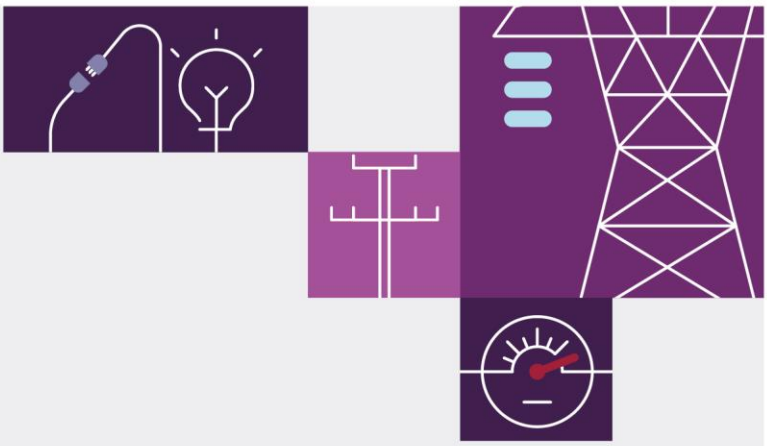
Demand side participation information guidelines

December 2023

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR



Important notice

Purpose

AEMO has prepared this document to inform Registered Participants about their requirements to provide demand side participation information to AEMO (both scope and process), as at the date of publication.

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Version control

Version	Release date	Changes
1.0	1/7/2017	First Issue
2.0	8/12/2020	Updates from 2020 DSPI consultation
3.0	31/10/2023	Draft updates from 2023 DSPI consultation
4.0	20/12/2023	Final updates from 2023 DSPI consultation

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1 Introduction

1.1 Purpose and scope

These are the Demand Side Participation Information Guidelines (Guidelines) made under clause 3.7D(e) of the National Electricity Rules (NER).

These Guidelines have effect only for the purposes set out in the NER. The NER and the National Electricity Law (NEL) prevail over these Guidelines to the extent of any inconsistency.

These Guidelines specify:

- The information Registered Participants are required to provide AEMO.
- When that information must be provided.
- How that information is to be provided.
- AEMO's methodology for assessing the accuracy of that information.
- The manner and form which AEMO will publish a report on the extent to which that information informed its load forecasts.

1.2 Definitions and interpretation

1.2.1 Glossary

The words, phrases and abbreviations set out below have the meanings set out opposite them when used in these Guidelines.

Terms defined in the NER have the same meanings in these Guidelines unless otherwise specified.[1] Those terms are intended to be identified in these Guidelines by italicising them, but failure to italicise such a term does not affect its meaning.

Abbreviation	Abbreviation explanation
AEMO	Australian Energy Market Operator
AEST	Australian Eastern Standard Time
ANZSIC	Australia and New Zealand Standard Industrial Classification
BAU	Business as usual
CSV	Comma-separated values; a file format for exchanging data.
DNSP	Distribution Network Service Provider
DRSP	Demand Response Service Provider
DSPIP	Demand Side Participation Information Portal
MarketNet	AEMO's private network available to participants having a participant ID.
MSATS	Retail Market Settlement and Transfer Solution

[1] Not all the terms defined in the NER are to be found in Chapter 10; some are defined in clause 3.7D(a) of the NER.

Abbreviation	Abbreviation explanation
MSGA	Market Small Generator Aggregator
NEM	National Electricity Market
NER	National Electricity Rules
NMI	[electricity] National Metering Identifier
NSP	Network Service Provider
OpenADR	Open Automated Demand Response
PA	Participant Administrator; manages participant organisations user access and security.
Participant ID	Registered participant identifier
RRO	Retailer Reliability Obligation
Production	Live environment, actively reflecting the currently available data.
SCADA	Supervisory control and data acquisition
TNSP	Transmission Network Service Provider
WDR	Wholesale Demand Response

1.2.2 Interpretation

The following principles of interpretation apply to these Guidelines unless otherwise expressly indicated:

(a) These Guidelines are subject to the principles of interpretation set out in Schedule 2 of the NEL.

(b) References to time are references to Australian Eastern Standard Time.

2 Information

Clause 3.7D(b) of the NER requires Registered Participants to provide information to AEMO in accordance with demand side participation information (DSPI) guidelines ("the Guidelines").

Clause 3.7D(e) lists information that the Guidelines must specify that Registered Participants must provide. At a high level, this includes information in relation to:

- contracted demand side participation; and
- the adjustment of non-scheduled load or the provision of unscheduled generation in respect of the demand for, or price of, electricity.

2.1 Contracted demand side participation information

Contracted demand side participation is defined in clause 3.7D(a) of the NER as information relating to a contractual arrangement between a Registered Participant and a person, in which they agree to the adjustment of non-scheduled load or the provision of unscheduled generation[2] in specified circumstances.

2.2 Non-scheduled load/unscheduled generation information

The reference to the adjustment of non-scheduled load or the provision of unscheduled generation in respect to the demand for, or price of, electricity in clause 3.7D(e)(1)(ii) excludes information captured by the term contracted demand side participation.

AEMO interprets this to include every non-contractual arrangement entered between a Registered Participant and a person, or between two Registered Participants in relation to adjustment of non-scheduled load or unscheduled generation.

2.3 Information requirements

Clause 3.7D(e)(1) requires AEMO to specify the information that Registered Participants must provide under the Guidelines. The information required by AEMO is specified in Appendix A.

The requirements apply to both contracted demand side participation and the curtailment of non-scheduled load or the provision of unscheduled generation in respect of the demand for, or price of, electricity.

[2] As per NER 3.7D(a), this reflects generation from transmission or distribution connected generating systems that are not scheduled or semi-scheduled, and integrated resource systems that are not scheduled.

3 Responsibilities

Clause 3.7D(b) of the NER requires all Registered Participants to provide DSPI to AEMO in accordance with these Guidelines.

3.1 Content of data submission

AEMO requires Registered Participants to complete a data request in the form detailed in Appendix A and provide all requested data at least annually, as per Section 3.3 of the Guidelines.

3.2 Format of data submission

Each Registered Participant must provide the required information through a dedicated data portal, available on the AEMO website at https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/scenarios-inputs-assumptions-methodologies-and-guidelines/forecasting-and-planning-guidelines/demand-side-participation-information-guidelines.

3.3 Data submission timing and frequency

Each year, Registered Participants must provide data that was current as at 31 March of that year[3] within the formal submission window starting 1 April and finishing 5.00 pm Australian Eastern Standard Time (AEST) on 30 April the same year.

The above dates give Registered Participants a full month to test access to the data portal and upload a new submission within the submission window. Submissions can be stored as draft before finalising the submission.

AEMO will send reminders to nominated contact persons for each Registered Participant[4].

The web portal for submissions will remain open throughout the year, and Registered Participants can update DSP program information, should major changes happen outside the window for mandatory submissions noted above. Examples of such changes are:

- a significant DSP program being discontinued; or
- to declare new programs established to be part of a qualifying contract under the Retailer Reliability Obligation (RRO), as noted in NER clause 4A.E.1(c).

Registered Participants that provide updated submissions throughout the year must still confirm their latest information that meets the requirements of these Guidelines during the formal submission window listed above.

[3] For forecasting purposes, AEMO defines Summer as 1 November – 31 March for mainland regions (for Tasmania this is 1 December – 28/29 February). The timing of the data submissions ensures data is reflective of the capabilities in the last summer.

[4] Contact persons are provided when submitting information and follow up questions and reminders about future submission deadlines will be directed to these.

4 Assessing the accuracy of information

4.1 Level of detail required for DSPI

The information required from each Registered Participant is at the National Metering Identifier (NMI) level. This enables AEMO to reconcile with other data sources, such as its metering database and DER register, to assess the accuracy of the data provided.

4.2 AEMO's methodology for assessing accuracy of information

AEMO will verify the accuracy of the DSPI provided by:

- Reviewing each response for gaps, errors, overlap, duplication, or missing data.
- Reviewing responses against alternative data sets, such as metering and DER register data, to determine where incorrect or incomplete information may have been provided.
- Comparing responses with those received from the same Registered Participants in previous years to highlight new DSPI and to determine where data may have been omitted.
- Comparing responses against DSPI-related material published on Registered Participant websites.

Where AEMO finds an accuracy issue with the submission, it will contact the nominated contact person(s) to resolve this with the participant, so a corrected submission can be made by the Participant.

5 Reporting

AEMO publishes several reports[5] that address the forecasting of load. At least once a year, in one or more of those reports, AEMO will include a discussion on the extent to which DSPI informed AEMO's load forecasts.

[5] Available at https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/nem-electricity-demand-forecasts.

A1. DSPI data model

The data model detailed in this appendix specifies the DSPI required by AEMO under these Guidelines. Examples of how a participant might complete their submissions are shown in Appendix B.

For the purposes of the data model, the following terms are defined:

- **Connection** means the load or generation at the point at which a Customer connects to a network.
- **Customer** means the owner or operator of the Connection; typically, this will be a retailer's customer.
- **DSP** means contracted demand side participation or unscheduled generation, or both.
- **Program** means a scheme operated either by a Registered Participant or a third party, where a group of Customers are incentivised or required to offer DSP in response to criteria defined by the scheme operator.
- **Market Participant** means a Registered Participant who participates in the wholesale energy market (e.g. a retailer or small generation aggregator/ Demand Response Service Provider).
- **Non-market Participant** means a Registered Participant who owns assets (other than a meter) connected to a network, who is not a Market Participant (e.g. a Network Service Provider).

The data model is split into the following sections/steps. Figure 1 shows the overall process of doing a submission.

Completed per DSP Program

1. Create or update a DSP Program (see Table 1)
2. Add participating NMIs to DSP program (Table 2)
3. Add DSP Program level Information (Table 3)

Completed once per submission

1. Add future DSP Program(s) (Table 4)
2. Add a change in an existing DSP Program(s) (Table 5)

3. Add alerts list (Table 6)
4. Add contact details (Table 7)

Figure 1 Submission process flow

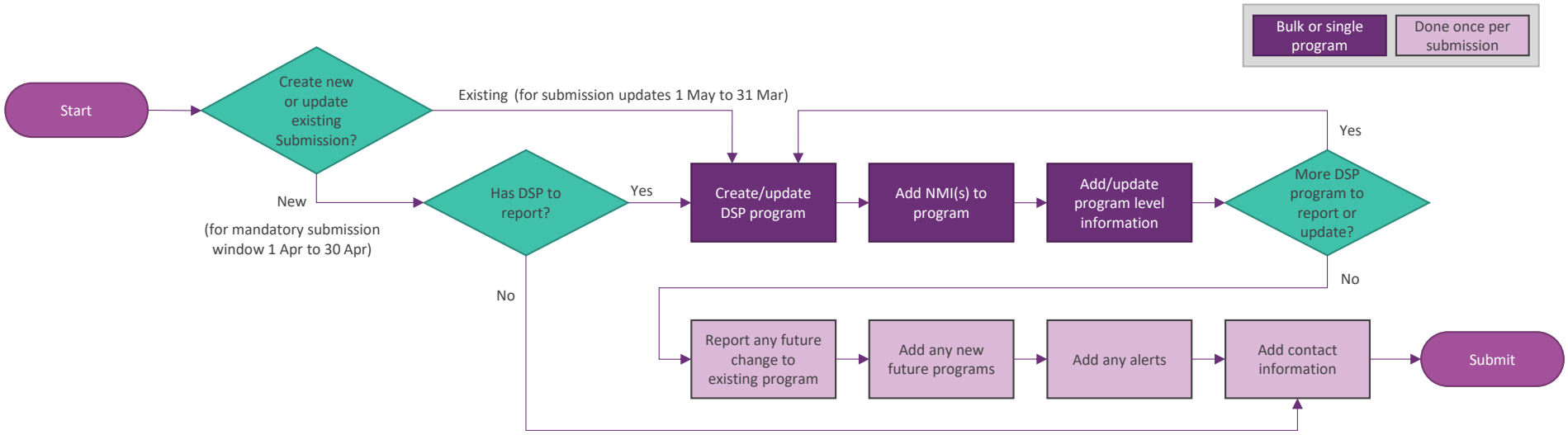

Table 1 Create a DSP Program

Category of data	Description	Data validation	Compulsory field
Category	Category of DSP program. See Table 1a below for details of DSP categories.	Market exposed connections / Connections on fixed time-of-use tariffs / Connections on dynamic event tariffs / Directly controlled connections (fixed schedule) / Not elsewhere classified'	Compulsory
Name	Name of DSP program.	Free Text	Compulsory
Region	NEM region that the DSP program participates in.	NSW / QLD / SA/ TAS / VIC	Compulsory
WDR or RRO Qualifying Contract	Will the DSP Program operate as Wholesale Demand Response (WDR), be a Qualifying Contract under the Retail Reliability Obligation (RRO), or neither (NA).	Radio Button (WDR / RRO / NA)	Compulsory

Table 1a. Categories of DSP

DSP Type	Explanation
Market exposed connections	This covers connections exposed to spot price, either directly or via pass-through contracts. This includes loads responding under the WDR rules[6] and any connections that are only spot price exposed during specific events.
Connections on fixed time-of-use tariffs	This includes connections exposed to fixed time-of-use pricing, including day/night tariffs.
Connections on dynamic event tariffs	Connections, which are subject to dynamic tariffs, which price consumption and/or connection costs differently for specific periods during the year. These periods are dynamically determined by the program operator and could relate to local or regional demand at the time.
Directly controlled connections (fixed schedule)	Connections directly controlled based on a set schedule for the year, irrespective of actual demand and/or spot prices at the time. This includes control of hot water load.
Directly controlled connections (dynamic operation)	Connections directly controlled (or manually instructed to) based on actual or forecast system conditions and/or price. This includes aggregated response of battery storage systems as a virtual power plant (VPP) and reduction in air conditioner load or controlled electric vehicle charging on extreme demand days.
Not elsewhere classified / other	This category allows for special cases that don't obviously fit into the above categories. Entries in this category will be reviewed by AEMO and reclassified into the above if possible.

Table 2 Add participating NMIs to DSP Program

Data Name	Description / possible values	Data validation	Compulsory field
NMI	Meter number(s) where response will be measured	10-digit NMIs	Compulsory
DSP Program Name	DSP Program name	Must match the name given in the DSP Program.	Compulsory

Table 3 Add DSP Program Level Information

Interpretation of section 2 of the data model:

- Some categories of data have sub-categories that only apply under certain conditions. For example, when filling in data for a residential air conditioner load curtailment Program, it does not make sense to ask for information on embedded generation. Similarly, if no energy storage is associated with the DSP, questions relating to types of storage will not apply.
- Sub-categories are listed underneath, alongside the categories that they apply to.
- Where a field type of 'Select' is indicated, one of the listed options must be selected. A field type of 'Multi-select' indicates that one or more options must be selected.

[6] Available at https://www.aemc.gov.au/rule-changes/wholesale-demand-response-mechanism.

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
DSP Program Name		Any	DSP Program name	Free text	Compulsory	Must match the name given in the DSP Program.
Meter Configuration		Any	Do the supplied NMI(s) directly measure response (e.g. on an embedded generating unit), or are they measuring net load (response is behind the meter)?	Select {Net load, Direct metering, Other (Specify detailed meter configuration)}	Optional	
Increase or Decrease in Demand		Applies to all categories except “Market exposed connections” and “Connections on fixed time-of-use tariffs”	Will the program be a curtailment (decrease) in demand or increase (load-on) in demand?	Radio Button (Increase / Decrease / Both)	Compulsory for some DSP types (see Applies to category)	“Market exposed connections” and “Connections on fixed time-of-use tariffs” assumed to be “Both”.
Firm (or Contracted) Response: Decrease (MW)		Applies to all categories except “Market exposed connections” and “Connections on fixed time-of-use tariffs”	The guaranteed (or most likely) demand decrease the DSP program can deliver, or in case of a qualifying contract under RRO, the contracted response.	Numeric, positive	Compulsory for some DSP types (see Applies to category)	Only required if either “Decrease” or “Both” has been selected in the “Increase or Decrease in Demand” question.
Firm Response: Increase (MW)		Applies to all categories except “Market exposed connections” and “Connections on fixed time-of-use tariffs”	The most likely increase in demand that the DSP program can possibly deliver	Numeric, positive	Compulsory for some DSP types (see Applies to category)	Only required if either “Increase” or “Both” has been selected in the “Increase or Decrease in Demand” question.
Duration of response – typical (hours)		Applies to all categories except “Market exposed connections” and “Connections on fixed time-of-use tariffs”	The typical duration the program is called for across historical cases, including time of day, notification period and day of week.	Numeric, positive	Optional	
Duration of response – estimated maximum (hours)		Applies to all categories except “Market exposed connections” and	The estimated maximum duration the program could respond for, including time of day,	Numeric, positive	Optional	

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
		"Connections on fixed time-of-use tariffs"	notification period and day of week.			
Duration of response – likely minimum (hours)		Applies to all categories except "Market exposed connections" and "Connections on fixed time-of-use tariffs"	The likely minimum duration the program would respond for (if greater than zero), including time of day, notification period and day of week.	Numeric, positive	Optional	
Monitoring and Activation		Any	Describe the means of supervisory monitoring and/or control of response	Multi-select {SCADA, Market interval meter, Non-market interval meter, OpenADR, Internet, Manual (on-site) operation, Other (Specify)}	Optional	
Seasonality		Any	Describe any expected variation with season	Free text	Optional	
Temperature restrictions		Any	Describe any limitation on capacity or duty cycle under high temperature conditions	Free text	Optional	Impact of DSP most critical at times of high network stress, which often coincide with high temperatures.
Expiry date		Any	Date contract or Program ends (if applicable).	Date	Optional	
Historical events		Any	Complete audit of events, where the Registered Participant has the ability to control or monitor event status. This field only applies to events that occur on an ad-hoc basis, not to those that occur regularly, or those where the response timing is diverse across the population of NMIs	Comma Separated Values (CSV) file {Timestamp, Event status (active/inactive), MW requested (if available), MW observed (if available)}	Optional	Programs where load switching occurs on a daily/regular basis, such as hot water load control, are excluded from this category. Additionally, Programs are excluded where event control is diverse such that less than 1MW of response occurs in synchronisation.

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
			within the specific Program			Timestamped event log preferred (i.e. log on change), interval data of event status also acceptable. Times should be provided in Australian Eastern Standard Time (AEST). Interval timestamps should indicate the end of the period in question. Where the expected/ requested MW reduction differs from the observed/metered MW reduction (e.g. in a distributed load control system where some devices may fail to activate), both values may be included as separate columns.
DSP Type	DSP Type	Any	Select all the types of DSP resources in this program	Multi-select {Load reduction, Embedded generation, Energy storage, Other (specify)}	Optional	
	Load Type	Applies when DSP type = “Load Reduction”	Select the predominant load type in this program	Select {Residential, Commercial, Industrial, Other (specify)}	Optional	
	ANZSIC	Applies when Load Type = “Commercial” or “Industrial”	Refer to the Australian Bureau of Statistics for further information regarding ANZSIC Select the predominant ANZSIC code which represents this program	Select ANZSIC division for industrial or commercial {A. Agriculture, B. Mining, C. Manufacturing etc. as per ABS classification}	Optional	

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
	Fuel Source	Applies when DSP type = "Embedded Generation"	Primary Fuel source of the program.	Select {Renewable/ Biomass / Waste, Fossil, Hydro, Geothermal, Solar, Wave, Wind, Tidal, Renewable, Combustion}	Optional	When a program has multiple fuel sources, choose the most prominent one
	Fuel Source Descriptor		Descriptor of the primary fuel source	See the Guide to Demand Side Participation CSV files for a full list of Fuel Source Descriptors.	Optional	When a program has multiple fuel sources, choose the most prominent one
Price Exposure	Price Exposure Type	Any	Wholesale - Response is driven by spot price, either directly or via passthrough/cost sharing contract with retailer Tariff - response driven by price not linked to spot price i.e. set by retailer or NSP	Multi-select {Wholesale, Tariff, None, Other (specify)}	Optional	
	Trigger price	Applies when price exposure = Wholesale	Spot price at which contract exposes Customer to higher prices (if applicable)	Numeric	Optional	Contract does not need to expose Customer directly to spot price, e.g. a cap contract where Customer is incentivised to reduce load when spot prices are over a set value. Further detail can be specified as free text where necessary.
	Trigger price details		Specify any further details relating to the trigger price	Free text	Optional	
	Tariff type	Applies when price exposure = Tariff	Category of tariff, with regards to price seen by Customer	Multi-select {Time-of-use, Critical Peak Day, Other (Specify)}	Optional	
Response control	Response Control	Any	Who controls the response?	Multi-select	Optional	Choose Customer Direct if manual intervention is

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
				{Network, Retailer, Aggregator, Customer Direct, Customer Automatic, Other (Specify)}		required to activate the response. Choose Customer Automatic if the response is activated by a free-running algorithm, e.g. a timer operated hot water storage system.
	Controller	Any	Provide the name of person/party who controls the response	Free text	Optional	
	Trigger condition / Algorithm	Any	What will trigger a response	Multi-select {Network loading conditions, Spot price, Customer cost minimisation, 3rd party price trigger (not related to price customer is exposed to e.g. participant contract position), Provision of ancillary services, Temperature trigger, Other (specify)}	Optional	Specific data is required here e.g. exactly what network constraints/ limits would cause a response, and any known limitations to the response (such as time of day).
	Trigger condition / Algorithm - details	Any	Details of what will trigger a response	Free text	Optional	
	BAU control algorithm	Any	What the load or generator does outside of events	Select {Ad-hoc activity, No operation, Minimise customer energy expense, Minimise participant energy expense, Other (Specify)}	Optional	
	BAU control algorithm details	Any		Free text	Optional	
	Opt out ability	Any	Does the Customer have the right to refuse to provide the DSP	True/False	Optional	If the Customer is the only party who can

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
			response? Select True if the Customer has this right, even if they can only refuse to respond a limited number of times.			control the DSP response, select True
	Opt out ability details	Any	Provide such details as: how many times can the customer opt out, how many times must the Customer provide their DSP response, if the Customer is the only party who can control the DSP response, or any related information	Free text	Optional	
	Auditability	Any	Can the response be audited after (or during) an event? (eg does it have two-way communications or is meter feedback available?)	True/False	Optional	
	Auditability details	Any	Provide details how this DSP response can be audited (i.e. the audit mechanism)		Optional	
Storage		Any	Type of energy storage system installed at the connection	Select {None, Battery, Other (specify)}	Optional	
	Capacity (MWh)	Any	MWh of available storage. Number only	Numeric	Optional	
	Purpose	Any	Why the storage was installed, e.g. backup supply, peak shaving, avoided augmentation, and performance indication metrics?	Free text	Optional	

Category of data	Sub-category of data	Applies To category	Description / possible values	Data validation	Compulsory field?	Other comments
	Installation Date	Any	Date when the equipment was commissioned	Date	Optional	Not applicable for aggregated storage (where the storage devices are distributed across multiple locations on a network, with separate metering points for each device).
	Export	Any	Is the storage allowed to net export to the grid?	True/False	Optional	
	Inverter	Any	Make and model	Free text	Optional	Not applicable for aggregated storage (where the storage devices are distributed across multiple locations on a network, with separate metering points for each device).

Table 4 Add future DSP Program(s)

Field	Description	Mandatory/optional	Data Type
Name of Future Program	Name of Future Program. Should not be a program that is currently active.	Mandatory	Free text
Increase or Decrease in Demand	Will the program be a curtailment (decrease) in demand or increase (load-on) in demand?	Mandatory	Radio Button (Increase / Decrease / Both)
NEM Region	Region that the program operates in.	Mandatory	NSW / QLD / SA/ TAS / VIC
Expected Start Date	Expected starting date of the program.	Mandatory when “Firm Response (MW) (Year 1)” >10MW, Optional otherwise	Date
Firm Response: Decrease (MW) (Year 1)	The guaranteed (or most likely) demand decrease of the DSP program for the first summer/winter after the DSPI submission, or in case of a qualifying contract under RRO, the contracted response.	Mandatory	Numeric Value, positive

Field	Description	Mandatory/optional	Data Type
Firm Response: Decrease (MW) (Year 2)	As above, but for second summer/winter.	Optional	Numeric Value, positive
Firm Response: Decrease (MW) (Year 3)	As above, but for third summer/winter.	Optional	Numeric Value, positive
Firm Response: Increase (MW) (Year 1)	The guaranteed (or most likely) demand increase of the DSP program for the first summer/winter after the DSPI submission, or in case of a qualifying contract under RRO, the contracted response.	Mandatory	Numeric Value, positive
Firm Response: Increase (MW) (Year 2)	As above, but for second summer/winter.	Optional	Numeric Value, positive
Firm Response: Increase (MW) (Year 3)	As above, but for third summer/winter.	Optional	Numeric Value, positive
Description		Optional	Free text
WDR or RRO Qualifying Contract	Will the DSP Program operate as Wholesale Demand Response (WDR), be a Qualifying Contract under the Retail Reliability Obligation (RRO), or neither (NA)?	Mandatory	Radio Button (WDR / RRO / NA)

Table 5 Add a change in an existing DSP Program(s)

Field	Description	Mandatory/Optional	Data Type
Name of Existing Program	What is the name of the program expected to change? Should match an existing DSP program in the submission.	Mandatory	Free text
Increase or Decrease in Demand	Will the program be a curtailment (decrease) in demand or increase (load-on) in demand?	Mandatory	Radio Button (Increase / Decrease / Both)
NEM Region	Region that the program operates in.	Mandatory	NSW / QLD / SA/ TAS / VIC
Expected Start Date	Expected date of change to program.	Optional	Date
Change in Firm Response: Decrease (MW) (Year 1)	The guaranteed (or most likely) demand decrease of the DSP program for the first summer/winter after the DSPI submission, or in case of a qualifying contract under RRO, the contracted response.	Mandatory	Numeric Value, positive

Field	Description	Mandatory/Optional	Data Type
Change in Firm Response: Decrease (MW) (Year 2)	As above, but for second summer/winter.	Optional	Numeric Value, positive
Change in Firm Response: Decrease (MW) (Year 3)	As above, but for third summer/winter.	Optional	Numeric Value, positive
Change in Firm Response: Increase (MW) (Year 1)	The guaranteed (or most likely) demand increase of the DSP program for the first summer/winter after the DSPI submission, or in case of a qualifying contract under RRO, the contracted response.	Mandatory	Numeric Value, positive
Change in Firm Response: Increase (MW) (Year 2)	As above, but for second summer/winter.	Optional	Numeric Value, positive
Change in Firm Response: Increase (MW) (Year 3)	As above, but for third summer/winter.	Optional	Numeric Value, positive
Description		Optional	Free text
WDR or RRO Qualifying Contract	Will the DSP Program operate as Wholesale Demand Response (WDR), be a Qualifying Contract under the Retail Reliability Obligation (RRO), or neither (NA)?	Mandatory	Radio Button (WDR / RRO / NA)

Table 6 Add alerts List

Field	Description	Mandatory/Optional	Data Type
Alerts List	Detailed information on any electronic distribution lists used by the Registered Participant to disseminate pricing information to assist Customers to determine whether to reduce demand, including how this information is distributed and how AEMO could opt in to each such list. This does not include sales/marketing lists used to promote pricing plans etc.	Optional	Free text

Table 7 Add contact details

Field	Description	Mandatory/Optional	Data Type
Name of contact 1	Name of Primary contact	Mandatory	Free text
Position of contact 1	Position of Primary contact	Mandatory	Free text
Phone Number of contact 1	Phone Number of Primary contact	Mandatory	Numeric value
Email of contact 1	Email Address of Primary contact	Mandatory	Valid Email
Name of contact 2	Name of Secondary contact	Mandatory	Free text
Position of contact 2	Position of Secondary contact	Mandatory	Free text
Phone Number of contact 2	Phone Number of Secondary contact	Mandatory	Numeric value
Email of contact 2	Email Address of Secondary contact	Mandatory	Valid Email

A2. Example submissions

Example: Distribution Network Service Provider

The following example shows how a DNSP might complete the data request. In this example, the DNSP has a large number of residential customers with hot water load activated by ripple control, and also engages a third party aggregator to manage a group of distributed battery storage systems to shift load from the evening peak back toward the afternoon. Items are shown as N/A when they do not apply – in the example below, the hot water load control Program does not include any embedded generation, so the question on fuel source is excluded.

In this example, the participant would create two DSP Programs as shown below, uploading the NMIs and program level information for each program. Then they would submit any future or changes in existing programs, Alert Lists and contact information once per submission.

Table 8 DSP Program 1

Data name	Example Data
Category	Directly controlled connections (fixed schedule)
Name	Hot water load control
Region	VIC
WDR or RRO Qualifying Contract?	N/A

Table 9 DSP Program 1 NMI List

Data Name	Description / possible values
NMI	1234567890 2345678901 3456789012
DSP Program Name	Hot water load control

Table 10 DSP Program 1 Information

Category of Data	Sub-category of data	Example Data
DSP Program Name		Hot water load control
Meter Configuration		Net load
Increase or Decrease in Demand?		Decrease
Firm (Or Contracted) Response: Decrease (MW)		80
Firm Response: Increase (MW)		
Duration of response – typical (hours)		3
Duration of response – estimated maximum (hours)		6
Duration of response – likely minimum (hours)		
Monitoring and Activation		Market interval meter
Seasonality		Program only operates November through April
Temperature restrictions		None
Expiry date		Ongoing
Historical events		
DSP Type	DSP Type	Load reduction
	Load Type	Residential
	Load type ANZSIC	
	Fuel Source	N/A
	Fuel Source Descriptor	N/A
Price Exposure		None
	Trigger price	N/A
	Trigger price details	N/A
	Tariff type	N/A
Response control	Response Control	Network
	Controller	Example DNSP

Category of Data	Sub-category of data	Example Data
	Trigger condition / Algorithm	Network loading conditions
	Trigger condition / Algorithm - details	Peak demand at zone substations ABC and XYZ is reduced by disabling hot water load during the evening peak. Trigger times vary by zone, but in general load is switched off between 5.00pm and 9.00pm only if demand at 4:59pm exceeds 70% of each zone substation's maximum rating.
	BAU control algorithm	Ad-hoc activity
	BAU control algorithm details	
	Opt out ability	False
	Opt out ability details	
	Auditability	True
	Auditability details	Interval metering installed at terminal stations serving the above listed NMIs allows total MW of load shed to be estimated.
Storage		N/A
	Capacity (MWh)	N/A
	Purpose	N/A
	Installation Date	N/A
	Export	N/A
	Inverter	N/A

Table 11 DSP Program 2

Data name	Example Data
Category	Directly controlled connections (dynamic operation)
Name	CBD battery storage VPP Program
Region	VIC
WDR or RRO Qualifying Contract?	N/A

Table 12 DSP Program 2 NMI List

Data Name	Description / possible values
NMI	4567890123 5678901234
DSP Program Name	CBD battery storage VPP Program

Table 13 DSP Program 2 Information

Category of Data	Sub-category of data	Example Data
DSP Program Name		CBD battery storage VPP Program
Meter Configuration		Net load
Increase or Decrease in Demand?		Both
Firm (Or Contracted) Response: Decrease (MW)		5
Firm Response: Increase (MW)		5
Duration of response – typical (hours)		1.5
Duration of response – estimated maximum (hours)		
Duration of response – likely minimum (hours)		
Monitoring and Activation		OpenADR
Seasonality		None
Temperature restrictions		Discharge limited to 80% rated capacity when ambient temperature exceeds 40 degrees C
Expiry date		Contract expires July 2025
Historical events		Timestamp,Event Status,MW requested,MW observed 2021-01-22 17:32:01,Active,5,4.5 2021-01-22 18:51:30,Inactive,0,0. etc.
DSP Type	DSP Type	Energy Storage
	Load Type	N/A
	Load type ANZSIC	N/A

Category of Data	Sub-category of data	Example Data
	Fuel Source	N/A
	Fuel Source Descriptor	N/A
Price Exposure		None
	Trigger price	N/A
	Trigger price details	N/A
	Tariff type	N/A
Response control	Response Control	Aggregator
	Controller	Example DSP VPP Aggregator
	Trigger condition / Algorithm	Network loading conditions
	Trigger condition / Algorithm - details	Can be activated up to 10 times per year to manage peak demand and as well as voltage during minimum demand at terminal station XYZ.
	BAU control algorithm	Minimise customer energy expense
	BAU control algorithm details	
	Opt out ability	True
	Opt out ability details	Customer can opt out of one event per year without incurring penalty
	Auditability	True
	Auditability details	VPP aggregator has two-way communication with each battery.
Storage		Battery
	Capacity (MWh)	10
	Purpose	Customers minimise their energy expense, assisted by annual payment from VPP aggregator
	Installation Date	N/A
	Export	True
	Inverter	N/A

Table 14 Add a change in an existing DSP Program(s)

Field	Example Data
Name of Existing Program	Ripple Control Program
Increase or Decrease in Demand	Decrease
NEM Region	VIC
Expected Start Date	1 November 2024
Change in Firm Response: Decrease (MW) (Year 1)	2
Change in Firm Response: Decrease (MW) (Year 2)	
Change in Firm Response: Decrease (MW) (Year 3)	
Change in Firm Response: Increase (MW) (Year 1)	
Change in Firm Response: Increase (MW) (Year 2)	
Change in Firm Response: Increase (MW) (Year 3)	
Description	We plan to expand our ripple control Program to cover air conditioning units by November 2024. We estimate 2000 Connections will participate in the new Program over the 2024/25 summer.
WDR or RRO Qualifying Contract	N/A

Table 15 Add a Future DSP Program

Field	Example Data
Name of Future Program	XYZ Battery
Increase or Decrease in Demand	Decrease
NEM Region	NSW
Expected Start Date	1 January 2025
Firm Response: Decrease (MW) (Year 1)	2
Firm Response: Decrease (MW) (Year 2)	
Firm Response: Decrease (MW) (Year 3)	
Firm Response: Increase (MW) (Year 1)	

Field	Example Data
Firm Response: Increase (MW) (Year 2)	
Firm Response: Increase (MW) (Year 3)	
Description	We will be installing a 2MW, 5MWh battery at XYZ terminal station to provide backup for feeder ABC and to allow us to defer augmentation of the number 1 transformer by reducing peak demand.
WDR or RRO Qualifying Contract	N/A

Table 16 Add Alert Lists

Field	Example Data
Alerts List	Email list used to alert customers on critical peak pricing tariffs about upcoming peak days. AEMO can opt in by contacting alerts@examplednsp.com.au.

Table 17 Add contact details

Field	Description
Name of contact 1	John Smith
Position of contact 1	Head of Operations
Phone Number of contact 1	0111 111 111
Email of contact 1	jsmith@dnsp.com.au
Name of contact 2	Robert Smith
Position of contact 2	Regulatory Analyst
Phone Number of contact 2	0111 111 111
Email of contact 2	rsmith@dnsp.com.au

Example: Retailer

The following example shows how a retailer might complete the data request. In this example, the retailer has a contract with a large industrial customer that partially exposes the customer to the spot price. The retailer also has a number of commercial customers on time-of-use tariffs and is running a

pilot program where 500 residential customers with battery storage systems agree to let the retailer control their batteries to limit its exposure to high summer spot prices.

In this example, the participant would create three DSP Programs as shown below, uploading the NMIs and program level information for each program. Then they would submit any future or changes in existing programs, Alert Lists and contact information once per submission.

Table 18 DSP Program 1

Data name	Example Data
Category	Market exposed connections
Name	Example Facility Ltd.
Region	VIC
WDR or RRO Qualifying Contract?	N/A

Table 19 DSP Program 1 NMI List

Data Name	Description / possible values
NMI	1234567890 2345678901
DSP Program Name	Example Facility Ltd.

Table 20 DSP Program 1 Information

Category of Data	Sub-category of data	Example Data
DSP Program Name		Example Facility Ltd
Meter Configuration		Net load
Increase or Decrease in Demand?		Decrease
Firm (Or Contracted) Response: Decrease (MW)		100
Firm Response: Increase (MW)		
Duration of response – typical (hours)		

Category of Data	Sub-category of data	Example Data
Duration of response – estimated maximum (hours)		
Duration of response – likely minimum (hours)		
Monitoring and Activation		Market interval meter
Seasonality		None
Temperature restrictions		None
Expiry date		N/A
Historical events		Timestamp,Event Status,MW requested,MW observed 2021-01-22 17:32:01,Active,5,4.5 2021-01-22 18:51:30,Inactive,0,0 etc.
DSP Type	DSP Type	Load Reduction, Embedded Generation
	Load Type	Industrial C. Manufacturing
	Load type ANZSIC	
	Fuel Source	Fossil
	Fuel Source Descriptor	Diesel
Price Exposure		Wholesale
	Trigger price	$300
	Trigger price details	
	Tariff type	N/A
Response control	Response Control	Customer Direct
	Controller	Example Facility Ltd.
	Trigger condition / Algorithm	Spot Price
	Trigger condition / Algorithm - details	
	BAU control algorithm	Ad-hoc Activity
	BAU control algorithm details	
	Opt out ability	False
	Opt out ability details	

Category of Data	Sub-category of data	Example Data
	Auditability	True
	Auditability details	Interval meters installed
Storage		N/A
	Capacity (MWh)	N/A
	Purpose	N/A
	Installation Date	N/A
	Export	N/A
	Inverter	N/A

Table 21 DSP Program 2

Data name	Example Data
Category	Directly controlled connections (dynamic operation)
Name	Inner West battery storage VPP trial
Region	VIC
WDR or RRO Qualifying Contract?	N/A

Table 22 DSP Program 2 NMI List

Data Name	Description / possible values
NMI	4567890123 5678901234
DSP Program Name	Inner West battery storage VPP trial

Table 23 DSP Program 2 Information

Field	Description / possible values
DSP Program Name	Inner West battery storage VPP trial

Field	Description / possible values
Meter Configuration	Net load
Increase or Decrease in Demand?	Decrease
Firm (Or Contracted) Response: Decrease (MW)	1.7
Firm Response: Increase (MW)	
Duration of response – typical (hours)	1
Duration of response – estimated maximum (hours)	3
Duration of response – likely minimum (hours)	
Monitoring and Activation	Other - Proprietary 4G communications devices installed.
Seasonality	None
Temperature restrictions	Discharge limited to 80% rated capacity when ambient temperature exceeds 40 degrees C
Expiry date	Pilot Program terminates July 2023
Historical events	Timestamp,Event Status,MW requested,MW observed 2021-01-22 17:30:00,Active,1.7,1.5 2021-01-22 17:05:00,Inactive,0,0 etc.
DSP Type	Energy Storage
Price Exposure	Wholesale - Response is driven by spot price, either directly or via passthrough/cost sharing contract with retailer
Response control	Retailer
Controller	Example Retailer
Trigger condition / Algorithm	Spot price
Trigger condition / Algorithm - details	Used to limit hedging expense by reducing demand at times of high spot price.
BAU control algorithm	Minimise customer energy expense
BAU control algorithm details	
Opt out ability	False
Opt out ability details	
Auditability	True

Field	Description / possible values
Auditability details	Two-way communications to battery available.
Storage	Battery
Capacity (MWh)	3.2
Purpose	Customers with existing battery systems incentivised to join pilot Program.
Installation Date	N/A
Export	True
Inverter	N/A

Table 24 DSP Program 3

Data name	Example Data
Category	Connections on fixed time-of-use tariffs
Name	TOU
Region	VIC
WDR or RRO Qualifying Contract?	N/A

Table 25 DSP Program 3 NMI List

Data Name	Description / possible values
NMI	8901234567 9012345678
DSP Program Name	TOU

Table 26 DSP Program 3 Information

Field	Description / possible values
DSP Program Name	TOU
Meter Configuration	N/A

Field	Description / possible values
Increase or Decrease in Demand?	Both
Firm (Or Contracted) Response: Decrease (MW)	N/A
Firm Response: Increase (MW)	N/A
Duration of response – typical (hours)	N/A
Duration of response – estimated maximum (hours)	N/A
Duration of response – likely minimum (hours)	N/A
Monitoring and Activation	N/A
Seasonality	N/A
Temperature restrictions	N/A
Expiry date	N/A
Historical events	N/A
DSP Type	N/A
Price Exposure	N/A
Response control	N/A
Controller	N/A
Trigger condition / Algorithm	N/A
Trigger condition / Algorithm - details	N/A
BAU control algorithm	N/A
BAU control algorithm details	N/A
Opt out ability	N/A
Opt out ability details	N/A
Auditability	N/A
Auditability details	N/A
Storage	N/A
Capacity (MWh)	N/A

Field	Description / possible values
Purpose	N/A
Installation Date	N/A
Export	N/A
Inverter	N/A

Table 27 Add a change in an existing DSP Program(s)

Field	Example Data
Name of Existing Program	N/A
Increase or Decrease in Demand	N/A
NEM Region	N/A
Expected Start Date	N/A
Change in Firm Response: Decrease (MW) (Year 1)	N/A
Change in Firm Response: Decrease (MW) (Year 2)	N/A
Change in Firm Response: Decrease (MW) (Year 3)	N/A
Change in irm Response: Increase (MW) (Year 1)	N/A
Change in Firm Response: Increase (MW) (Year 2)	N/A
Change in Firm Response: Increase (MW) (Year 3)	N/A
Description	N/A
WDR or RRO Qualifying Contract?	N/A

Table 28 Add a Future DSP Program

Field	Example Data
Name of Future Program	Pumping curtailment
Increase or Decrease in Demand	Decrease
NEM Region	NSW

Field	Example Data
Expected Start Date	1st January 2025
Firm Response: Decrease (MW) (Year 1)	2
Firm Response: Decrease (MW) (Year 2)	
Firm Response: Decrease (MW) (Year 3)	
Firm Response: Increase (MW) (Year 1)	
Firm Response: Increase (MW) (Year 2)	
Firm Response: Increase (MW) (Year 3)	
Description	We will begin a Program in 2025 to incentivise agricultural customers to curtail their pumping load at times of high wholesale prices. Initial rollout will begin in central and northern Victoria.
WDR or RRO Qualifying Contract?	N/A

Table 29 Add Alert Lists

Field	Example Data
Alerts List	We alert our customers on time-of-use tariffs when summer pricing comes into effect. AEMO can sign up on our website at http://exampleretailer.com.au/signup.

Table 30 Add contact details

Field	Description
Name of contact 1	John Smith
Position of contact 1	Head of Operations
Phone Number of contact 1	0111 111 111
Email of contact 1	jsmith@dnsp.com.au
Name of contact 2	Robert Smith
Position of contact 2	Regulatory Analyst
Phone Number of contact 2	0111 111 111
Email of contact 2	rsmith@dnsp.com.au