.3.1 Issue summary and submissions

Following publication of the Guidelines, Registered Participants will have a minimum of three months to prepare for compliance with its requirements.

The submissions received provided a range of views:

- Three submissions (ENA, Energex, United Energy) referenced the workload involved or time required to become ready for compliance, for example, in amending IT systems, processes, and training, and considering other competing processes (such as the metering competition rules commencing in December 2017).
- EnerNOC commented that it “does not anticipate it will require any time to prepare for compliance with the new guideline”.
- Submissions expressed various views regarding the timeframe required to prepare for these obligations. These ranged from effective immediately, up to one year for manual submissions, and then up to two years for an automated system.

### 4.3.2 AEMO’s assessment

In light of AEMO’s determination on data submission frequency (see Section 4.1) and data submission timing (see Section 4.2), the earliest reasonable time for Registered Participants to submit the information is April 2018.

As AEMO expects to publish the Guidelines by May 2017, this timeframe for compliance should be adequate for all but one of the Consulted Persons (Energex). Energex commented that, “A 12-month minimum window would be necessary to produce the required information if it is to be collected manually which would certainly be the case for the inaugural report”. AEMO has addressed Energex’s concerns on the quantity of data required in section 4.5.2, and considers that 12 months would no longer be necessary given the reduction in data expectations.

AEMO further notes that, while ENA’s submission stated that automation of this process might take up to two years, automation is not required. Furthermore, most Consulted Persons confirmed that compliance with the Guidelines would likely involve a manual process, either in the first instance, or ongoing.

### 4.3.3 AEMO’s conclusion

AEMO determines that the first DSP data collection will occur in April 2018 and will open a web portal for Registered Participants to begin their data submissions between 9.00am on 31 March and 5.00pm 30 April each year.

## 4.4 Data submission format

### 4.4.1 Issue summary and submissions

AEMO’s Issues Paper proposed that AEMO will develop a method for Registered Participants to securely submit DSP information, giving due consideration to minimising the effort required to submit the data, and verifying data formats.

There were two submissions related to this. These submission focussed on two issues:

- Suitability of technology.
  - Ergon Energy commented that “a predetermined Excel template ... [is] not suitable for automated systems”, and would therefore require a manual process to complete.

- Adaptability of technology.
  - ENA commented that “the role of the 'aggregator' of distributed energy resources (DER), as anticipated in the Issues Paper, is still to be fully realised, and may see a more dynamic use of DER than the proposed reporting template allows for. Energy Networks Australia recommends AEMO consider the implications for this when determining reporting requirements and evaluating the accuracy of information supplied.

#### 4.4.2 AEMO’s assessment

AEMO does not intend to utilise an Excel Spreadsheet for this data collection, and is currently developing a web portal to accommodate both manual data entry and CSV file submission.

To address the concerns raised:

- Suitability – CSV file submission is a common industry standard, and provides a cost-effective means to collect and submit data. Further, a manual form will be provided for Registered Participants that do not expect to have significant amounts of data. This provides Registered Participants the flexibility to determine whether an automated system, using CSV files, is warranted for their circumstances.
- Adaptability – As ENA commented in its submission, the use of DER may change across industry, especially as the role of aggregator is realised. CSV file submission allows AEMO to expand or change the DSP submission requirements as required, subject to formal consultation. Therefore, any new data categories or data types can be accommodated in future.
- Further, to maintain flexibility should new types of Registered Participant emerge, AEMO has differentiated between Market Participants and Registered Participants that are not Market Participants within the data model.

#### 4.4.3 AEMO’s conclusion

AEMO determines to provide Registered Participants with a web portal to upload DSP data.

### 4.5 Data granularity

#### 4.5.1 Issue summary and submissions

AEMO received four submissions on the level of data required by the data model.

The submissions received included the following points:

- Ergon Energy
  - “... any benefit of providing this level of information would be significantly outweighed by the cost imposed on the DNSP... Moreover, there does not appear to be any direct benefit to consumers”.
  - “... will result in more than 450 000 line items of data”.
  - “... (so that) providing aggregated data would be less of an administrative burden on DNSPs, Ergon Energy suggests that providing data aggregated to an appropriate network element level such as the bulk supply point or major zone substation level would be a more prudent approach in the first instance”.
- EnergyAustralia – “However, in light of the Rule change, we support AEMO’s conclusion that raw data should be targeted over aggregated data. This ensures a consistent approach across surveyed participants and provides the best chance that the data will support a useful forecast.

The targeting of NMIs<sup>6</sup> ensures that forecasts of demand response will be largely independent of retailer churn or contract changes”.

- AGL – “In AGL’s view it is important that each of the data requirements included in the proposed data model (Appendix A to the Issues Paper) be justified with a clear statement of how that input will be deployed in AEMO’s suite of modelling tools and lead to tangible improvements in load forecasting”.
- Energex – “... it is difficult to see how the detailed data requested would be of benefit compared with providing data at an aggregated level”.
- ENA – “Energy Networks Australia considers AEMO should contemplate allowing aggregation of some data sets where practical to assist in reducing the likely reporting burden on Registered Participants as well as reducing data processing burden on AEMO itself. Further clarification by AEMO as to how NSPs would represent active demand management or load control within the reporting templates will assist in estimating initial and ongoing reporting costs”.

#### 4.5.2 AEMO’s assessment

It is difficult for AEMO to assess the compliance cost versus benefit with the quality of cost information provided within submissions. It is also difficult to state independently how each of the data requirements will be incorporated into AEMO’s models, as this is expected to evolve over time.

However, it is possible to address some of the concerns raised on the aggregation of data. Several participants (Ergon Energy, Energex, ENA) commented that providing aggregated data would reduce the workload associated with providing DSP information. AEMO has addressed this comment on two fronts:

- By only requiring historical timing data for responses that occur on an ad-hoc basis, wide scale programs where load is switched on a regular basis may be reported using a single instance of Section 2 of the data model. This effectively allows the Registered Participant to provide data aggregated over their customer base, while still providing AEMO the raw NMI data as requested. This change to the data model requirements was specifically incorporated to address the concerns raised by Ergon Energy, Energex and ENA relating to the volume of data required for network controlled load. It is expected that for a given program (such as hot water load control, pool pump control), each Registered Participant would only need to provide one single Section 2 response.
- AEMO can disaggregate the information provided using mappings held in its own databases. By requesting raw data, rather than aggregated data, AEMO can leverage data already captured in its own databases, using NMIs as a reference. Additionally, as noted by EnergyAustralia, requesting raw data reduces potential errors caused by differing aggregation techniques between Registered Participants.

#### 4.5.3 AEMO’s conclusion

Rather than directly changing the aggregation requirements of the data request, AEMO determines to modify the data model to allow Registered Participants to provide raw data grouped at a high level, thereby significantly reducing the workload and expense associated with their submission.

## 4.6 Data content

### 4.6.1 Issue summary and submissions

AEMO’s Issues Paper included a draft DSP data model to review and provide feedback.

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<sup>6</sup> NMI: National Meter Identifier.

There were five submissions on the data content specified. The submissions included general feedback around the data content, but also included specific feedback on particular data fields that AEMO has requested.

### 4.6.2 Field-specific feedback

This section lists the comments made by Consulted Persons on certain fields within the data model, alongside AEMO’s assessment of the issues raised.

No.	Category / field	Submission comments	AEMO’s assessment
1.	Retail TOU Tariffs	"It is questionable the degree of assistance offered by this data in managing intra-day price and demand conditions. These NMI's will have relatively stable seasonable demand behaviour." (AGL)	By requesting NMI's on retail TOU tariffs, AEMO can separately assess the price response of different subsets of the population.
2.	Future Programs	<p>"Registered participants should not be required to provide details of future programs or tariff classes unless there are already committed recruits into those new programs or tariff classes. Otherwise the information is of little value in fulfilling AEMO's short term load forecasting responsibilities." (AGL)</p> <p>"suggest it not be included in the draft. Strategic programs can be both commercially sensitive and highly subjective. The principles proposed by AEMO in determining what DSP information to request as outlined in the issues paper are inconsistent with information of this nature. Providing this data would be problematic and provide no reliable information to aid AEMO's forecasts." (EnergyAustralia)</p>	<p>Information on future programs enables AEMO to adapt its modelling processes, and the data request itself (after consultation) to meet new developments in the DSP market.</p> <p>EnergyAustralia is directed to section 54 of the National Electricity Law on the issue of confidentiality.</p>
3.	Future Deployment	"Other contract details are not relevant to AEMO's task and may constitute confidential information." (AGL)	AGL is directed to section 54 of the National Electricity Law on the issue of confidentiality.
4.	Name and Address	"Providing names and addresses of connection points would be costly and potentially raise confidentiality, privacy and security concerns. NMI's should be sufficient for AEMO's forecasting purposes." (AGL)	By requesting a secondary means of validating the location of DSP, AEMO can verify the accuracy of the data provided. The description of this field has been amended to clarify that only one means of identification is required.
5.	Trigger Condition / algorithm	"Where the trigger relates to a registered participant's own contract position and not network demand or spot price as observable by AEMO, then it should be precluded from the data model as it will not assist AEMO in managing intra-day or longer term load forecasting. This is particularly the case as the customer commitment under such contracts may be non-firm, making reliable reporting difficult." (AGL)	DSP relating to a Registered Participant's contract position may still have some degree of price response, and as such can assist AEMO with the development of its load forecasts.

No.	Category / field	Submission comments	AEMO's assessment
6.	Network Controlled Load	<p>"Where the network has control over load like HW or slab heating, we query how this is demand side participation information that is valuable to AEMO's demand side forecasting as it is not switched in the hot summer day time period when the network is operating at its peak demand, rather it operates overnight or in winter." (United Energy)</p> <p>"UE is able to provide this NMI list based on which meters have this capability, however the customer may or may not be using the electrical circuit in question if they have new appliances eg have swapped to gas HW." (United Energy)</p> <p>"UE is not in a position to advise the MW under control" (United Energy)</p> <p>"UE suggest that Victorian DBs should be exempted from providing this information in both data requirement 1 and data requirement 2. It is not efficient to collate some 60,000 NMIs for AEMO from a load control that would not be operated to reduce load during the day." (United Energy)</p>	<p>It is important to note that AEMO's load forecasting functions are not limited to maximum demand. Load shape is an important factor to consider, so schemes that act to shift the timing of load have been included in the data request.</p> <p>AEMO will need to aggregate the supplied data, taking into account the fact that the maximum available MW response will often not be met/utilised.</p> <p>By operating hot water/space heating during periods of low demand, these schemes are effectively shifting load from peak/daytime operation. It is this shift in load that AEMO wishes to capture with this part of the request.</p>
7.	ANZSIC code	"UE don't have ANZSIC codes against NMIs to provide AEMO." (United Energy)	AEMO would only request data obtained by Registered Participants using their current business processes.
8.	Storage	<p>"is the obligation on the network to provide this data only when we own and control the storage and not when another party owns/controls. If a network contracts a third-party for a demand response, it is unlikely that we will know the dates commissioned, make and model nos or the storage capacity and permitted export" (United Energy)</p> <p>"If a battery program had 100,000 sites does AEMO really see value in 100,000 commissioning dates, makes and models etc?" (United Energy)</p>	<p>AEMO will only request data obtained by Registered Participants using their current business processes.</p> <p>The reporting of commissioning dates and inverter models is excluded for aggregate storage (where the storage devices are distributed across multiple locations on a network, with separate metering points for each device).</p>
9.	Historical timing and magnitude	"UE queries the value of historical MW for an event without any context of the event, date, time, length of hot weather, type of response, new trial/product etc." (United Energy)	AEMO notes that many of the listed factors may be obtained via correlation with other data sources, such as historical weather observations.
10.	Load Type	"UE also only have business or residential and not industry and commercial categories. Suggest AEMO amend the data requirements, or limit the network data responsibilities to residential or business." (United Energy)	AEMO would only request data obtained by Registered Participants using their current business processes.

#### 4.6.3 General data content feedback

Ergon Energy was concerned about AEMO's ability to access some data covered by the DSP information request via other means:

- "Ergon Energy notes AEMO already have access to a range of information to NMI level via the market mechanisms".
- "AEMO could utilise forecasting reports from Ergon Energy's range of internal forecasting processes".



- “DNSPs already report on a range of demand management activities in various regulatory reporting requirements including Demand Management Plan, Demand Management Outcomes Report, Distribution Annual Planning Report (DAPR), etc. Requiring DNSPs to supply similar information in different formats only adds to the regulatory burden and administrative overheads”.

Ergon Energy, United Energy, and EnerNOC requested that the data model more clearly define how different classes of participant should complete the request:

- Ergon Energy – “... the guideline should clearly define which entity is responsible for reporting each element. For example, a customer on a price reflective tariff could be supplied by the retailer and the DNSP. Ergon Energy strongly recommends AEMO does not burden the market by requesting reporting on the same element from two sources”.
- United Energy – “Rather than a regulatory obligation that is most likely met by retailers particularly in relation to reporting on customers with time-of-use tariffs, it is preferable that the wording be clear on the registered participants that must comply”.
- EnerNOC – “Further, the guideline should be clear on whether the participant should list NMIs for which they have a distinct formal role in serving (i.e. as FRMP<sup>7</sup> or DNSP), or should participants list NMIs that they are aware of, but do not serve directly? For example, third party DSM<sup>8</sup> providers like EnerNOC may run DSM programs on behalf of other participants, and may be aware of NMIs that participate in DSM, despite having no formal role (from AEMO/MSATS<sup>9</sup> perspective) in serving that NMI. Should third-party providers list such NMIs in their submission to AEMO? For the sake of maximising the accuracy of the data provided to AEMO, we suggest that they should”.

EnerNOC raised several issues surrounding difficulties AEMO may experience when analysing data from the request:

- "Another key element AEMO's data model needs to be prepared to handle is the possibility that one NMI provides multiple types of DSM, at the request of/benefit to multiple participants. In our view, DSM (in) the energy market (i.e. avoiding high spot prices) is entirely different and distinct to DSM for network support, or DSM for network tariff management. As such AEMO's data model should be designed to accommodate, and successfully report on, a single NMI providing multiple types of DR on behalf of multiple participants. These DSM responses may or may not be concurrent – AEMO will have to carefully consider how to sum and report on DSM quantities of this nature."
- "One challenge EnerNOC anticipates AEMO will have in collecting and reporting DSM participation levels is “how often” and “under what circumstances” a NMI provides DSM. Just because a NMI can provide DSM, or has provided DSM in the past, does not mean that they always provide DSM. For NMIs participating in DSM to avoid high spot prices, simply asking for the quantity of load reduced, and the strike price is unlikely to paint the full picture. A NMI's decision to provide DSM will involve multiple variables that may be difficult for AEMO to collect and quantify with any certainty. For instance, EnerNOC has worked with NMIs that have decision trees along the lines of: “We will reduce demand by X MW when the spot price exceeds \$Y, but only if the spot price arrives in the first Z dispatch intervals within in the trading period”. The decision may be complicated by other variables such as “only between hh:am and hh:pm” or “only if the size of our product stockpile is exceeds X threshold”. AEMO may wish to encourage participants to provide this information via free text, or should otherwise find a way to capture the information in the data model. A dropdown option for participants to indicate qualitatively “how often does this NMI provide the described DSM” (always / most of the time, / some of the time / rarely) may improve the data collected by AEMO”.

<sup>7</sup> FRMP: financially responsible Market Participant.

<sup>8</sup> DSM: demand side management.

<sup>9</sup> MSATS: Market Settlement and Transfer Solutions.

#### 4.6.4 AEMO's assessment of general feedback

AEMO considered the following:

- The request focuses on capturing lists of NMIs where various types of DSP are available, alongside data linked to those NMIs that is not otherwise available to AEMO from other sources. The publications mentioned by Ergon provide aggregate data rather than NMI level data, and as such, do not provide the level of detail required by AEMO.
- Several of the items in Section 1 of the data model relate to specific classes of participant (such as retail time-of-use tariffs, which should only apply to retailers), and these have been more clearly specified in the draft Guidelines. Section 2 of the data model applies to all classes of Registered Participant, however, changes have been made to reduce the potential overlap of data submission between participants. For example, only DNSPs will be required to complete data in Section 2 on network-controlled load. Where more than one participant class may have data relating to a particular type of DSP, it is requested from all classes to ensure AEMO is provided with a complete picture.
- Where metering data is available to AEMO, this will be used alongside participant responses to the DSP information request, as part of a disaggregation process to assess which type of DSP is operating at each location at a given time. It is acknowledged that this is not a simple task, and care will be required to avoid double-counting. This is one reason why AEMO has requested data to the individual NMI level.

#### 4.6.5 AEMO's conclusion

AEMO determines to include the following in the draft Guidelines:

- NMI level data will be requested, both to enable linkage with AEMO's existing systems, and to avoid double-counting of response.
- Section 1 of the data model specifies which classes of participant are required to complete each field. AEMO has determined to separate Registered Participants into two classes: Market Participants and non-Market participants. Using these classes allows for future types of Registered Participant to be covered without requiring further amendment to the Guidelines. Where the Guidelines do not limit the scope of a specific category of DSP, all participants are required to provide any data they capture under their current business processes, including if that data relates to DSP operated by a third party.
- For large DSP, AEMO requires participants to complete the 'Trigger Condition / Algorithm' field with specific detail on why and when the DSP would occur. The notes against this field have been clarified to that effect. This will assist with disaggregation of DSP response from a given customer.

## 4.7 Scope of request

### 4.7.1 Issue summary and submissions

AEMO understands that the DSP data required under these Guidelines may require participants to gather additional data, and therefore impose additional costs and compliance obligations on participants. This issue has potentially wide-ranging impacts, and needs to be considered carefully. It is a balance between greater availability of data and the impact on participants from requiring them to source such data.

The submission provided by EnergyAustralia proposes that: "The guidelines should make it clear that registered participants are only obligated to provide data which they currently gather for other purposes ... [and] should also be limited to the fields that participants already capture in their systems or can be readily derived from this".

#### 4.7.2 AEMO's assessment

AEMO considered the following:

- The existing broader policy issues (See Section 4.9) that may affect these Guidelines.
- That AEMO can iteratively implement change to these Guidelines following consultation if either a greater depth of information becomes more important, or anticipated policy changes do not occur.
- The cost of compliance for participants.

AEMO also noted that the AEMC considered this approach in its Final Determination: "... a registered participant may be in a position to utilise processes, to the extent that it had developed such processes for the purposes of complying with the final rule, in order to provide the relevant information on DSP to AEMO".<sup>10</sup>

#### 4.7.3 AEMO's conclusion

AEMO determines that the Guidelines will specify that Registered Participants must provide all relevant data that is captured using their current business processes, or can be readily derived or captured from such processes.

### 4.8 Publication of data

#### 4.8.1 Issue summary and submissions

Clause 3.7D(d) of the NER requires AEMO to publish, no less than annually, details on the extent to which DSP information received under clause 3.7D has informed the development of load forecasts.

AEMO's Issues Paper stated that the details AEMO intends to provide include:

- A list of the load forecasts that have been informed by the DSP information.
- A description of how the DSP information was used in each of the forecasts.
- Where available, a reference to a document or location where the impact of the DSP information on the forecast can be viewed (such as the medium-term projection of system adequacy (MT PASA) reports, available on AEMO's website).

The submissions on this point included the following:

- ENA, Energex – No additional specific DSP data had been identified that should be published.
- United Energy – That AEMO make available any assumptions it makes on the raw data, and that Participants should "see the aggregated demand side participation data for each transmission connection point before the data is reconciled with the NEFR".
- AGL – "AEMO should only publish aggregate and anonymised information", and that aggregated DSP data "be thoroughly tested to ensure commercially sensitive information cannot be deduced".
- EnerNOC – "In general, it will be useful to better understand how much DSM is happening in the NEM, and for what purpose. This will be useful in assessing the health of demand side participation in the NEM, and allow participants to compare the NEM against peer markets, and make better-founded decisions about whether new market reforms are required in order to encourage greater levels of DSM participation in the NEM".

#### 4.8.2 AEMO's assessment

AEMO took into consideration the following:

<sup>10</sup> Australian Energy Market Commission, Final Rule Determination: National Electricity Amendment (Improving demand side participation information provided to AEMO by registered participants) Rule 2015 No. 4, page 26.  
<http://aemc.gov.au/getattachment/ae728fef-be54-40fa-a29b-e0d59bdb5a61/Final-rule-determination.aspx>

- AEMC considered that Division 6 of the National Electricity Law ('protected information' provisions) was adequate to protect data during the collection and publication of information by AEMO.
- AEMO will not publish information that breaches this obligation.
- AEMO will need to assess the extent to which it can publish DSP data. The amount of data published will depend on the data received, and is difficult to assess at this stage.
- While AEMO can assess the extent to which DSP informed AEMO's load forecasts, it cannot, at this stage, accurately assess the impact that DSP has had within actual load consumption.

#### **4.8.3 AEMO's conclusion**

AEMO will, at least annually, document the extent to which load forecasts were informed by DSP information obtained in accordance with these Guidelines.

## **4.9 Concurrent consultations and policy overlap**

### **4.9.1 Issue summary and submissions**

AEMO understands there are many consultations and policy discussions that may affect these Guidelines. Four submissions (AGL, ENA, Ergon Energy, United Energy) commented on this issue.

The submissions expressed concern around:

- How AEMO will dovetail these Guidelines with other concurrent consultations.
- How AEMO will consider the interdependencies with related consultation processes currently underway.
- Coordination of initiatives for the collection of energy storage data.
- A wider strategy for addressing key issues in power system data management, communications, and reporting.

### **4.9.2 AEMO's assessment**

AEMO notes that it is not in the interest of industry to duplicate data repositories or data collection processes. It has come to the decision to not implement a potentially unnecessary burden on participants, and to review this decision as these policy decisions are made.

AEMO also notes that it may trigger a review of these Guidelines at any time if it requires a greater level of DSP information.

### **4.9.3 AEMO's conclusion**

This issue was considered in conjunction with Issue 4.7 (Scope of Request). AEMO wishes to reduce the burden on participants by reducing the scope of the request for information under these Guidelines as detailed in Issue 4.7 – namely, to only collect information available through current business processes.



## 5. DRAFT DETERMINATION

Having considered the matters raised in submissions, AEMO's draft determination is to make the Demand Side Participation Information Guidelines in the form of **Attachment 1**, in accordance with clause **3.7D(e)** of the NER.



## APPENDIX A - GLOSSARY

Term or acronym	Meaning
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CSV	Comma Separated Values
DAPR	Distribution Annual Planning Report
DER	Distributed Energy Resources
DNSP	Distribution Network Service Providers
DSM	Demand Side Management
DSP	Demand Side Participation
FRMP	Financially Responsible Market Participant
HW	Hot Water
MSATS	Market Settlement and Transfer Solutions
MT PASA	Medium Term Projected Assessment of System Adequacy
MW	Megawatt
NEFR	National Electricity Forecasting Report
NEM	National Electricity Market
NER	National Electricity Rules
NMI	National Metering Identifier
TNI	Transmission Node Identity





## APPENDIX B - SUMMARY OF SUBMISSIONS AND AEMO RESPONSES

No.	Consulted person	Category	Issue	AEMO response
1.	AGL	Frequency for Data Submissions	"AGL considers it appropriate to commence with annual collection of data, with a decision to increase the frequency only made once the usefulness of the information (as reported by AEMO under clause 3.7D(d)) and the cost of complying with the data requests has been more concretely established."	Noted. See section 4.1 for further details.
2.	ENA		"Incremental costs to NSPs for reporting twice annually is dependent on the level of reporting automation achieved and the final level of information granularity acceptable to AEMO. Aggregation of suitable datasets in a pre-existing or practical format would improve the efficiency with which NSPs could provide the required information."	AEMO has decided against twice annual data collection at this time. See sections 4.5 and 4.6 for further details regarding granularity and data content.
3.	Energex		"Should Energex be expected to provide updates to the DSP Information throughout the year the administrative impact of this obligation on the business would increase"	Registered Participants are required to provide the data once annually, and outside of this are not required to provide updates.
4.	Energex		"Questions have been raised regarding how the accuracy of the DSP Information is to be maintained throughout the year, or if indeed this is an expectation of Registered Participants."	Noted. See section 4.1 for further details.
5.	Energex		"The incremental cost were AEMO to require the data twice annually rather than once annually would be highly dependent on: (1) the level of automation which can be achieved in producing the requested data; and (2) the level of granularity of the requested data. Certainly if the data is to be compiled manually Energex view a twice annually submission as excessively costly."	AEMO has decided against twice annual data collection at this time. See sections 4.5 and 4.6 for further details regarding granularity and data content.
6.	EnergyAustralia		"We suggest that annual, or even biennial, data requests are appropriate. Compliance with the data requests will require significant manual work; the cost of semi-annual data requests will be double that of an annual request. We do not consider that there will be enough variation in data sets across a year to justify this additional expense."	AEMO has decided against twice annual data collection at this time.
7.	EnerNOC		"We would expect the incremental cost to participants to double."	Noted. AEMO recognise the context of this comment given the small cost estimate provided by EnerNOC.



No.	Consulted person	Category	Issue	AEMO response
8.	Ergon Energy		"Ergon Energy notes AEMO intends to collect information on an annual basis and agrees this will minimise the impost on DNSPs. Should AEMO wish to receive this level of data more frequently or on an ongoing basis, Ergon Energy suggests AEMO work with the industry to develop a range of automated business to business processes to enable the data transfer to happen seamlessly on an ongoing basis."	Noted.
9.	United Energy		"Aligning the data request with AEMO's current forecasting schedule will allow us to use existing resourcing. A second data request later in the year would result in substantial increases in ongoing costs as we would need to procure another FTE to resource the data provision in a normally busy part of the year in the lead up to summer."	Noted. AEMO recognise that the timing of submissions is also an important consideration for Registered Participants.
10.	United Energy		"The final DSP Guideline needs to include the annual data requirement as the required frequency. Any move away from an annual requirement needs to be part of a Rules consultation process as an amendment to the Guideline"	AEMO is required by the NER to undergo a formal consultation to change the reporting frequency once the Guidelines are made under this process.
11.	AGL	Timing For Data Submissions	"Although AEMO has suggested collection to coincide with the publication of the annual National Electricity Forecasting Report (usually mid-year), it may ultimately prove more useful to schedule collection shortly before the summer demand period in order to capture new demand response programmes targeted at this period."	AEMO recognised that there may have been benefit in data collection prior to summer each year for this reason, and as such considered a twice annual collection as part of this consultation. However, at this stage AEMO decided against this - see section 4.1 for further information.
12.	ENA		"AEMO [should] consider aligning reporting timeframes with similarly, related reporting timeframes required by AEMO of NSPs."	Noted. See section 4.2 for further details.
13.	ENA		"Improved clarity on intended and actual use of DSP information by AEMO would assist NSPs in estimating the required investment and development timeframes of automated reporting systems, thereby establishing suitable rollout implementation and reporting timeframes."	Noted. The data model is largely consistent with the proposal in AEMO's Issues Paper published in November 2016. See section 4.5 and 4.6 for further information regarding granularity of data and data content.
14.	Energex		"Energex currently provides AEMO with information aggregated for each TNI for input into connection point forecasting... The information is provided in March and it would be desirable to align these submissions. A mid-year input (June/July) is least desirable due to an already large workload addressing other regulatory and reporting requirements."	Noted.



No.	Consulted person	Category	Issue	AEMO response
15.	EnerNOC		"The time of year does not matter to EnerNOC from a cost perspective. We would suggest that AEMO design the timing of the exercise to best suit AEMO's reporting schedule – ensuring the data is collected in advance of analysis cut-off times for the NEFR, NTNDP, etc. Ensuring that the collected data flows through to downstream reports, and is not many months out of date by the time it makes its way into downstream reports – is important."	Noted.
16.	EnerNOC		"If AEMO takes a 'snapshot in time' approach (i.e. asking participants to only list DSM-participating NMI's that the participant served on a particular day, then there may be value in considering retail contract cycles. The majority of retail agreements end on 31-December or 30-June. If a NMI is new to a retailer's book, the retailer may not yet be familiar with the NMI's DSM capabilities. As such AEMO is likely to get more accurate DSM information from retailers if they choose a 'snapshot in time' date of 30-June, versus say, 1-July."	AEMO recognised that there may have been benefit in data collection at other times of the yearly cycle, as per EnerNOC's comment, and as such considered a twice annual collection as part of this consultation. However, at this stage AEMO decided against multiple collections per year - see section 4.1 for further information.
17.	Ergon Energy		"an appropriate time for collecting the information would be at least 1 month after the submission of the DAPR, as some of the information contained in the reporting would be used in the development of the DAPR."	DAPR dates vary by state, QLD reports are due by 30 September (QLD Electricity Industry Code 2.3). If no state based rule applies, NEM rules require the report to be published by 31 December (NER clause 5.13.2).
18.	United Energy		"To minimise costs for UE, data should be provided annually in around April at the same time as data is provided to AEMO for the National Electricity Forecasting Report (NEFR) and connection point forecasting."	Noted.
19.	ENA	Guidelines Commencement Date	"Initial efforts by NSPs to provide this reporting to AEMO will be likely to be undertaken manually, and will then take up to two years to develop automated reporting systems."	Noted. See section 4.3 for further information.
20.	Energex		"A staged approach commencing with aggregated data and working towards more detailed reports through the development of appropriate systems is preferred however, the cost/ value implication needs to be considered. A staged approach would also allow time for all parties to better understand how the DSP information can be applied to optimise network operations and forecasting and allow for further refinement of the data requirements and timing prescribed under the DSP Information Guidelines depending on the criticality of different elements of the information to AEMO's operations."	AEMO considers a staged approach beginning with aggregated data would result in a second iteration of automation which may lead to inefficient software design and higher cost, and also may not provide the required granular information required.
21.	Energex		"A 12-month minimum window would be necessary to produce the required information if it is to be collected manually which would certainly be the case for the inaugural report"	See section 4.3.2 for further information.



No.	Consulted person	Category	Issue	AEMO response
22.	EnerNOC		"EnerNOC does not anticipate it will require any time to prepare for compliance with the new guideline. We have provided DSM participation to AEMO in the past on a voluntary basis, and do not see the new guideline process as significantly more burdensome than the old process."	Noted.
23.	United Energy		"UE recommend that the first data request is no earlier than 9 months after the Guideline is finalised."	Noted.
24.	United Energy		"The first data request should be due in April 2018 given the extensive workload involved in IT systems, processes and training for the metering competition rules which commence on 1 Dec 2017."	Noted.
25.	ENA	Data Format	"Furthermore, the role of the 'aggregator' of distributed energy resources (DER), as anticipated within the Issues Paper, is still to be fully realised, and may see a more dynamic use of DER than the proposed reporting template allows for. Energy Networks Australia recommends AEMO consider the implications for this when determining reporting requirements and evaluating the accuracy of information supplied."	AEMO have developed the data content and data format to allow the flexibility currently envisaged. However, the AEMC made the rule such that the Guidelines may change if the circumstances warrant, subject to a formal consultation. See section 4.4 for further information.
26.	Ergon Energy		"these types of templates are not suitable for automated systems, which necessarily implies that this will require a manual process to complete."	AEMO intends to utilise a web portal that will allow users to upload CSV files containing their submission, thereby improving interaction with automated systems.
27.	AGL	Data Granularity	"In AGL's view it is important that each of the data requirements included in the proposed data model (Appendix A to the Issues Paper) be justified with a clear statement of how that input will be deployed in AEMO's suite of modelling tools and lead to tangible improvements in load forecasting."	It is also difficult to state independently how each of the data requirements will be incorporated into AEMO's models, as this is expected to evolve over time.
28.	ENA		"Energy Networks Australia considers AEMO should contemplate allowing aggregation of some data sets where practical to assist in reducing the likely reporting burden on Registered Participants as well as reducing data processing burden on AEMO itself."	Noted. AEMO has only requested the data that it needs and has reduced or removed other data sets that may have been unnecessary, or provide less value.
29.	Energex		"it is difficult to see how the detailed data requested would be of benefit compared with providing data at an aggregated level."	AEMO wishes to collect raw data to avoid differences in aggregation methods between the participants leading to skewed results. AEMO does not believe that providing raw data would take any additional effort, as this raw data would need to be extracted by the participants before they could perform any aggregation.
30.	Energex		"Energex maintains a mapping of individual NMIs to their TNI"	AEMO maintains a mapping of NMI to TNI, this information is not required from Participants.



No.	Consulted person	Category	Issue	AEMO response
31.	Ergon Energy		"As the Issues Paper does not detail how the information will be used to produce electricity load forecasts, it would appear that any benefit of providing this level of information would be significantly outweighed by the cost imposed on the DNSP, which would ultimately be borne by the consumers. Moreover, there does not appear to be any direct benefit to consumers."	It is also difficult to state independently how each of the data requirements will be incorporated into AEMO's models, as this is expected to evolve over time. See section 4.5 for further information. Furthermore it was clear within the AEMC's Final Rule Determination, that the data collected under this rule "has the potential to better inform decisions and processes of AEMO, registered participants and other energy market stakeholders".
32.	Ergon Energy		"AEMO could utilise forecasting reports from Ergon Energy's range of internal forecasting processes"	This approach is not available across all NEM. AEMO considers that it is more costly to use unique processes by DNSP, than a common method/structure for everybody. Furthermore, differing analytical techniques between the various DNSPs may lead to bias if aggregated.
33.	Ergon Energy		"Will result in more than 450 000 line items of data."	In this case, AEMO would expect a list of 450,000 NMIs rather than 450,000 submissions of Section 2. AEMO does not consider this to be a large volume of data, and expects that these NMIs could all be obtained at once via a single or small number of database queries.
34.	Ergon Energy		"The Issues Paper suggests that confidentiality issues will be addressed by publishing only aggregated data. Given this and the fact that providing aggregated data would be less of an administrative burden on DNSPs, Ergon Energy suggests that providing data aggregated to an appropriate network element level such as the bulk supply point or major zone substation level would be a more prudent approach in the first instance."	AEMO considers a staged approach beginning with aggregated data would likely result in a second iteration of automation which may lead to inefficient software design and therefore higher cost, and this approach would not provide the required granular information required".
35.	AGL	Data Content	"It is questionable the degree of assistance offered by this data in managing intra-day price and demand conditions. These NMIs will have relatively stable seasonable demand behaviour."	See section 4.6.2 for further information.
36.	AGL		"Registered participants should not be required to provide details of future programs or tariff classes unless there are already committed recruits into those new programmes or tariff classes. Otherwise the information is of little value in fulfilling AEMO's short term load forecasting responsibilities."	See section 4.6.2 for further information.
37.	AGL		"Other contract details are not relevant to AEMO's task and may constitute confidential information."	See section 4.6.2 for further information.
38.	AGL		"Providing names and addresses of connection points would be costly and potentially raise confidentiality, privacy and security concerns. NMIs should be sufficient for AEMO's forecasting purposes."	Name/address enables further validation of data accuracy. The description of this category in the data model has been amended to clarify that only one means of identification is required (ie. site name OR address). See section 4.6.2 for further information.



No.	Consulted person	Category	Issue	AEMO response
39.	AGL		"... it should be precluded from the data model as it will not assist AEMO in managing intra-day or longer term load forecasting. This is particularly the case as the customer commitment under such contracts may be non-firm, making reliable reporting difficult."	See section 4.6.2 for further information.
40.	EnergyAustralia		"Following the Australian Energy Market Commission's Rule change of 26 March 2015, 'Improving demand side participation information provided to AEMO by registered, participants', AEMO were obligated to create the guideline for information requests now under consultation. EnergyAustralia did not support the rule change as there was insufficient justification that additional data from retailers would be beneficial. We also noted that non regulatory options were not assessed. We considered that given the financial incentive for accurate forecasts placed on market participants, data that participants are not able to accurately use for their internal forecasts will be of little use to AEMO.  However, in light of the Rule change, we support AEMO's conclusion that raw data should be targeted over aggregated data. This ensures a consistent approach across surveyed participants and provides the best chance that the data will support a useful forecast. The targeting of NMIs ensures that forecasts of demand response will be largely independent of retailer churn or contract changes."	Noted.
41.	EnergyAustralia		"We also question the benefit of forward looking information and suggest it not be included in the draft. Strategic programs can be both commercially sensitive and highly subjective. The principles proposed by AEMO in determining what DSP information to request as outlined in the issues paper are inconsistent with information of this nature. Providing this data would be problematic and provide no reliable information to aid AEMO's forecasts."	Providing forward looking, qualitative information will assist AEMO in developing its load forecasting systems to accommodate new developments in the DSP industry
42.	EnerNOC		"Further, the guideline should be clear on whether the participant should list NMIs for which they have a distinct formal role in serving (i.e. as FRMP or DNSP), or should participants list NMIs that they are aware of, but do not serve directly? For example, third party DSM providers like EnerNOC may run DSM programmes on behalf of other participants, and may be aware of NMIs that participate in DSM, despite having no formal role (from AEMO/MSATS perspective) in serving that NMI. Should third-party providers list such NMIs in their submission to AEMO? For the sake of maximising the accuracy of the data provided to AEMO, we suggest that they should."	AEMO requests that all data captured by current business practices is provided, if this includes data relating to third-party providers then that should be listed as part of the submission in order to maximise accuracy as EnerNOC has noted.





No.	Consulted person	Category	Issue	AEMO response
43.	EnerNOC		"Another key element AEMO's data model needs to be prepared to handle is the possibility that one NMI provides multiple types of DSM, at the request of/benefit to multiple participants. In our view, DSM is the energy market (i.e. avoiding high spot prices) is entirely different and distinct to DSM for network support, or DSM for network tariff management. As such AEMO's data model should be designed to accommodate, and successfully report on, a single NMI providing multiple types of DR on behalf of multiple participants. These DSM responses may or may not be concurrent – AEMO will have to carefully consider how to sum and report on DSM quantities of this nature."	Noted. AEMO will need to disaggregate DSP types at a given NMI where several are operating concurrently.
44.	EnerNOC		"One challenge EnerNOC anticipates AEMO will have in collecting and reporting DSM participation levels is "how often" and "under what circumstances" a NMI provides DSM. Just because a NMI can provide DSM, or has provided DSM in the past, does not mean that they always provide DSM. For NMIs participating in DSM to avoid high spot prices, simply asking for the quantity of load reduced, and the strike price is unlikely to paint the full picture. A NMI's decision to provide DSM will involve multiple variables that may be difficult for AEMO to collect and quantify with any certainty. For instance, EnerNOC has worked with NMIs that have decision trees along the lines of: "We will reduce demand by X MW when the spot price exceeds \$Y, but only if the spot price arrives in the first Z dispatch intervals within in the trading period". The decision may be complicated by other variables such as "only between hh:am and hh:pm" or "only if the size of our product stockpile is exceeds X threshold". AEMO may wish to encourage participants to provide this information via free text, or should otherwise find a way to capture the information in the data model. A dropdown option for participants to indicate qualitatively "how often does this NMI provide the described DSM" (always / most of the time, / some of the time / rarely) may improve the data collected by AEMO."	See section 4.6.3 and 4.6.4 for further information.
45.	Ergon Energy		"Ergon Energy believes that the guideline should clearly define which entity is responsible for reporting each element. For example, a customer on a price reflective tariff could be supplied by the retailer and the DNSP. Ergon Energy strongly recommends AEMO does not burden the market by requesting reporting on the same element from two sources."	See section 4.6.3 and 4.6.4 for further information.
46.	Ergon Energy		"AEMO already have access to a range of information to NMI level via the market mechanisms, such as: (1) NMI level network tariff code indicating the customer participation in cost reflective tariffs; and (2) NMI level network tariff code indicating the number of NMIs that have controllable load tariffs."	AEMO does have access to network tariff codes (and has not requested this information under the proposed guidelines), however it does not have direct visibility of tariff types at the retail level. See section 4.6 for further information.



No.	Consulted person	Category	Issue	AEMO response
47.	Ergon Energy		"Furthermore, DNSPs already report on a range of demand management activities in various regulatory reporting requirements including, Demand Management Plan, Demand Management Outcomes Report, Distribution Annual Planning Report (DAPR), etc. Requiring DNSPs to supply similar information in different formats only adds to the regulatory burden and administrative overheads."	See section 4.6 for further information.
48.	United Energy		"Rather than a regulatory obligation that is most likely met by retailers particularly in relation to reporting on customers with time-of-use tariffs, it is preferable that the wording be clear on the registered participants that must comply."	Section 1 of the data model now specifies which classes of participant are required to complete each category of data.
49.	United Energy		<p>"Where the network has control over load like HW or slab heating, we query how this is demand side participation information that is valuable to AEMO's demand side forecasting as it is not switched in the hot summer day time period when the network is operating at its peak demand, rather it operates overnight or in winter."</p> <p>"UE is able to provide this NMI list based on which meters have this capability, however the customer may or may not be using the electrical circuit in question if they have new appliances eg have swapped to gas HW."</p> <p>"UE is not in a position to advise the MW under control"</p> <p>"UE suggest that Victorian DBs should be exempted from providing this information in both data requirement 1 and data requirement 2. It is not efficient to collate some 60,000 NMIs for AEMO from a load control that would not be operated to reduce load during the day."</p>	See section 4.6.2 for further information.
50.	United Energy		"UE don't have ANZSIC codes against NMIs to provide AEMO. If this information is required IT system changes will be required and this will delay providing the data."	See section 4.6.2 for further information.
51.	United Energy		"is the obligation on the network to provide this data only when we own and control the storage and not when another party owns/controls. If a network contracts a third-party for a demand response, it is unlikely that we will know the dates commissioned, make and model nos or the storage capacity and permitted export"	See section 4.6.2 for further information.
52.	United Energy		"If a battery programme had 100,000 sites does AEMO really see value in 100,000 commissioning dates, makes and models etc?"	<p>Reporting of dates &amp; inverter models is excluded for aggregate storage.</p> <p>The statistical value of a set of 100,000 customers is more valuable than a small set, we can use this to better understand how a large population of batteries will behave, age and affect system security.</p>



No.	Consulted person	Category	Issue	AEMO response
53.	United Energy		"UE queries the value of historical MW for an event without any context of the event, date, time, length of hot weather, type of response, new trial/product etc."	See section 4.6.2 for further information.
54.	United Energy		"UE also only have business or residential and not industry and commercial categories. Suggest AEMO amend the data requirements, or limit the network data responsibilities to residential or business."	See section 4.6.2 for further information.
55.	EnergyAustralia	Scope of Request	"The guidelines should make it clear that registered participants are only obligated to provide data which they currently gather for other purposes, i.e. nothing in the guideline should require registered participants to make additional or ad hoc data requests to their customers. Data Model Section 2 covers a range of specific information much of which is not relevant to a retailer's operation and may not be requested from customers as a matter of course. should also be limited to the fields that participants already capture in their systems or can be readily derived from this."	Only data obtained via current business processes is requested - see section 4.7 for further information.
56.	United Energy		"Our preference is the data should not include time-of-use tariffs, HW and slab floor heating, or programmes undertaken by others (e.g. retailers) in UE's service area that are not contracted to provide network support to UE. Such information should be sourced from others."	Noted. See section 4.6.5 for further information.
57.	AGL	Publication of data	"AEMO should only publish aggregate and anonymised information. Levels of aggregation should be thoroughly tested to ensure commercially sensitive information cannot be deduced by other market participants."	Noted.
58.	ENA		"Energy Networks Australia has not identified any additional specific DSP information that should be published from DSP information submissions at this time."	Noted.
59.	Energex		"At this time Energex has not identified any additional specific information that it would want to see published by AEMO from the DSP Information submissions."	Noted.
60.	EnerNOC		"In general, it will be useful to better understand how much DSM is happening in the NEM, and for what purpose. This will be useful in assessing the health of demand side participation in the NEM, and allow participants to compare the NEM against peer markets, and make better-founded decisions about whether new market reforms are required in order to encourage greater levels of DSM participation in the NEM."	See section 4.8 for further information.



No.	Consulted person	Category	Issue	AEMO response
61.	United Energy		"UE wish to understand the assumptions made by AEMO on the raw data and also see the aggregated demand side participation data for each transmission connection point before the data is reconciled with the NEFR forecast."	AEMO will report annually on the extent to which the DSP information has informed its load forecasting activities. However, AEMO may not be able to publish particular details at the connection point level as they may be subject to confidentiality/privacy restrictions.
62.	Ergon Energy	Current Consultations and Broader Policy Overlap	"Ergon Energy recommends AEMO consider how the guideline will dovetail with the Commonwealth of Australian Government's consultation on Energy Storage Registration and give due consideration to other consultations currently in progress, such as and the Australian Energy Market Commission's (AEMC) review of the Distribution Market Model; the Australian Energy Regulator's consultation on Demand Management Incentive Scheme and Innovation Allowance Mechanism; and the AEMC's Local Generation Network Credits Final Rule."	Noted. See section 4.9 for further information.
63.	AGL		"AGL suggests that AEMO confirm its intended approach with the Council to ensure a common understanding of the interaction of AEMO's proposals under the DSP Information Guideline with the question of an energy storage database. Coordination of initiatives for the collection of energy storage data is essential to avoid the duplication of data repositories and associated establishment, maintenance and compliance costs."	Noted.
64.	ENA		"AEMO [should] consider the interdependencies of the DSP Information Guideline with related consultation processes currently underway"	Noted. See section 4.9 for further information.
65.	ENA		"AEMO [should] consider hosting or co-hosting with Energy Networks Australia further stakeholder engagement workshops"	Noted.
66.	ENA		"In terms of the timing of the first information request, and in light of the need to consider potential linkages to other related consultation processes underway, Energy Networks Australia would welcome the opportunity to work collaboratively with AEMO and other interested stakeholders to develop a wider strategy for addressing key issues in power system data management, communications and reporting. This will assist in taking a system-wide approach to these matters and preventing potential costly duplication of investment."	Noted.
67.	United Energy		"Our ability to collect and record this data may be subject to the outcomes of the COAG battery registration paper."	Noted.
68.	ENA	Requested Clarifications	"Energy Networks Australia would also appreciate clarification from AEMO as to whether changes to under frequency load shedding arrangements during reporting periods would require submission of an updated information report."	No updates to the DSP information will be required if arrangements change during the reporting period. Refer to section 4.1.3 for further information.



No.	Consulted person	Category	Issue	AEMO response
69.	ENA		"Further clarification by AEMO as to how NSPs would represent active demand management or load control within the reporting templates will assist in estimating initial and ongoing reporting costs."	Refer to section 4.5.2 for further information.
70.	EnergyAustralia		"A clearer distinction between what is required from different types of registered participants would aid compliance. For example, in data model section 1 there are only four relevant fields for retailers: 'market exposed connections', 'connections on retail TOU tariffs', 'Future deployment', and 'alerts lists'. Errors and confusion may come from fields such as 'connections with energy storage' where each participant may have incomplete or disparate information on which of their customers may have on-site storage, so these should certainly not be seen as the primary information source."	Section 1 of the data model has been amended to include the class of participant that each category applies to, refer to sections 4.6.4 and 4.6.5 for further information.
71.	United Energy		"The network event tariffs – We assume this relates to voluntary load reduction programmes for a customer providing network support benefit to alleviate a capacity constrained network asset as opposed to customers with a time-of-use network tariff. Is this correct or are you wanting both? Would this include small load control trials or only business-as-usual network support programmes? Alternatively should the voluntary load programmes only be provided once in the alert list data item?"	<p>The 'network event tariffs' category covers tariff types where pricing varies in response to day-to-day operating conditions. It does not include tariffs where pricing varies according to a set schedule (such as network time-of-use tariffs). Instructions in the data model relating to this category have been amended to more clearly define this distinction.</p> <p>The guidelines specify that data current at a particular date must be provided, the data provided should include all programs and trials operating on that date.</p> <p>NMIs relating to voluntary load reduction programs should be provided under the 'Connections on network event tariffs' category, any distribution lists related to these programs should be provided under the 'Alerts list' category.</p>
72.	United Energy		"we assume this better relates to controlled load reduction programmes for a customer providing network support benefit to alleviate a capacity constrained network asset as opposed to customers with HW or slab heating tariffs. Is this correct or are you wanting both? Would this include small load control trials or only business-as-usual network support programmes?"	<p>Network controlled load includes Customers who have any equipment installed that the NSP can use to control load, including but not limited to hot water and slab heating.</p> <p>Any programmes or trials operating on the sampling date (as specified in the guidelines) should be included.</p>
73.	United Energy		"We assume the 1MW threshold applies to single customers or can apply to many connection points where the aggregated demand response of a programme is above 1MW. Is this correct?"	This is correct, if one individual Customer or an aggregate of Customers has a potential response over 1MW then Section 2 must be completed for that Customer or group
74.	United Energy		"Does AEMO want the total contracted load or the total load available in the portfolio in the knowledge that UE would only every dispatch up to the total contracted load? UE is concerned that load could be counted twice."	Where the magnitude of response is requested, data should be provided on the maximum response available from the NMIs listed, regardless of whether the total contracted response is less than this value. AEMO will use the NMI list to avoid double counting load.



No.	Consulted person	Category	Issue	AEMO response
75.	United Energy		"if we have diesel EG that can operate to grid or in an islanded state, how should this be treated? The generator registration guide may consider these generators exempt or non-scheduled but the load may or may not be available in the NEM if the customer chooses to island from the grid for a time?"	Any generator capable of being connected to the grid should be reported. If the Customer may operate in an islanded state, this can be noted in the 'Trigger condition/algorithm' field as a response limitation.
76.	AGL	Other	"There is a risk that prematurely settling upon prescriptive data requirements will stifle market development and innovation."	Where new types of DSP arise, registered participants will be able to add detail to flexible fields in the data request (eg. Other/specify details fields). Should AEMO determine that the data request is not catering for new types of DSP, a new consultation will be started to amend the guidelines.
	"While the industry is in the process of experimenting with new technologies, control platforms and algorithms, it is important that the data request continues to allow a flexible description of program elements."			
77.	ENA		"Manual extraction and arrangement of data in the format proposed by AEMO within the Issues Paper may be prohibitively time consuming and expensive for NSPs practising complex load control activities."	
78.	Energex		"Energex considers that the information guidelines in their proposed form as detailed in the data model presented in Appendix A of the Issues Paper will impose substantial additional regulatory and administrative obligations on Registered Participants."  "In Energex's view the granularity of data requested under the proposed DSP Information Guidelines would require a significant manual data gathering effort and care should be taken to ensure that the requirements will add value to the energy market and consumers of electricity."  Estimate of \$1.6 million "initially and on-going year on year cost for manual production"	See section 4.5 for further information regarding AEMO's clarification to the data model addressing this issue.
79.	EnerNOC		"In general, AEMO's proposed guideline and related timelines should be minimally burdensome for participants. In requesting raw (vs aggregated/analysed) data, and only requesting it once a year, AEMO has designed a simple process that participants should be able to comply with at low cost. In complying with the proposed guideline, EnerNOC - as a participant in the energy market and as a Small Generator Aggregator - will not incur any costs related to contracted labour or system improvement, and no up-front, once only costs. We anticipate that providing this information to AEMO will require less than one day per year of staff time. Most of this information can be exported cleanly from EnerNOC's existing IT systems without requiring significant manipulation."	Noted.





No.	Consulted person	Category	Issue	AEMO response
80.	EnerNOC		"EnerNOC expects that the primary impact of the new guideline will be an improvement to PD PASA and related short-term demand forecasts. We are doubtful that the new rule & guideline will "encourage greater DSP participation by consumers in Australia's energy markets" – but the added visibility into the amount of DSP occurring in the NEM should prove insightful to AEMO and participants, particularly in assessing whether further reforms or rule changes are required in order to encourage DSM. In terms of increasing greater DSP participation, the recently-shelved Demand Response Mechanism rule change would have been an effective tool to encourage participation, and would have provided an additional source of accurate, transparent information to AEMO and participants regarding the amount of price-responsive DSM happening in the NEM. Further, the 5 minute settlement rule change currently under consideration should encourage greater DSP participation. Nonetheless, improved demand forecasts and increased understanding of existing DSM quantities are worthwhile outcomes of this initiative."	Noted.
81.	Ergon Energy		"Ergon Energy would be unable to automate the extraction of the data suggested in the Issues Paper without significant system changes. Therefore, to comply with the suggested data provision requirements would involve either extensive manual extraction or costly system upgrades to automate to process."	It is difficult for AEMO to assess the compliance cost with the quality of cost information provided.
82.	United Energy		"UE has data in a number of disparate databases. To meet the requirements of the 1st data requirements the lists of NEMs will need to be created and collated which will be a fairly manual process. Once the final Guideline is available UE will consider the firmness of the requirements and whether there is a cost benefit case for a more automated process and IT systems."	Noted.



# APPENDIX C - ATTACHMENT 1 – DRAFT DEMAND SIDE PARTICIPATION INFORMATION GUIDELINES

The Draft Demand Side Participation Information Guidelines can be found at:

<https://www.aemo.com.au/Stakeholder-Consultation/Consultations/NEM-Demand-Side-Participation-Information-Guidelines-Consultation>