



## **National Electricity Amendment (Wholesale demand response mechanism) Rule 2020 No. 9**

under the National Electricity Law to the extent applied by:

- (a) the National Electricity (South Australia) Act 1996 of South Australia;
- (b) the Electricity (National Scheme) Act 1997 of the Australian Capital Territory;
- (c) the Electricity - National Scheme (Queensland) Act 1997 of Queensland;
- (d) the Electricity - National Scheme (Tasmania) Act 1999 of Tasmania;
- (e) the National Electricity (New South Wales) Act 1997 of New South Wales;
- (f) the National Electricity (Victoria) Act 2005 of Victoria;
- (g) the National Electricity (Northern Territory) (National Uniform Legislation) Act 2015 of the Northern Territory; and
- (h) the Australian Energy Market Act 2004 of the Commonwealth.

The Australian Energy Market Commission makes the following Rule under the National Electricity Law.

John Pierce  
Chairman  
Australian Energy Market Commission

## **National Electricity Amendment (Wholesale demand response mechanism) Rule 2020 No. 9**

### **1 Title of Rule**

This Rule is the *National Electricity Amendment (Wholesale demand response mechanism) Rule 2020 No. 9*.

### **2 Commencement**

Schedule 1 commences operation on 24 October 2021.

Schedule 2 commences operation on 31 March 2021.

Schedule 3 commences operation on 24 October 2021.

Schedule 4 commences operation on 24 October 2021.

Schedule 5 commences operation on 24 October 2021.

Schedule 6 commences operation on 18 June 2020.

### **3 Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 1.

### **4 Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 2.

### **5 Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 3.

### **6 Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 4.

### **7 Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 5.

### **8 Savings and Transitional Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 6.

## **Schedule 1      Amendment to the National Electricity Rules**

(Clause 3)

### **[1] Clause 2.3.4      Market Customer**

In clause 2.3.4(d), after "its *market loads*", insert "(excluding a *load* that has been classified as a *wholesale demand response unit*)".

### **[2] Clause 2.3.5      Ancillary services load**

In clause 2.3.5(a), omit "*Market Ancillary Service Provider*" wherever occurring and substitute "*Demand Response Service Provider*".

### **[3] Clause 2.3.5      Ancillary services load**

In clause 2.3.5(b)(1), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

### **[4] Clause 2.3.5      Ancillary services load**

At the end of clause 2.3.5(b)(1), omit "and".

### **[5] Clause 2.3.5      Ancillary services load**

In clause 2.3.5(b)(2), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

### **[6] Clause 2.3.5      Ancillary services load**

At the end of clause 2.3.5(b)(2), omit "." and substitute ";".

### **[7] Clause 2.3.5      Ancillary services load**

After clause 2.3.5(b)(2), insert:

- (3) identify each of the *loads* to be used by the applicant to provide *market ancillary services*; and
- (4) demonstrate how the *loads* identified in subparagraph (3) have the required equipment to be used to provide *market ancillary services* and will be capable of meeting or exceeding the relevant *performance standards* and specifications to AEMO's satisfaction.

### **[8] Clause 2.3.5      Ancillary services load**

In clause 2.3.5(c)(2), omit "classification" and substitute "clarification".

**[9] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(d), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[10] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(e)(1A), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[11] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(e)(2), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[12] Clause 2.3.5 Ancillary services load**

After clause 2.3.5(e)(2), after "then", insert "subject to paragraph (e1),".

**[13] Clause 2.3.5 Ancillary services load**

After clause 2.3.5(e), insert:

- (e1) *AEMO* must not give approval to a person under paragraph (e) in respect of a *load* that is classified as a *wholesale demand response unit* by a different person.

**[14] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(f), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[15] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(g), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[16] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(g)(4), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[17] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(h), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

**[18] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(i), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

### **[19] Clause 2.3.5 Ancillary services load**

In clause 2.3.5(j), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

### **[20] New clause 2.3.6 Wholesale demand response units**

After clause 2.3.5, insert:

#### **2.3.6 Wholesale demand response units**

- (a) If a *Demand Response Service Provider* in respect of a *qualifying load* wishes to use the *load* to provide *wholesale demand response* in accordance with the *Rules*, the *Demand Response Service Provider* must apply to *AEMO* for approval to classify the *qualifying load* as a *wholesale demand response unit*.
- (b) An application under paragraph (a) must be in the form prescribed by *AEMO* and must:
  - (1) identify the *qualifying load*;
  - (2) specify the proposed *maximum responsive component* of the *wholesale demand response unit*; and
  - (3) specify the proposed *baseline methodology* and *baseline settings* to apply to the *wholesale demand response unit*.
- (c) *AEMO* must, within 5 *business days* of receiving an application under paragraph (a), advise the applicant of any further information or clarification which is required in support of its application if, in *AEMO's* reasonable opinion, the application:
  - (1) is incomplete; or
  - (2) contains information upon which *AEMO* requires clarification.
- (d) If the further information or clarification required pursuant to paragraph (c) is not provided to *AEMO's* satisfaction within 15 *business days* of the request, the *Demand Response Service Provider* will be deemed to have withdrawn the application.
- (e) *AEMO* must, subject to paragraph (f), approve the classification of a *load* as a *wholesale demand response unit* if *AEMO* is reasonably satisfied that:
  - (1) the *load* is a *qualifying load*;
  - (2) the *load* is able to be used to provide *wholesale demand response* in accordance with the *Rules*;
  - (3) the *load* is capable of providing a quantity of *wholesale demand response* at least equal to the *maximum responsive component*;

- (4) the *Demand Response Service Provider* has adequate communications and/or telemetry in place to support the issuing of *dispatch instructions* in respect of the *load*;
  - (5) the *baseline methodology*, when applied to the *load* and using the proposed *baseline settings* and historical *metering data* for the *load*:
    - (i) produces a *baseline* that satisfies the *baseline methodology metrics*; and
    - (ii) otherwise qualifies for application to the *wholesale demand response unit* having regard to any criteria in the *wholesale demand response guidelines*;
  - (6) the *Demand Response Service Provider* has submitted data in accordance with schedule 3.1; and
  - (7) the *load* satisfies each other requirement in the *wholesale demand response guidelines* for classification as a *wholesale demand response unit*.
- (f) *AEMO* must not give approval to a person under paragraph (e) in respect of a *load* that is classified as an *ancillary service load* by a different person.
  - (g) If *AEMO* approves the classification of a *load* as a *wholesale demand response unit*, *AEMO* may impose on the relevant *Demand Response Service Provider* such terms and conditions as *AEMO* considers necessary to ensure that the provisions of the *Rules* applying to *wholesale demand response* can be met.
  - (h) A *Demand Response Service Provider* must comply with any terms and conditions imposed by *AEMO* under paragraph (g) in respect of its *wholesale demand response unit*.
  - (i) If a *Demand Response Service Provider* submits a *dispatch bid* in respect of a *wholesale demand response unit*, the *Demand Response Service Provider* must comply with *dispatch instructions* from *AEMO* in accordance with the *Rules*.
  - (j) A *Demand Response Service Provider* is not entitled to receive payment from *AEMO* for *wholesale demand response* except where the *wholesale demand response* is provided by a *wholesale demand response unit* in accordance with Chapter 3 or pursuant to a *clause 4.8.9 instruction*.
  - (k) A *Demand Response Service Provider* must notify *AEMO* if a *load* the *Demand Response Service Provider* has classified as a *wholesale demand response unit* ceases to be a *qualifying load* as soon as practicable and in any event no later than 10 *business days* after becoming aware that the *load* ceases to be a *qualifying load*.

- (l) Where a *Demand Response Service Provider* gives *AEMO* a notice under paragraph (k) in respect of a *load*, the *load* ceases to be classified as a *wholesale demand response unit* from the time the notice is given.
- (m) In this clause 2.3.6:
  - (1) the *load* is a ***qualifying load*** if:
    - (i) the *load* comprises a single *connection point* or a *parent connection point* in respect of all its associated *child connection points* that are not *market connection points*;
    - (ii) if the *connection point* is a *child connection point*, it is also a *market connection point*;
    - (iii) no *connection point* associated with the *load* is a *connection point* for a *small customer load*;
    - (iv) the *load* is not a *market load* that is a *scheduled load*;
    - (v) the *Demand Response Service Provider* has the consent of the *retail customer* at the *connection point* to provide *wholesale demand response* by means of that *load*;
    - (vi) the *Demand Response Service Provider* has arrangements for the provision of *wholesale demand response* by means of that *load*; and
    - (vii) the *connection point* has a type 1, 2, 3, or 4 *metering installation*; and
  - (2) a *load* is a ***small customer load*** if a *retail customer* at a *connection point* for the *load* (including any *child connection point*):
    - (i) is or would be a *small customer* in relation to premises delivered electrical power at the *connection point*; and
    - (ii) the *retail customer* has not entered into an agreement with its retailer in accordance with rule 5(2)(a) of the *National Energy Retail Rules* to aggregate the premises referred to in subparagraph (2)(i) with other premises.

**Note**

Only a business customer within the meaning of the *National Energy Retail Law* can enter into an agreement with its *retailer* in accordance with rule 5(2)(a) of the *National Energy Retail Rules*.

**[21] Rule 2.3AA                      Market Ancillary Service Provider**

Omit rule 2.3AA in its entirety, including the heading, and substitute:



## **2.3B Demand Response Service Provider**

### **2.3B.1 Registration**

- (a) A person must not engage in the activity of offering and providing *wholesale demand response* or *market ancillary services* in accordance with Chapter 3 as a *Demand Response Service Provider* unless that person is registered by *AEMO* as a *Demand Response Service Provider*.
- (b) To be eligible for registration as a *Demand Response Service Provider*, a person must obtain the approval of *AEMO* to classify a *load* as an *ancillary service load* in accordance with clause 2.3.5 or as a *wholesale demand response unit* in accordance with clause 2.3.6.
- (c) A *Demand Response Service Provider's* activities only relate to *loads* it has classified (in its capacity as a *Demand Response Service Provider*) as *ancillary service loads* or as *wholesale demand response units*, and only while it is also registered with *AEMO* as a *Demand Response Service Provider*.

### **[22] Clause 2.4.1 Registration as a category of Market Participant**

In clause 2.4.1(a)(1B), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

### **[23] Rule 2.12 Interpretation of References to Various Registered Participants**

Omit rule 2.12(b)(1B) and substitute:

- (1B) a "*Demand Response Service Provider*" applies to a person registered as a "*Demand Response Service Provider*" only in so far as it is applicable to matters connected with the person's *ancillary service load* or *wholesale demand response unit*;

### **[24] Rule 2.12 Interpretation of References to Various Registered Participants**

Omit rule 2.12(b)(7)(i2) and substitute:

- (i2) where that person is registered as a *Demand Response Service Provider*, in so far as it is applicable to matters connected with the person's *ancillary service load* or *wholesale demand response unit*; and



## **Schedule 2          Amendment to the National Electricity Rules**

(Clause 4)

### **[1] Rule 3.7D          Demand side participation information**

In rule 3.7D(a), in the definition of **contracted demand side participation**, omit "curtailment" and substitute "adjustment".

### **[2] Rule 3.7D          Demand side participation information**

Omit rule 3.7D(b) and substitute:

- (b) *A Registered Participant* must provide to *AEMO* in accordance with the demand side participation information guidelines:
  - (1) *demand side participation information*; or
  - (2) if the *Registered Participant* has no *demand side participation information* to report in respect of the relevant period, a statement to that effect.

### **[3] Rule 3.7D          Demand side participation information**

Omit rule 3.7D(c), including the preceding heading, and substitute:

#### **AEMO to report on demand side participation information**

- (c) *AEMO* must *publish*, no less than annually, an analysis of volumes and types of demand response reported under paragraph (b), which must include:
  - (1) information on the types of tariffs used by *Network Service Providers* to facilitate demand response and the proportion of *retail customers* on those tariffs; and
  - (2) an analysis of trends, including year-on-year changes, in the information reported under paragraph (b), in respect of each relevant category of *Registered Participant*.

### **[4] Rule 3.7D          Demand side participation information**

In rule 3.7D(e)(1)(ii), omit "curtailment" and substitute "adjusted".

### **[5] Rule 3.7D          Demand side participation information**

In rules 3.7D(e)(1)(iii), (iv) and (v), omit "curtailed" and substitute "adjusted".

### **[6] Rule 3.7D          Demand side participation information**

In rule 3.7D(e)(4), omit "and".

**[7] Rule 3.7D                      Demand side participation information**

After rule 3.7D(e)(4), insert:

- (4A) the requirements for a statement under paragraph (b)(2), if a *Registered Participant* has no *demand side participation information* to report; and

## **Schedule 3          Amendment to the National Electricity Rules**

(Clause 5)

### **[1] Clause 3.7.3          Short term PASA**

In clause 3.7.3(d)(1)(ii), after "*other load*", insert "*(including wholesale demand response units)*".

### **[2] Clause 3.7.3          Short term PASA**

At the end of clause 3.7.3(d)(1), after "*with dispatch bids for scheduled load*", insert "*and dispatch bids for wholesale demand response units*".

### **[3] Clause 3.7.3          Short term PASA**

In clause 3.7.3(e)(1), after "*scheduled generating unit*", insert "*wholesale demand response unit*".

### **[4] Clause 3.7.3          Short term PASA**

In clause 3.7.3(e)(2), after "*scheduled generating unit*", insert "*wholesale demand response unit*".

### **[5] Clause 3.7.3          Short term PASA**

Omit "and" at the end of clause 3.7.3(e)(2).

### **[6] Clause 3.7.3          Short term PASA**

In clause 3.7.3(e)(3), omit "[Deleted]" and insert "*projected daily wholesale demand response availability for wholesale demand response units that are wholesale demand response constrained; and*".

### **[7] Clause 3.7.3          Short term PASA**

In clause 3.7.3(h)(1), after "*scheduled load*", insert "*and for wholesale demand response units*".

### **[8] Rule 3.7D          Demand side participation information**

In rule 3.7D(a), in the definition of **contracted demand side participation**, after "*circumstances*" insert ", or the provision of *wholesale demand response* by a *wholesale demand response unit*".

### **[9] Rule 3.7D          Demand side participation information**

In rules 3.7D(e)(1)(iii), (iv) and (v), after "*unscheduled generation*", insert "*or wholesale demand response*".

**[10] Clause 3.8.1 Central Dispatch**

In clause 3.8.1(a), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

**[11] Clause 3.8.1 Central Dispatch**

In clause 3.8.1(b), after "*network dispatch offers*," insert "*dispatched wholesale demand response based on wholesale demand response dispatch bids*,".

**[12] Clause 3.8.1 Central Dispatch**

In clause 3.8.1(b)(8), after "*dispatched generation*," insert "*dispatched wholesale demand response*,".

**[13] Clause 3.8.1 Central Dispatch**

In clause 3.8.1(e), after "*semi-scheduled generating unit*," insert "*wholesale demand response unit*,".

**[14] New clause 3.8.2A Wholesale demand response unit participation in central dispatch**

After clause 3.8.2, insert:

**3.8.2A Wholesale demand response unit participation in central dispatch**

- (a) A *Demand Response Service Provider* must submit a *dispatch bid* in respect of its *wholesale demand response unit* or, if aggregated, the *aggregated wholesale demand response units*, for each *trading day* in accordance with clause 3.8.7B.
- (b) When a *Demand Response Service Provider* provides to *AEMO* for the purposes of the *Rules* the *available capacity* of a *wholesale demand response unit* or the *aggregated wholesale demand response units*, the *Demand Response Service Provider* must ensure that:
  - (1) the *available capacity* it provides to *AEMO* for a *wholesale demand response unit* that is not aggregated is equal to or less than the *maximum responsive component* of the *wholesale demand response unit*; and
  - (2) the *available capacity* it provides to *AEMO* for aggregated *wholesale demand response units* is equal to or less than the *aggregate maximum responsive component* of the *aggregated wholesale demand response units*.
- (c) If a *Demand Response Service Provider* is aware (whether by reason of the *Demand Response Service Provider's* own knowledge or a notification from *AEMO*) at the time the *Demand Response Service*

*Provider provides available capacity of a wholesale demand response unit or aggregated wholesale demand response units to AEMO for the purposes of the Rules that:*

- (1) *the wholesale demand response unit is baseline non-compliant; or*
- (2) *in relation to aggregated wholesale demand response units, any of the wholesale demand response units in the aggregated wholesale demand response units is baseline non-compliant,*

*the Demand Response Service Provider must provide to AEMO an available capacity of zero for the wholesale demand response unit or aggregated wholesale demand response units.*

- (d) *If, in relation to a trading interval:*

- (1) *a wholesale demand response unit will be, or is likely to be, spot price exposed; or*
- (2) *in relation to aggregated wholesale demand response units, any of the wholesale demand response units in the aggregated wholesale demand response units will be, or is likely to be, spot price exposed,*

*the Demand Response Service Provider must provide to AEMO an available capacity of zero for the wholesale demand response unit or aggregated wholesale demand response units in relation to the trading interval.*

- (e) *If AEMO has given a notice under clause 3.8.23A(e) in relation to a wholesale demand response unit or aggregated wholesale demand response units, from the time the notice takes effect and for so long as the notice remains in place, the Demand Response Service Provider must provide to AEMO an available capacity for the wholesale demand response unit or aggregated wholesale demand response units in accordance with the notice.*

- (f) *Without limiting paragraph (c) or (d), a Demand Response Service Provider must establish and implement measures in accordance with good electricity industry practice to identify:*

- (1) *a wholesale demand response unit of the Demand Response Service Provider that is baseline non-compliant; and*
- (2) *when a wholesale demand response unit of the Demand Response Service Provider will be, or is likely to be, spot price exposed in relation to a trading interval.*

- (g) *The AER must develop wholesale demand response participation guidelines in accordance with the Rules consultation procedures which:*

- (1) must include guidance about information a *Demand Response Service Provider* must keep regarding compliance with its obligations under this clause and regarding its representations under clause 3.8.22A(a2); and
- (2) may include guidance relating to the requirements on *Demand Response Service Providers* under paragraphs (c) and (d).
- (h) The *AER* must *publish* the *wholesale demand response participation guidelines* and may amend the *guidelines* from time to time.
- (i) A *Demand Response Service Provider* must retain the information specified in the *wholesale demand response participation guidelines* in the manner, and for the period, specified in the guidelines.
- (j) In this clause, "aggregated *wholesale demand response units*" refers to two or more *wholesale demand response units* that have been aggregated in accordance with clause 3.8.3.

### **[15] Clause 3.8.3 Bid and offer aggregation guidelines**

In clause 3.8.3(a1), omit "*Market Ancillary Service Providers*" and substitute "*Demand Response Service Providers*".

### **[16] Clause 3.8.3 Bid and offer aggregation guidelines**

After clause 3.8.3(a1), insert:

- (a2) *Demand Response Service Providers* who wish to aggregate two or more *wholesale demand response units* so they are treated as one *wholesale demand response unit* for the purpose of *central dispatch* must apply to *AEMO* to do so.

#### **Note**

*Wholesale demand response units* are not aggregated for the purposes of clause 3.15 and calculations under that clause even if aggregated for the purpose of *central dispatch*.

### **[17] Clause 3.8.3 Bid and offer aggregation guidelines**

In clause 3.8.3(b1)(1), omit "*Market Ancillary Service Provider*" and substitute "*Demand Response Service Provider*".

### **[18] Clause 3.8.3 Bid and offer aggregation guidelines**

After clause 3.8.3(b1), insert:

- (b2) *AEMO* must approve applications for aggregation made under paragraph (a2) if the following conditions are fulfilled:
  - (1) aggregated *wholesale demand response units* must be *connected* within a single *region* and must have been classified under

- clause 2.3.6 by a single person in its capacity as a *Demand Response Service Provider*;
- (2) *power system security* must not be materially affected by the proposed aggregation;
  - (3) *control systems* must satisfy the requirements of clause 2.3.6(e) after aggregation; and
  - (4) each other requirement for aggregation in the *wholesale demand response guidelines* must have been satisfied in respect of the proposed aggregation.
- (b3) If *AEMO* approves an application for aggregation made under paragraph (a2), *AEMO* may impose on the relevant *Demand Response Service Provider* such terms and conditions as *AEMO* determines, which may include specification of the *maximum responsive component* of the aggregated *wholesale demand response units* and the circumstances in which *AEMO* may require aggregated *wholesale demand response units* to be disaggregated.
- (b4) A *Demand Response Service Provider* must comply with any conditions imposed by *AEMO* under paragraph (b3) in respect of its *wholesale demand response unit*.

### **[19] Clause 3.8.3      Bid and offer aggregation guidelines**

After clause 3.8.3(f), insert:

- (f1) *Demand Response Service Providers* that have been granted aggregated status with respect to *wholesale demand response units* must, if required by *AEMO*, declare individual *wholesale demand response unit* availability and operating status to *AEMO* in the *short term PASA* process under clause 3.7.3 to allow *power system security* to be effectively monitored.

### **[20] Clause 3.8.3      Bid and offer aggregation guidelines**

In clause 3.8.3(h), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

### **[21] Clause 3.8.4      Notification of scheduled capacity**

In the opening paragraph of clause 3.8.4, after "*with scheduled generating units*," insert "*wholesale demand response units*,".

### **[22] Clause 3.8.4      Notification of scheduled capacity**

In clause 3.8.4(a), after "*each scheduled generating unit*," insert "*wholesale demand response unit*,".



**[23] Clause 3.8.4 Notification of scheduled capacity**

In clause 3.8.4(b), omit "(d) and (e)" and substitute "(d), (e) and (f)".

**[24] Clause 3.8.4 Notification of scheduled capacity**

At the end of clause 3.8.4(e)(2), omit "." and substitute "; and".

**[25] Clause 3.8.4 Notification of scheduled capacity**

After clause 3.8.4(e), insert:

- (f) for *wholesale demand response units*, two *days* ahead of each *trading day*:
  - (1) a MW capacity profile that (subject to clauses 3.8.2A(b), (c), (d) and (e)) specifies the *wholesale demand response* available for *dispatch* for each of the 288 *trading intervals* in the *trading day*; and
  - (2) an up *ramp rate* and a down *ramp rate*.

**[26] New clause 3.8.7B Wholesale demand response dispatch bids**

After clause 3.8.7A, insert:

**3.8.7B Wholesale demand response dispatch bids**

The following requirements apply to all *wholesale demand response dispatch bids*:

- (a) the *dispatch bid* may contain up to 10 *price bands*;
- (b) the *dispatch bid* must specify:
  - (1) an incremental MW amount for each *price band* specified in the *dispatch bid*;
  - (2) an up *ramp rate* and a down *ramp rate*;
- (c) the MW quantities specified are to apply at the *connection points* for the *wholesale demand response unit*;
- (d) the *dispatch bid* must specify a price for each *price band*;
- (e) prices specified are to apply at the *connection points* for the *wholesale demand response unit* and for the purposes of *central dispatch* shall be referred to the *regional reference node* as follows:

$$RP = DOP \div LF$$

where

RP is the price specified in the *dispatch bid* when referred to the appropriate *regional reference node*;

DOP is the price as specified in the *dispatch bid*; and

LF is:

(1) unless paragraph (2) applies, if the *connection point* for the *wholesale demand response unit* is:

(i) a *transmission network connection point*, the relevant *intra-regional loss factor* at that *connection point*; or

(ii) a *distribution network connection point*, the product of the *distribution loss factor* at that *connection point* multiplied by the relevant *intra-regional loss factor* at the *transmission network connection point* to which it is assigned; and

(2) where two or more *wholesale demand response units* have been aggregated in accordance with clause 3.8.3, a deemed loss factor of 1;

(f) prices specified must be:

(1) greater than or equal to the *market floor price* multiplied by LF for the *wholesale demand response unit*; and

(2) less than or equal to the *market price cap* multiplied by LF for the *wholesale demand response unit*,

where LF has the meaning given in paragraph (e);

(g) the price specified for a *price band* is to be interpreted in the *central dispatch* process as the price at or above which the *wholesale demand response unit* will, as applicable:

(1) reduce the consumption of electricity;

(2) increase the export of electricity; or

(3) reduce electricity consumption and start to export electricity,

at the *connection point* by up to the MW increment specified in that *price band*;

(h) the MW quantity in each *price band* in each *trading interval* must be specified in whole MW;

(i) the sum of the MW quantities specified in each *price band* in each *trading interval* must not exceed the *maximum responsive component* of the *wholesale demand response unit*; and

- (j) the *dispatch bid* may specify the daily *wholesale demand response* available for *wholesale demand response units* that are *wholesale demand response constrained*.

**[27] Clause 3.8.8      Validation of dispatch bids and offers**

In clause 3.8.8(a), omit "3.8.7 or 3.8.7A" and substitute "3.8.7, 3.8.7A or 3.8.7B".

**[28] Clause 3.8.8      Validation of dispatch bids and offers**

In clause 3.8.8(c), omit "3.8.7 or 3.8.7A" and substitute "3.8.7, 3.8.7A or 3.8.7B".

**[29] Clause 3.8.9      Default offers and bids**

In clause 3.8.9(a), after "*semi-scheduled generating unit*," insert "*wholesale demand response unit*,".

**[30] Clause 3.8.9      Default offers and bids**

In clause 3.8.9(c), omit "3.8.7A" and substitute "3.8.7A, 3.8.7B".

**[31] Clause 3.8.10      Network constraints**

In clause 3.8.10(a), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

**[32] Clause 3.8.10      Network constraints**

In clause 3.8.10(e)(2), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

**[33] Clause 3.8.14      Dispatch under conditions of supply scarcity**

In clause 3.8.14(b)(3), after "*dispatching scheduled generating units*," insert "*wholesale demand response units*,".

**[34] Clause 3.8.16      Equal priced dispatch bids and dispatch offers**

In clause 3.8.16, after "*scheduled generating units*," insert "*wholesale demand response units*,".

**[35] Clause 3.8.19      Dispatch inflexibilities**

In clause 3.8.19(a), after "*scheduled generating units*," insert "*wholesale demand response units*,".

**[36] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(a), after each occurrence of "*scheduled generating unit*", insert "*wholesale demand response unit*".

**[37] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(a2)(1), after each occurrence of "*semi-scheduled generating unit*", insert "*wholesale demand response unit*".

**[38] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(a2)(2), after each occurrence of "*semi-scheduled generating unit*", insert "*wholesale demand response unit*".

**[39] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(b), after "*semi-scheduled generating unit*", insert "*wholesale demand response unit*".

**[40] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(b)(1), after "*semi-scheduled generating unit*," insert "*wholesale demand response unit*".

**[41] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(c), after each occurrence of "*semi-scheduled generating unit*", insert "*wholesale demand response unit*".

**[42] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(d), after "In respect of *scheduled loads*", insert "*wholesale demand response units*, "

**[43] Clause 3.8.19 Dispatch inflexibilities**

In clause 3.8.19(d), after "in respect of those *scheduled loads*," insert "*wholesale demand response units*".

**[44] Clause 3.8.19 Dispatch inflexibilities**

After clause 3.8.19(f), insert:

- (f1) A *dispatch inflexibility profile* for a *wholesale demand response unit* must contain parameters to indicate its MW capacity and time related *inflexibilities*.

**[45] Clause 3.8.20 Pre-dispatch schedule**

In clause 3.8.20(g), after "*Scheduled Generator*", insert "*Demand Response Service Provider*".

**[46] Clause 3.8.20 Pre-dispatch schedule**

In clause 3.8.20(g), omit "plant" and substitute "*plant*".

**[47] Clause 3.8.20 Pre-dispatch schedule**

In clause 3.8.20(j), after "*generating unit*," insert "*wholesale demand response unit*".

**[48] Clause 3.8.21 On-line dispatch process**

In clause 3.8.21(j), after "If a *scheduled load*", insert "*wholesale demand response unit*".

**[49] Clause 3.8.21 On-line dispatch process**

In clause 3.8.21(k), after "A *scheduled load*", insert ", *wholesale demand response unit*".

**[50] Clause 3.8.21 On-line dispatch process**

After clause 3.8.21(m), insert:

- (n) When a *wholesale demand response unit* is *dispatched* to provide *wholesale demand response*, *AEMO* must as soon as practicable after giving the relevant *dispatch instruction* notify that fact to the *financially responsible Market Participant* for the *connection points* comprised in the *wholesale demand response unit* on a confidential basis.

**[51] Clause 3.8.22 Rebidding**

In clause 3.8.22(b), after "3.8.3A, 3.8.7A," insert "3.8.7B,".

**[52] Clause 3.8.22 Rebidding**

In clause 3.8.22(b)(1), after "*daily energy constraints*", insert "*daily wholesale demand response constraints*".

**[53] Clause 3.8.22 Rebidding**

In clause 3.8.22(b)(1), after "*scheduled network services*", insert ", *wholesale demand response units*".

**[54] Clause 3.8.22A Offers, bids and rebids must not be false or misleading**

After clause 3.8.22A(a1), insert:

- (a2) For the purposes of paragraph (a), the making of a *wholesale demand response dispatch bid* by a *Demand Response Service Provider* is deemed to represent to other *Market Participants* through the *pre-dispatch schedules published by AEMO* that:
- (1) any *baseline deviation* of the *wholesale demand response unit* in response to a *dispatch instruction* will be the result of *wholesale demand response activity* in relation to the *wholesale demand response unit*; and
  - (2) there will be no *baseline deviation offset* in relation to the *baseline deviation* of the *wholesale demand response unit* in the period for which the *wholesale demand response unit* is *dispatched*.

**[55] Clause 3.8.22A Offers, bids and rebids must not be false or misleading**

In clause 3.8.22A(b), after "made by reason of paragraph (a1)" insert "or paragraph (a2)".

**[56] Clause 3.8.22A Offers, bids and rebids must not be false or misleading**

In clause 3.8.22A(e)(2), after "*loading level of any load*", insert "or *wholesale demand response units*".

**[57] Clause 3.8.23 Failure to conform to dispatch instructions**

In the title of clause 3.8.23, after "instructions", insert "excluding wholesale demand response units".

**[58] New clause 3.8.23A Failure of wholesale demand response units to conform to dispatch instructions**

After clause 3.8.23, insert:

**3.8.23A Failure of wholesale demand response units to conform to dispatch instructions**

- (a) If a *wholesale demand response unit* fails to respond to a *dispatch instruction* within a tolerable time and accuracy (as determined in *AEMO's* reasonable opinion), then the *wholesale demand response unit* is to be declared and identified as non-conforming.
- (b) *AEMO* may identify a *wholesale demand response unit* as non-conforming after *dispatch* has occurred and accordingly:

- (1) a non-conforming *wholesale demand response unit* may set *spot prices*; and
  - (2) no change to *spot prices* will be made by reason of a *wholesale demand response unit* being declared and identified as non-conforming.
- (c) If a *wholesale demand response unit* is identified as non-conforming under paragraph (a):
  - (1) *AEMO* must advise the *Demand Response Service Provider* that the relevant *wholesale demand response unit* is identified as non-conforming and request and log a reason for the non-compliance with the *dispatch instruction*; and
  - (2) if in *AEMO's* opinion modification of the *maximum responsive component* is necessary or desirable, *AEMO* must request the *Demand Response Service Provider* to submit a modified *maximum responsive component* figure to satisfy *AEMO* that a realistic real time *dispatch* schedule can be carried out.
- (d) If a *wholesale demand response unit* is identified as non-conforming under paragraph (a), it continues to be non-conforming until:
  - (1) the *Demand Response Service Provider* responds to any requests under paragraph (c); and
  - (2) *AEMO* is satisfied that the *wholesale demand response unit* will respond to future *dispatch instructions* as required.
- (e) If a *wholesale demand response unit* is identified as non-conforming under paragraph (a), *AEMO* acting reasonably may by notice to a *Demand Response Service Provider* require the *Demand Response Service Provider* to limit the *available capacity* of the non-conforming *wholesale demand response unit* to a maximum figure determined by *AEMO* for so long as the *wholesale demand response unit* remains non-conforming.
- (f) A notice given under paragraph (e) remains in place until:
  - (1) the *wholesale demand response unit* ceases to be non-conforming in accordance with paragraph (d); or
  - (2) *AEMO* varies the notice by giving a further notice under paragraph (e).
- (g) If a *wholesale demand response unit* continues to be non-conforming after a reasonable period, *AEMO* must prepare a report setting out the details of the non-conformance and forward a copy of the report to the *Demand Response Service Provider* and the *AER*.
- (h) In making an assessment for the purposes of this clause, *AEMO* may have regard to the *baseline* of the *wholesale demand response unit*,



*metering data* (including historical *metering data*), information from *remote control equipment* or *remote monitoring equipment* and any other matter which *AEMO* considers relevant. *AEMO* may provide its assessment and relevant information to the *AER*.

**[59] Clause 3.9.1 Principles applicable to spot price determination**

In clause 3.9.1(a)(3), after "*generating unit*", insert ", *wholesale demand response unit*".

**[60] Clause 3.9.1 Principles applicable to spot price determination**

In clause 3.9.1(a)(6), after "purchases of electricity", insert "(including through the provision of *wholesale demand response*)".

**[61] Clause 3.9.7 Pricing for constrained-on scheduled generating units**

In the title of clause 3.9.7, omit "scheduled generating".

**[62] Clause 3.9.7 Pricing for constrained-on units**

In clause 3.9.7(a), after "causes a *scheduled generating unit*", insert "or a *wholesale demand response unit*".

**[63] Clause 3.9.7 Pricing for constrained-on units**

In clause 3.9.7(a), after "that *scheduled generating unit*", insert "or *wholesale demand response unit*".

**[64] Clause 3.9.7 Pricing for constrained-on units**

In clause 3.9.7(a), after "*dispatch offer*", insert "or *dispatch bid* as applicable".

**[65] Clause 3.9.7 Pricing for constrained-on units**

In clause 3.9.7(b), after "*Scheduled Generator*", insert "or *Demand Response Service Provider*".

**[66] Clause 3.9.7 Pricing for constrained-on units**

In clause 3.9.7(b), omit "clause 3.9.7(a)" and substitute "paragraph (a)".

**[67] Rule 3.10 [Deleted]**

Omit rule 3.10 and substitute:

### **3.10 Wholesale demand response**

#### **3.10.1 Wholesale demand response guidelines**

- (a) *AEMO must develop and publish and may amend wholesale demand response guidelines setting out:*
  - (1) requirements determined by *AEMO* for classification of a *load* as a *wholesale demand response unit* in accordance with clause 2.3.6 or for aggregation in accordance with clause 3.8.3 and which *AEMO* reasonably considers necessary;
  - (2) without limiting paragraph (a)(1), information about the requirements for telemetry and communications equipment for *wholesale demand response units*;
  - (3) the methodology for determination of a regional threshold under paragraph (c);
  - (4) information about the process for development of *baseline methodologies* under clause 3.10.3 including how proposals for new *baseline methodologies* may be made;
  - (5) the process for a *Demand Response Service Provider* to apply to *AEMO* for approval to apply a *baseline methodology* and related *baseline settings* to a *wholesale demand response unit* for the purposes of the *Rules*;
  - (6) the process for a *Demand Response Service Provider* to apply to *AEMO* for approval to change the *maximum responsive component* of its *wholesale demand response unit*;
  - (7) arrangements for the provision of information about the *maximum responsive component* of the *wholesale demand response unit* and the *baseline methodology* and *baseline settings* applicable to the *wholesale demand response unit*; and
  - (8) other information determined by *AEMO* relating to the supply of *wholesale demand response* under the *Rules*.
- (b) In developing or amending the *wholesale demand response guidelines*, *AEMO* must have regard to:
  - (1) the need not to distort the operation of the *market*;
  - (2) the need to maximise the effectiveness of *wholesale demand response* at the least cost to end use consumers of electricity; and
  - (3) any other matter determined by *AEMO* acting reasonably and which must be specified by *AEMO* in the *wholesale demand response guidelines*.

- (c) *AEMO* may determine and if it does so, must *publish* a threshold for the total quantity of *wholesale demand response* in a *region* above which *AEMO* will impose additional or alternative telemetry and communications equipment requirements for any *load* in the *region* seeking to be classified as a *wholesale demand response unit* after the threshold is reached.
- (d) If *AEMO* determines a threshold under paragraph (c), *AEMO* must *publish* and update each month information about progress towards reaching the threshold.
- (e) *AEMO* must comply with the *Rules consultation procedures* when making or amending the *wholesale demand response guidelines*.
- (f) *AEMO* may make minor or administrative changes to the *wholesale demand response guidelines* without complying with the *Rules consultation procedures*.

### **3.10.2 Baseline methodology metrics and baseline compliance testing**

- (a) *AEMO* must determine and *publish* and may amend the *baseline methodology metrics* setting out the parameters for assessing the *baseline* produced by a *baseline methodology* when applied to a *wholesale demand response unit*.
- (b) The assessment referred to in paragraph (a) must include an assessment of both accuracy and freedom from bias, where:
  - (1) accuracy means the deviation between actual consumption or export of a *wholesale demand response unit* (as recorded by *metering data*) and its *baseline* for each of the measures of baseline accuracy in paragraph (c); and
  - (2) bias means the deviation between actual consumption of a *wholesale demand response unit* (as recorded by *metering data*) and its *baseline* for each of the measures of baseline accuracy in paragraph (c) consistently exhibiting error:
    - (i) in a single direction (either above or below the *baseline*); or
    - (ii) under the same circumstances (for example, during heatwaves).
- (c) The *baseline methodology metrics* must assess accuracy and bias:
  - (1) in particular *trading intervals*; and
  - (2) across multiple *trading intervals* (whether or not contiguous) to test accuracy and bias under a range of conditions or when *demand response* is likely to be *dispatched* or in other circumstances determined by *AEMO*.

- (d) *AEMO must determine and publish and may amend arrangements for regular and systematic testing, in relation to wholesale demand response units, to determine whether baseline methodologies approved for application to wholesale demand response units using applicable baseline settings produce baselines that satisfy the baseline methodology metrics (baseline compliance testing).*
- (e) *AEMO must determine and publish and may amend the frequency with which baseline compliance testing will occur, which may be different for different wholesale demand response units or classes of wholesale demand response unit.*
- (f) *In determining the baseline methodology metrics and the frequency of baseline compliance testing, AEMO must have regard to:*
  - (1) *the need not to distort the operation of the market;*
  - (2) *the need to maximise the effectiveness of wholesale demand response at the least cost to end use consumers of electricity; and*
  - (3) *the level of accuracy achieved by the demand forecasts used by AEMO for pre-dispatch and the forecasts referred to in rule 3.7B(c)(4).*
- (g) *AEMO must conduct baseline compliance testing in accordance with AEMO's determinations under paragraphs (d) and (e).*
- (h) *If baseline compliance testing by AEMO indicates that a wholesale demand response unit does not satisfy the baseline compliance standard in accordance with clause 3.10.4(a), AEMO must notify the relevant Demand Response Service Provider as soon as practicable.*
- (i) *If a Demand Response Service Provider becomes aware that its wholesale demand response unit does not satisfy the baseline compliance standard in accordance with clause 3.10.4(a), the Demand Response Service Provider must notify AEMO as soon as practicable.*

### **3.10.3 Baseline methodology development**

- (a) *AEMO must in accordance with the wholesale demand response guidelines develop one or more baseline methodologies and must publish the baseline methodologies in the register maintained under paragraph (d).*
- (b) *A baseline methodology must specify the parameters that must be set for each wholesale demand response unit with the approval of AEMO (when approved, the baseline settings) to allow the baseline methodology to apply to different wholesale demand response units.*
- (c) *In developing baseline methodologies, AEMO must have regard to the need for consistent results to be achievable when AEMO, a*

*Demand Response Service Provider* or any other person calculates a *baseline* for a *wholesale demand response unit* using the approved *baseline methodology*, approved *baseline settings* and the same set of *metering data*.

- (d) *AEMO* must establish and maintain a register of *baseline methodologies* and *baseline settings*. The register must include information to facilitate assessment of a *wholesale demand response unit* or prospective *wholesale demand response unit* against the *baseline methodology* and appropriate *baseline settings*.

#### 3.10.4 Baseline non-compliance

- (a) The *baseline compliance standard* is satisfied by a *wholesale demand response unit* if the approved *baseline methodology*, when applied to the *wholesale demand response unit* using the approved *baseline settings*, produces a *baseline* that satisfies the *baseline methodology metrics* (***baseline compliance standard***).
- (b) A *wholesale demand response unit* of a *Demand Response Service Provider* is ***baseline non-compliant*** if it does not satisfy the *baseline compliance standard* in accordance with paragraph (a) and it continues to be *baseline non-compliant* until the *Demand Response Service Provider* demonstrates that the *wholesale demand response unit* satisfies the *baseline compliance standard* in accordance with paragraph (a).
- (c) Where a *wholesale demand response unit* that has been aggregated with one or more other *wholesale demand response units* becomes *baseline non-compliant* (including by reason of a change to the *baseline methodology metrics*), the *Demand Response Service Provider* may elect to withdraw the non-compliant *wholesale demand response unit* from the aggregated *wholesale demand response unit* on a permanent basis or until it ceases to be *baseline non-compliant*.
- (d) In this rule, a reference to an approved *baseline methodology* or approved *baseline settings* is a reference to the *baseline methodology* or *baseline settings* approved by *AEMO* for application to the *wholesale demand response unit* when the *wholesale demand response unit* is classified under Chapter 2, or if a replacement *baseline methodology* or modified *baseline settings* are approved by *AEMO* under paragraph (e), the replacement *baseline methodology* or modified *baseline settings* as the case may be.
- (e) *AEMO* may on the application of the *Demand Response Service Provider* approve the application of a replacement *baseline methodology* to a *wholesale demand response unit* or modified *baseline settings* if *AEMO* is reasonably satisfied that the replacement *baseline methodology* or modified *baseline settings*, when applied to

the *wholesale demand response unit* and using historical *metering data* for the *wholesale demand response unit*:

- (1) produces a *baseline* that satisfies the *baseline methodology metrics*; and
- (2) otherwise qualifies for application to the *wholesale demand response unit* having regard to any criteria in the *wholesale demand response guidelines*.

### 3.10.5 Calculation of baselines

- (a) Subject to paragraph (b), for the purposes of the *Rules* the *baseline* for a *wholesale demand response unit* is calculated by applying the approved *baseline methodology* and approved *baseline settings* for the *wholesale demand response unit*.
- (b) *AEMO* may determine and amend procedures (***abnormal baseline notice procedures***) for the submission of a notice to *AEMO* by a *Demand Response Service Provider* identifying a *wholesale demand response unit* of the *Demand Response Service Provider* and requesting and, if approved by *AEMO*, implementing a temporary adjustment to the calculation of the *baseline* for that *wholesale demand response unit*.
- (c) *AEMO* may impose conditions on its approval of a temporary adjustment to the calculation of a *baseline* under paragraph (b).
- (d) In determining the *abnormal baseline notice procedures*, *AEMO* must include terms and conditions that:
  - (1) only permit an *abnormal baseline notice* to be given in respect of an event or circumstance affecting a *wholesale demand response unit* that is not and could not reasonably have been accounted for in the *baseline methodology* and as a result of which the *baseline* produced by the *baseline methodology* will not satisfy the *baseline methodology metrics* unless adjusted by the factor specified in the notice; and
  - (2) limit the frequency of *abnormal baseline notices* and the number of *trading intervals* to which a factor specified in the notice may be applied (at any time, and in aggregate in any 12 month period) as reasonably considered necessary by *AEMO* to maintain the accuracy and reliability of *baseline* calculations.
- (e) *AEMO* may specify in the *abnormal baseline notice procedures*:
  - (1) requirements for the submission of *abnormal baseline notices* including timing and content;



- (2) information to be provided to *AEMO* or records to be made by the *Demand Response Service Provider* in connection with an *abnormal baseline notice*;
  - (3) events or circumstances that are taken to have been accounted for in the *baseline methodology* and in respect of which no *abnormal baseline notice* may be given;
  - (4) conditions limiting or precluding the submission of an *abnormal baseline notice* where reasonably considered necessary by *AEMO* to maintain the accuracy and reliability of *baseline calculations*; and
  - (5) any other terms and conditions reasonably determined by *AEMO*.
- (f) *AEMO* must comply with the *Rules consultation procedures* when making or amending the *abnormal baseline notice procedures*.
  - (g) *AEMO* may make minor or administrative changes to the *abnormal baseline notice procedures* without complying with the *Rules consultation procedures*.

### **3.10.6 Wholesale demand response annual reporting**

- (a) Within six months after the end of each calendar year, *AEMO* must prepare and *publish* a report on the operation of the arrangements for the provision of *wholesale demand response* under the *Rules*.
- (b) A report under paragraph (a) must report on outcomes relating to the use and accuracy of *baseline methodologies* in respect of that year, including:
  - (1) information about:
    - (i) *baseline methodologies* available for use under the *wholesale demand response guidelines* and the extent to which the *baseline methodologies* are being used, with an analysis of trends over time; and
    - (ii) proposals for new *baseline methodologies* received by *AEMO* and new *baseline methodologies* being developed;
  - (2) for each *baseline methodology*, an assessment against the *baseline methodology metrics* as measured during the *wholesale demand response unit classification process* and *baseline compliance testing*;
  - (3) any periods for which any *wholesale demand response units* have been *baseline non-compliant*;
  - (4) potential improvements to the provision of *wholesale demand response* under the *Rules* which may include:



- (i) changes to *baseline methodology metrics* as a result of the development of new *baseline methodologies*;
  - (ii) the development of new *baseline methodologies*;
  - (iii) any other measures that may be taken to improve the accuracy or reduce the bias of *baseline methodologies*; and
  - (iv) changes to the *wholesale demand response guidelines* or the *Rules*; and
- (5) the timing and process for making any improvements.
- (c) A report under paragraph (a) must include, for the period under review:
  - (1) the number of registered *Demand Response Service Providers*;
  - (2) the number and capacity of *wholesale demand response units*;
  - (3) the amount of *dispatched wholesale demand response* and the frequency of *dispatch*;
  - (4) analysis of the *spot market* price levels at which *wholesale demand response* was *dispatched*;
  - (5) the frequency and extent of *wholesale demand response units* declared to be *non-conforming* under clause 3.8.23(a);
  - (6) analysis of the impact of *dispatched wholesale demand response* on the procurement and use of each *market ancillary service*; and
  - (7) analysis of trends, including year-on-year changes, in the matters referred to in paragraphs (1) to (6).

### **3.10.7 AEMC wholesale demand response review**

- (a) The *AEMC* must, by the third anniversary of the commencement of this clause:
  - (1) conduct a review of the arrangements for the provision of *wholesale demand response* under the *Rules* in accordance with paragraph (b) and the *Rules consultation procedures*; and
  - (2) publish a report of its findings and recommendations.
- (b) The review under paragraph (a) must consider the costs, benefits and effectiveness of the arrangements having regard to:
  - (1) the impact of the arrangements on the *spot price*;
  - (2) the accuracy of *baseline methodologies*;
  - (3) market and technological developments; and

- (4) any other matters relating to *wholesale demand response* which the *AEMC* considers relevant.

**[68] Clause 3.12.1 Intervention settlement timetable**

In clause 3.12.1(a), after "3.14.5B", insert ", 3.15.6B".

**[69] Clause 3.13.3 Standing data**

In clause 3.13.3(b), after "*scheduled network services*", insert ", *wholesale demand response units*".

**[70] Clause 3.13.3 Standing data**

In clause 3.13.3(b1), after "*scheduled network services*", insert ", *wholesale demand response units*".

**[71] Clause 3.13.3 Standing data**

In clause 3.13.3(b1)(ii), omit "or".

**[72] Clause 3.13.3 Standing data**

In clause 3.13.3(b1)(iii), omit "." and substitute "; or".

**[73] Clause 3.13.3 Standing data**

After clause 3.13.3(b1)(iii), insert:

- (iv) the number of individual *wholesale demand response units* that have been aggregated in accordance with clause 3.8.3.

**[74] Clause 3.13.3A Statement of opportunities**

In clause 3.13.3A(a)(8), after "in relation to *generating units*", insert ", *wholesale demand response units*".

**[75] Clause 3.13.4 Spot market**

In clause 3.13.4(f)(1), after "*power system load*", insert "taking into account the most probable availability of *wholesale demand response units*".

**[76] Clause 3.13.4 Spot market**

In clause 3.13.4(p), after "*generating units*", insert ", *wholesale demand response units*".

**[77] Clause 3.13.4 Spot market**

In clause 3.13.4(p)(3), after "*dispatch bid*", insert "*prices*".

**[78] Clause 3.13.4 Spot market**

In clause 3.13.4(q)(1), after "*dispatched generation*", insert "*dispatched wholesale demand response*".

**[79] Clause 3.13.4 Spot market**

In clause 3.13.4(q)(1), after "*semi-scheduled generating unit*", insert "*wholesale demand response unit*".

**[80] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

In clause 3.14.5A(a)(1), omit "and".

**[81] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

In clause 3.14.5A(a)(2), omit ", " and insert "; and".

**[82] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

After clause 3.14.5A(a)(2), insert:

(3) *Demand Response Service Providers* to supply *wholesale demand response*,

**[83] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

In clause 3.14.5A(d), in the equation in the "CO" definition, after "(MWE x BVAS)", insert "+ (MWDR x BVDR)".

**[84] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

In clause 3.14.5A(d), under the equation in the "CO" definition, after "BVAS" definition, insert:

MWDR = the sum of the *wholesale demand response settlement quantities* of the *Market Suspension Compensation Claimant* (in MWh) during the *market suspension pricing schedule period*.

BVDR = the amount (in \$/MWh) calculated in accordance with paragraph (f1) below.

**[85] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

At the end of clause 3.14.5A(d), after "and where C is a negative number, it will be deemed to be zero.", insert a new paragraph:

If a quantity of energy is both *sent out generation* and *wholesale demand response*, it must be included in the calculation of MWDR and not SOG.

**[86] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

After clause 3.14.5A(f), insert:

- (f1) The benchmark value for *wholesale demand response* (BVDR) at paragraph (d) is to be determined in accordance with the formula below:

$$\text{BVDR} = \text{BCE}_{(\text{av})} \times 1.15$$

where:

$\text{BCE}_{(\text{av})}$  means the value of  $\text{BC}_{(\text{av})}$  determined under paragraph (e) above (in \$/MWh) for a class of *Scheduled Generator* in the same *region* as the *Market Suspension Compensation Claimant*, as selected by AEMO in accordance with the *market suspension compensation methodology*.

**[87] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

In clause 3.14.5A(h)(2), at the end of the paragraph, omit "and".

**[88] Clause 3.14.5A Payment of compensation due to market suspension pricing schedule periods**

After clause 3.14.5A(h)(2), insert:

- (2A) the approach to be adopted by AEMO in selecting the class of *Scheduled Generator* to be used when determining the value of  $\text{BC}_{(\text{av})}$  for the calculation in paragraph (f1); and

**[89] Clause 3.14.5B Claims for additional compensation due to market suspension pricing schedule periods**

In clause 3.14.5B(a), omit " or *market ancillary services*" and substitute ", *market ancillary services* or *wholesale demand response*".

**[90] Clause 3.14.5B Claims for additional compensation due to market suspension pricing schedule periods**

In clause 3.14.5B(a)(3), after "*market ancillary services*", insert "or the relevant *wholesale demand response unit* supplying *wholesale demand response*".

**[91] Clause 3.14.5B Claims for additional compensation due to market suspension pricing schedule periods**

In clause 3.14.5B(d), after "means", insert ", in respect of a *generating unit* supplying *energy* or *market ancillary services*".

**[92] Clause 3.14.5B Claims for additional compensation due to market suspension pricing schedule periods**

After clause 3.14.5B(d), insert:

- (d1) For the purposes of paragraph (a), the direct costs incurred by the *Market Suspension Compensation Claimant* means, in respect of a *wholesale demand response unit* supplying *wholesale demand response*:
- (1) fuel costs in connection with the relevant *wholesale demand response unit*;
  - (2) incremental maintenance costs in connection with the relevant *wholesale demand response unit*;
  - (3) incremental manning costs in connection with the relevant *wholesale demand response unit*; and
  - (4) other direct costs reasonably incurred in connection with the relevant *wholesale demand response unit*, where such costs are incurred to enable the *wholesale demand response unit* to supply *wholesale demand response* during the *market suspension pricing schedule period*.

**[93] Clause 3.14.6 Compensation due to the application of an administered price cap or administered floor price**

In the definition of "**price limit event**" in clause 3.14.6(a), in paragraph (1) omit "and *Non-Scheduled Generators*" and substitute ", *Non-Scheduled Generators* and *Demand Response Service Providers*".

**[94] Clause 3.14.6 Compensation due to the application of an administered price cap or administered floor price**

Omit clause 3.14.6(b)(1) and substitute:

- (1) a *Scheduled Generator, Non-Scheduled Generator or Demand Response Service Provider* in the relevant region;

**[95] Clause 3.14.6 Compensation due to the application of an administered price cap or administered floor price**

In clause 3.14.6(c)(2), omit "and".

**[96] Clause 3.14.6 Compensation due to the application of an administered price cap or administered floor price**

In clause 3.14.6(c)(3), omit "," and substitute "; and".

**[97] Clause 3.14.6 Compensation due to the application of an administered price cap or administered floor price**

After clause 3.14.6(c)(3), insert:

- (4) *Demand Response Service Providers* to supply wholesale demand response,

**[98] Clause 3.15.1 Settlements management by AEMO**

In clause 3.15.1(a)(3), omit "and".

**[99] Clause 3.15.1 Settlements management by AEMO**

In clause 3.15.1(a)(4), omit "." and substitute "; and".

**[100] Clause 3.15.1 Settlements management by AEMO**

After clause 3.15.1(a)(4), insert:

- (5) under clause 3.15.6B.

**[101]**

## **New clause 3.15.6B    Wholesale demand response transactions**

After clause 3.15.6A, insert:

### **3.15.6B    Wholesale demand response transactions**

- (a) In each *trading interval*, in relation to the *connection point* for a *dispatched wholesale demand response unit* in the *trading interval*, a wholesale demand response transaction occurs, which results in a *trading amount* for the relevant *Demand Response Service Provider* determined in accordance with the formula:

$$TA = (WDRSQ \times TLF) \times (RRP - WDRRR)$$

where:

TA = the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*);

WDRSQ = the *wholesale demand response settlement quantity* for the *connection point* for the *wholesale demand response unit* for the *trading interval*, expressed in MWh and calculated under paragraph (c) except that if the *wholesale demand response settlement quantity* for a *trading interval* is greater than MRCSQ for the *trading interval*, then WDRSQ equals MRCSQ for the *trading interval*;

MRCSQ = the maximum responsive component quantity for the *connection point* for the *trading interval*, expressed in MWh and calculated under paragraph (e);

TLF = for a *transmission network connection point*, is the relevant *intra-regional loss factor* at that *connection point*, and for any other *connection point*, is the relevant *intra-regional loss factor* at the *transmission network connection point* or *virtual transmission node* to which it is assigned in accordance with clause 3.6.2(b)(2);

RRP = the *regional reference price* for the *regional reference node* to which the *connection point* is assigned, expressed in dollars per MWh; and

WDRRR = the *wholesale demand regional reimbursement rate* for the *regional reference node* to which the



*connection point* is assigned, expressed in dollars per MWh and determined under paragraph (f).

- (b) In each *trading interval*, in relation to a *connection point* for a *dispatched wholesale demand response unit* in the *trading interval*, a wholesale demand response transaction occurs, which results in a *trading amount* for the *financially responsible Market Participant* for the *connection point* determined in accordance with the formula:

$$TA = (WDRSQ \times TLF) \times (WDRRR - RRP)$$

where:

TA = the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*);

WDRSQ = the *wholesale demand response settlement quantity* for the *connection point* for the *wholesale demand response unit* for the *trading interval*, expressed in MWh and calculated under paragraph (c) except that if the *wholesale demand response settlement quantity* for a *trading interval* is greater than MRCSQ for the *trading interval*, then WDRSQ equals MRCSQ for the *trading interval*;

MRCSQ = the maximum responsive component quantity for the *connection point* for the *trading interval*, expressed in MWh and calculated under paragraph (e);

TLF = for a *transmission network connection point*, is the relevant *intra-regional loss factor* at that *connection point*, and for any other *connection point*, is the relevant *intra-regional loss factor* at the *transmission network connection point* or *virtual transmission node* to which it is assigned in accordance with clause 3.6.2(b)(2);

WDRRR = the *wholesale demand regional reimbursement rate* for the *regional reference node* to which the *connection point* is assigned, expressed in dollars per MWh and determined under paragraph (f); and

RRP = the *regional reference price* for the *regional reference node* to which the *connection point* is assigned, expressed in dollars per MWh.

- (c) The *wholesale demand response settlement quantity* for a *connection point* for a *dispatched wholesale demand response unit* for a *trading interval* is determined in accordance with the formula:

$$\text{WDRSQ} = -1 \times (\text{BSQ} - \text{ME}) \times \text{DLF}$$

where:

WDRSQ = the *wholesale demand response settlement quantity* to be determined;

BSQ = the *baseline settlement quantity* for the *connection point* for the *trading interval*, expressed in MWh and calculated under paragraph (d);

ME = the amount of electrical *energy*, expressed in MWh, flowing at the *connection point* in the *trading interval*, as recorded in the *metering data* in respect of that *connection point* and that *trading interval* (expressed as a positive value where the flow is towards the *transmission network connection point* to which the *connection point* is assigned and negative value where the flow is in the other direction).

DLF = the *distribution loss factor* applicable at the *connection point*.

- (d) The *baseline settlement quantity* for a *connection point* for a *wholesale demand response unit* for a *trading interval* is the *baseline* (in MWh) for the *wholesale demand response unit* for the *trading interval* (as may be subject to temporary adjustment under clause 3.10.5(b)).

**Note**

The definition of *baseline* in Chapter 10 states that a *baseline* is expressed as a positive value where the flow is towards the *transmission network connection point* to which the *connection point* is assigned and a negative value where the flow is in the other direction.

- (e) The *maximum responsive component quantity* for a *connection point* for a *wholesale demand response unit* for a *trading interval* is equal to the *maximum responsive component* for the *wholesale demand response unit* (in MW and expressed as a positive number) divided by the number of *trading intervals* in an hour.
- (f) The *wholesale demand regional reimbursement rate* for a *regional reference node* for a *trading interval* is the peak period load weighted average *spot price* for the *regional reference node* determined by the AEMO in accordance with paragraph (g) for the quarter in which the *trading interval* falls.

- (g) *AEMO* must calculate and *publish* for each quarter commencing on 1 January, 1 April, 1 July and 1 October the peak period load weighted average *spot price* for each *regional reference node* over the 12 month period ending immediately before the start of the quarter. For this purpose, peak periods are periods during the "peak load profile" specified in the contract specification Australian Peak Load Electricity Futures Contract in the ASX 24 Operating Rules of the Australian Securities Exchange as amended from time to time or, where this specification ceases to be in effect, during an equivalent peak period determined by *AEMO* acting reasonably.

**[102]                                      Clause 3.15.7                      Payment to Directed Participants**

In clause 3.15.7(c), in the definition of AMP, after "*Scheduled Network Service Providers*", insert ", *Demand Response Service Providers*".

**[103]                                      Clause 3.15.9                      Reserve settlements**

In clause 3.15.9(b)(2)(ii), after "*scheduled network service*", insert ", *wholesale demand response unit*".

**[104]                                      Clause 3.15.10                      Administered price cap or administered floor price compensation payments**

In clause 3.15.10(a), after "*Scheduled Network Service Provider*", insert ", *Demand Response Service Provider*".

**[105]                                      Clause 3.20.1                      Definitions**

In clause 3.20.1(b), omit "energy only" and substitute "*energy* only (including by means of *wholesale demand response*)".

**[106]                                      Clause 3.20.3                      Reserve contracts**

In clause 3.20.3(a)(1), after "*scheduled generating units*", insert "*wholesale demand response units*".

**[107]                                      Clause 3.20.3                      Reserve contracts**

In clause 3.20.3(g), after "capacity of *scheduled generating units*," insert "*wholesale demand response units*".

**[108]**                                      **Clause 3.20.6**                      **Reporting on RERT by AEMO**

In clause 3.20.6(g)(2), after "*scheduled generating unit*", insert "*wholesale demand response unit*".

**[109]**                                      **Clause 3.20.7**                      **AEMO's exercise of the RERT**

In clause 3.20.7(b), after "*dispatching a scheduled generating unit*", insert "*wholesale demand response unit*".

**[110]**                                      **Clause 3.20.7**                      **AEMO's exercise of the RERT**

In clause 3.20.7(c), after "*a scheduled generating unit*", insert ", a *wholesale demand response unit*".

**[111]**                                      **Clause 3.20.7**                      **AEMO's exercise of the RERT**

In clause 3.20.7(d), after "*scheduled generating unit*", insert "*wholesale demand response unit*".

**[112]**                                      **Clause 3.20.7**                      **AEMO's exercise of the RERT**

In clause 3.20.7(d)(1), after "*scheduled generating unit*", insert "*wholesale demand response unit*".

**[113]**                                      **Clause 3.20.7**                      **AEMO's exercise of the RERT**

In clause 3.20.7(d)(2), after "*dispatch of scheduled generating units*", insert "*wholesale demand response units*".

**[114]**                                      **Clause 3.20.7**                      **AEMO's exercise of the RERT**

Omit clause 3.20.7(e)(1) and substitute:

- (1) the methodology, information and assumptions that *AEMO* uses to satisfy itself that a person complies with:
  - (i) clause 3.20.3(i) in relation to *generating units* or *loads* that are the subject of *unscheduled reserve contracts*; and
  - (ii) clause 3.20.3(h) in relation to *wholesale demand response units* that are the subject of *scheduled reserve contracts*;

**[115] Clause 3.20.7 AEMO's exercise of the RERT**

After clause 3.20.7(e)(1), insert:

- (1A) the measures *AEMO* will adopt in order to reduce the possibility that *generating units* or *loads* likely to be *activated* under *unscheduled reserve contracts* are otherwise engaged at the time the *unscheduled reserve contracts* are required to be *activated* by *AEMO*;

**[116] Schedule 3.1 Bid and Offer Validation Data**

In paragraph (b) of schedule 3.1, after "each of their *scheduled loads*", insert "*wholesale demand response units*".

**[117] Schedule 3.1 Bid and Offer Validation Data**

After the "Note" under table "Ancillary Service Generating Unit and Ancillary Service Load Data:", insert a new table:

**Wholesale demand response unit data:**

<b>Data</b>	<b>Units of Measurement</b>
<b><i>Wholesale demand response unit information:</i></b>	
<i>Wholesale demand response unit name</i>	
<i>Dispatchable unit identifier</i>	
<i>Maximum responsive component of the wholesale demand response unit</i>	MW
<i>Maximum ramp rate</i>	MW/minute

## **Schedule 4      Amendment to the National Electricity Rules**

(Clause 6)

### **[1] Clause 4.1.1      Purpose**

In clause 4.1.1(a)(3)(iv), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

### **[2] Clause 4.3.1      Responsibility of AEMO for power system security**

In clause 4.3.1(i), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

### **[3] Clause 4.3.1      Responsibility of AEMO for power system security**

In clause 4.3.1(j), after "*generating units*," insert "*wholesale demand response units*,".

### **[4] Clause 4.4.2      Operational frequency control requirements**

In clause 4.4.2(a), after "*semi-scheduled generating units*," insert "*wholesale demand response units*,".

### **[5] Clause 4.8.5      Managing declarations of conditions**

In clause 4.8.5(c)(2), after "*Market Customers*," insert "*Demand Response Service Providers*,".

### **[6] Clause 4.9.1      Load forecasting**

In clause 4.9.1(b), after "*total generation*", insert "*or wholesale demand response*".

### **[7] New clause 4.9.2B      Dispatch instructions to Demand Response Service Providers**

After clause 4.9.2A, insert:

#### **4.9.2B      Dispatch instructions to Demand Response Service Providers**

- (a) *AEMO* may, at any time, give instructions to a *Demand Response Service Provider* in relation to any of its *wholesale demand response units* nominating the level or schedule of *baseline deviation* to be achieved by the *wholesale demand response unit* over the specified period (*dispatch instructions*) in accordance with clause 4.9.5(b).
- (b) Where two or more *wholesale demand response units* have been aggregated in accordance with clause 3.8.3, paragraph (a) applies in

respect of the aggregate *baseline deviation* of the aggregated *wholesale demand response units*.

- (c) A *baseline deviation* quantity nominated in a *dispatch instruction* must not be less than zero and must not be more than the *available capacity* of the *wholesale demand response unit* or aggregated *wholesale demand response units*.
- (d) A *Demand Response Service Provider* must, with respect to *wholesale demand response units* in relation to which a *dispatch bid* has been submitted for a particular *trading interval*, ensure that appropriate personnel or electronic facilities are available at all times to receive and immediately act upon *dispatch instructions* issued by *AEMO* to the *Demand Response Service Provider*.
- (e) *AEMO* must make, as a *power system operating procedure*, a procedure setting out arrangements for notifying a *Demand Response Service Provider* whether it is being given a *dispatch instruction* in relation to its *wholesale demand response unit* to provide *wholesale demand response* in a *trading interval*.

#### **[8] Clause 4.9.3 Instructions to Registered Participants**

In clause 4.9.3(a), omit "*load*" and substitute "*scheduled load*".

#### **[9] Clause 4.9.5 Form of dispatch instructions**

After clause 4.9.5(a1), insert:

- (a2) A *dispatch instruction* for a *wholesale demand response unit* must include the following:
  - (1) specific reference to the *wholesale demand response unit* to which the *dispatch instruction* applies;
  - (2) the desired *baseline deviation* of the *wholesale demand response unit* at the end of the *trading interval* to which it relates;
  - (3) the *ramp rate* (if applicable) which is to be followed in the provision of the *baseline deviation* by the *wholesale demand response unit* or a specific target time to reach the *baseline deviation* specified in the *dispatch instruction*;
  - (4) the time the *dispatch instruction* is issued; and
  - (5) if the time at which the *dispatch instruction* is to take effect is different from the time the *dispatch instruction* is issued, the start time.



**[10] Clause 4.9.8      General responsibilities of Registered Participants**

After clause 4.9.8(e), insert:

- (f) *A Demand Response Service Provider must ensure that each of its wholesale demand response units is at all times able to comply with its latest dispatch bid.*

**[11] New clause 4.9.9E   Wholesale demand response availability changes**

After clause 4.9.9D, insert:

**4.9.9E      Wholesale demand response availability changes**

*A Demand Response Service Provider must, without delay, notify AEMO of any event which has changed or is likely to change the availability of any of its wholesale demand response units, as soon as the Demand Response Service Provider becomes aware of the event.*

**[12] Clause 4.11.1      Remote control and monitoring devices**

After clause 4.11.1(c), insert:

- (c1) *A Demand Response Service Provider must in respect of its wholesale demand response units arrange the installation and maintenance of all remote control equipment and remote monitoring equipment in accordance with the standards and protocols determined and advised by AEMO for use in the relevant control centre.*

**[13] Clause 4A.E.1      Qualifying contracts**

In clause 4A.E.1(b)(2), omit "of" and substitute "for".

**[14] Clause 4A.E.1      Qualifying contracts**

In clause 4A.E.1(c), omit "person curtails" and substitute "person provides demand response (including *wholesale demand response*) by curtailing".

**[15] Clause 4A.E.1      Qualifying contracts**

In clause 4A.E.1(e), after "curtailment", insert "or the provision by a liable entity of *wholesale demand response*".

**[16] Clause 4A.F.3      Share of one-in-two year peak demand forecast**

Omit clause 4A.F.3(b)(3) and substitute:

- (3) the quantity in subparagraph (1) or (2) (as applicable) is to be adjusted by adding:
  - (i) the liable entity's measured actual demand response (other than *wholesale demand response*) under a qualifying contract at each *connection point* for which it is *financially responsible* for the compliance TI, or registered if an opt-in customer, multiplied by the *distribution loss factor* for that *connection point*; and
  - (ii) the *wholesale demand response settlement quantity* for each *connection point* for which the liable entity is *financially responsible* for the compliance TI;

**[17] Clause 4A.F.3      Share of one-in-two year peak demand forecast**

Omit clause 4A.F.3(d) and substitute:

- (d) The adjusted peak demand for a compliance TI is the actual demand for the *region* in that compliance TI as determined under clause 4A.A.4(b) adjusted for:
  - (1) the measured actual demand response of all liable entities during that compliance TI (other than *wholesale demand response*) as determined in accordance with the *PoLR cost procedures*; and
  - (2) the *wholesale demand response settlement quantities* for that compliance TI for all *connection points* for which a liable entity is *financially responsible*.

**[18] Chapter 7, Part F Security of metering installation and energy data**

In Chapter 7, above rule 7.15, in the title of Part F, after "and energy data", insert "and baseline data".

**[19] Clause 7.15.5      Access to data**

In the title of clause 7.15.5, after "Access to", insert "energy".

**[20] Clause 7.15.5      Access to energy data**

In clause 7.15.5(f)(3), omit "and".

**[21] Clause 7.15.5      Access to energy data**

In clause 7.15.5(f)(4), insert "an" before "*Exempt Embedded Network Service Provider*".

**[22] Clause 7.15.5 Access to energy data**

In clause 7.15.5(f)(4), omit "*metering data*," and substitute "*metering data*; and".

**[23] Clause 7.15.5 Access to energy data**

After clause 7.15.5(f)(4), insert:

- (5) a *Demand Response Service Provider* may access or receive *NMI Standing Data* or *metering data*,

**[24] New clause 7.15.6 Access to baseline data**

After clause 7.15.5, insert:

**7.15.6 Access to baseline data**

- (a) *Baseline data* is confidential and must be treated as *confidential information* in accordance with the *Rules*.
- (b) For the purposes of clause 8.6.2(c), the *retail customer* for the *connection point* for a *wholesale demand response unit* is deemed to have provided the *baseline data* relating to the *wholesale demand response unit*.
- (c) A *Demand Response Service Provider* for a *wholesale demand response unit* must if requested by the *retail customer* at the *connection point* for the *wholesale demand response unit* provide to the *retail customer* the *baseline data* relating to the *wholesale demand response unit*.
- (d) *AEMO* must provide *baseline data* and access to *baseline data* in accordance with paragraphs (e) and (f).
- (e) A *Demand Response Service Provider* may access and receive *baseline data* relating to its *wholesale demand response units*.
- (f) A *retailer* may access and receive *baseline data* relating to a *wholesale demand response unit* if the *retailer* is the *financially responsible Market Participant* for the *connection point* for the *wholesale demand response unit*.

## **Schedule 5      Amendment to the National Electricity Rules**

(Clause 7)

### **[1] Chapter 10      New definitions**

In chapter 10, insert the following new definitions in alphabetical order:

#### ***abnormal baseline notice***

A notice given to *AEMO* in accordance with clause 3.10.5(b) and the *abnormal baseline notice procedures*.

#### ***abnormal baseline notice procedures***

The procedures which may be made by *AEMO* under clause 3.10.5.

#### ***baseline***

For a *wholesale demand response unit*:

- (a) when the *wholesale demand response unit* is not being *dispatched* to provide *wholesale demand response*, a forecast of the amount of electrical *energy* flowing at the *connection point* for the *wholesale demand response unit*; and
- (b) when the *wholesale demand response unit* is being *dispatched* to provide *wholesale demand response*, an estimate of what the amount of electrical *energy* flowing at the *connection point* for the *wholesale demand response unit* would have been if the *wholesale demand response unit* had not been *dispatched*,

in each case calculated in accordance with clause 3.10.5 and expressed as a positive value where the flow is towards the *transmission network connection point* to which the *connection point* is assigned and a negative value where the flow is in the other direction.

#### ***baseline compliance testing***

Testing in accordance with arrangements determined by *AEMO* under clause 3.10.2(d) to determine whether a *baseline methodology* when applied to a *wholesale demand response unit* produces a *baseline* that satisfies the *baseline methodology metrics*.

#### ***baseline compliance standard***

Has the meaning given in clause 3.10.4(a).

#### ***baseline data***

The following information in relation to a *wholesale demand response unit*:

- (a) the *baseline methodology* and *baseline settings* approved for application to the *wholesale demand response unit*;
- (b) the *maximum responsive component* of the *wholesale demand response unit*; and
- (c) periods when the *wholesale demand response unit* has been *dispatched* to provide *wholesale demand response* and the quantity of *wholesale demand response* provided.

***baseline deviation***

For a *wholesale demand response unit* in a period, a deviation between the amount of electrical energy flowing at the *connection point* for the *wholesale demand response unit* in the period and the *baseline* of the *wholesale demand response unit* for the period.

***baseline deviation offset***

In relation to *baseline deviation* by a *dispatched wholesale demand response unit* in the period for which it is *dispatched*, electrical energy flowing at another *connection point* in the period that directly or indirectly offsets any part of the *baseline deviation* of the *wholesale demand response unit* in that period including where the offset occurs due to or by reason of:

- (a) the relevant *wholesale demand response activity* or an activity connected with or undertaken in conjunction with the *wholesale demand response activity*; or
- (b) the configuration of the *wholesale demand response unit* or any *facility* associated with the *wholesale demand response unit*.

***baseline methodology***

A methodology to determine a *baseline* for a *wholesale demand response unit*.

***baseline methodology metrics***

Parameters determined by *AEMO* in accordance with clause 3.10.2(a) for assessing the *baseline* produced by a *baseline methodology* when applied to a *wholesale demand response unit* using applicable *baseline settings*.

***baseline non-compliant***

Has the meaning given in clause 3.10.4(b).

***baseline settings***

Has the meaning given in clause 3.10.3(b).

***Demand Response Service Provider***

A person who offers and provides *load* as either or both:

(a) *wholesale demand response* in respect of a *wholesale demand response unit*; and

(b) a *market ancillary service* in respect of *ancillary service load*,

and who is registered by AEMO as a *Demand Response Service Provider* under Chapter 2. The relevant person does not need to be the *Market Customer* for the relevant *load*.

***dispatch bid price***

The price submitted for a *price band* and a *trading interval* in a *dispatch bid*.

***dispatched wholesale demand response unit***

In a *trading interval*, a *wholesale demand response unit* which has received instructions from AEMO as part of *central dispatch* to provide *wholesale demand response* in the *trading interval*.

***dispatched wholesale demand response***

The *wholesale demand response* which has been *dispatched* as part of *central dispatch*.

***maximum responsive component***

The maximum quantity (in MW) of *wholesale demand response* that a *wholesale demand response unit* is able to provide in accordance with the *Rules*.

For *wholesale demand response units* aggregated in accordance with clause 3.8.3, the *maximum responsive component* specified by AEMO as a condition of aggregation under clause 3.8.3(b3) (if any) or otherwise, the aggregate *maximum responsive component* of the aggregated *wholesale demand response units*.

***qualifying load***

Has the meaning given in clause 2.3.6(m).

***small customer load***

Has the meaning given in clause 2.3.6(m).

***spot price exposed***

A *wholesale demand response unit* is *spot price exposed* in relation to a *trading interval* if:

(a) the price:

- (1) for electricity consumed in that *trading interval* at any *connection point* for the *wholesale demand response unit* (or that would have been consumed but for a reduction in demand); and
- (2) payable by a *retail customer* to the *financially responsible Market Participant* for the *connection point* or its *related body corporate*,

is equal to, or varies by reference to, the *spot price* in that *trading interval*; or

(b) the price:

- (1) for or in respect of electricity supplied to the *transmission or distribution network* in that *trading interval* at any *connection point* for the *wholesale demand response unit*; and
- (2) payable by the *financially responsible Market Participant* for the *connection point* or its *related body corporate* to a *retail customer*,

is equal to, or varies by reference to, the *spot price* in that *trading interval*.

***wholesale demand regional reimbursement rate***

The rate determined in accordance with clause 3.15.6B(f).

***wholesale demand response***

Means a *baseline deviation* achieved by (as applicable to a *wholesale demand response unit*):

- (a) reducing the consumption of electricity; or
- (b) increasing the export of electricity; or
- (c) reducing the consumption of electricity and starting to export electricity,

at the *connection point* of the *wholesale demand response unit* in response to a *dispatch instruction* but only to the extent:

- (d) resulting from *wholesale demand response activity*; and
- (e) there is no *baseline deviation offset*.

***wholesale demand response activity***

An activity in relation to a *wholesale demand response unit* for which both of the following criteria are satisfied:



- (a) the activity is undertaken for the purpose of achieving a *baseline deviation* in a period in accordance with a *dispatch instruction* relating to the *wholesale demand response unit* and period; and
- (b) the activity would not be undertaken but for the *dispatch instruction*.

***wholesale demand response constraint***

A limitation on the capability of a *wholesale demand response unit* to provide *wholesale demand response* at the level that would occur if the limitation were removed.

***wholesale demand response dispatch bid***

A notice submitted by a *Demand Response Service Provider* to *AEMO* relating to the *dispatch* of a *wholesale demand response unit* in accordance with clause 3.8.7B.

***wholesale demand response guidelines***

Guidelines made by *AEMO* under clause 3.10.1.

***wholesale demand response participation guidelines***

Guidelines made by the *AER* under clause 3.8.2A(g).

***wholesale demand response settlement quantity***

The quantity determined for a *wholesale demand response unit* under clause 3.15.6B(c).

***wholesale demand response unit***

- (a) A *load* which has been classified in accordance with Chapter 2 as a *wholesale demand response unit*.
- (b) For the purposes of Chapter 3 (except clause 3.8.2A and rule 3.15) and rule 4.9, two or more *wholesale demand response units* referred to in paragraph (a) that have been aggregated in accordance with clause 3.8.3.

## **[2] Chapter 10            Substituted definitions**

In chapter 10, substitute the following definitions:

***AEMO intervention event***

An event where *AEMO* intervenes in the *market* under the *Rules* by:

- (a) issuing a *direction* in accordance with clause 4.8.9; or

- (b) exercising the *reliability and emergency reserve trader* in accordance with rule 3.20 by:
  - (1) *dispatching scheduled generating units, wholesale demand response units, scheduled network services or scheduled loads* in accordance with a *scheduled reserve contract*; or
  - (2) *activating loads or generating units* under an *unscheduled reserve contract*.

### ***Ancillary Service Provider***

A person (including a *Demand Response Service Provider*) who engages in the activity of owning, controlling or operating a *generating unit, load or market load* classified in accordance with Chapter 2 as an *ancillary service generating unit* or *ancillary service load*, as the case may be.

### ***available capacity***

- (a) The total MW capacity available for *dispatch* by a *scheduled generating unit, semi-scheduled generating unit or scheduled load* (i.e. maximum plant availability) or, in relation to a specified *price band*, the MW capacity within that *price band* available for *dispatch* (i.e. availability at each *price band*).
- (b) For a *wholesale demand response unit*, subject to clauses 3.8.2A(b), (c), (d) and (e):
  - (1) the total MW capacity available for *dispatch* by the *wholesale demand response unit* (i.e. maximum plant availability); and
  - (2) in relation to a specified *price band*, the MW capacity within that *price band* available for *dispatch* (i.e. availability at each *price band*).

### ***bid and offer validation data***

Data submitted by *Scheduled Generators, Semi-Scheduled Generators* and *Market Participants* to AEMO in relation to their *scheduled loads, scheduled generating units, semi-scheduled generating units, wholesale demand response units* and *scheduled market network services* in accordance with schedule 3.1.

### ***central dispatch***

The process managed by AEMO for the *dispatch* of *scheduled generating units, semi-scheduled generating units, wholesale demand response units, scheduled loads, scheduled network services and market ancillary services* in accordance with rule 3.8.

***constrained on***

In respect of a generating unit, the state where, due to a *constraint* on a *network* or in order to provide *inertia network services* under an *inertia services agreement* or *system strength services* under a *system strength services agreement*, the output of that *generating unit* is limited above the level to which it would otherwise have been *dispatched* by *AEMO* on the basis of its *dispatch offer*.

In respect of a *wholesale demand response unit*, the state where, due to a *constraint* on a *network*, the *loading level* of that *wholesale demand response unit* is limited above the level to which it would otherwise have been *dispatched* by *AEMO* on the basis of its *dispatch bid*.

***constraint, constrained***

A limitation on the capability of a *network*, *load*, a *generating unit* or a *wholesale demand response unit* such that it is unacceptable to either transfer, consume or generate the level of electrical power, or provide the level of *wholesale demand response*, that would occur if the limitation was removed.

***Directed Participant***

A *Scheduled Generator*, *Semi-Scheduled Generator*, *Market Generator*, *Demand Response Service Provider* in respect of its *ancillary service load*, *Scheduled Network Service Provider* or *Market Customer* the subject of a *direction*.

***dispatch***

The act of initiating or enabling all or part of the response specified in a *dispatch bid*, *dispatch offer* or *market ancillary service offer* in accordance with rule 3.8, or a *direction* or operation of capacity the subject of a *reserve contract* or an instruction under an *ancillary services agreement* or to *enable* an *inertia network service* or *system strength service* as appropriate.

***dispatch bid***

A notice submitted by a *Market Participant* to *AEMO* relating to the *dispatch* of a *scheduled load* in accordance with clause 3.8.7 or a *wholesale demand response dispatch bid*.

***dispatch inflexibility profile***

Data which may be provided to *AEMO* by *Market Participants*, in accordance with clause 3.8.19, to specify *dispatch inflexibilities* in respect of *scheduled loads*, *wholesale demand response units* or *scheduled generating units* which are not slow start *generating units*.

***dispatch instruction***

An instruction given to a *Registered Participant* under clauses 4.9.2, 4.9.2A, 4.9.2B, 4.9.3, 4.9.3A, or to an *NMAS provider* under clause 4.9.3A.

***dispatchable unit identifier***

A unique reference label allocated by *AEMO* for each *scheduled generating unit*, *semi-scheduled generating unit*, *wholesale demand response unit*, *scheduled load*, and *scheduled network service*.

***dispatched load***

The *load* which has been *dispatched* as part of *central dispatch*, but not including *dispatched wholesale demand response*.

***inflexible, inflexibility***

In respect of a *scheduled generating unit*, *wholesale demand response unit*, *scheduled load* or *scheduled network service* for a *trading interval* means that the *scheduled generating unit*, *wholesale demand response unit*, *scheduled load* or *scheduled network service* is only able to be *dispatched* in the *trading interval* at a fixed loading level specified in accordance with clause 3.8.19(a).

***load shedding***

Reducing or *disconnecting load* from the *power system*, other than by means of *wholesale demand response*.

***loading level***

The level of output, consumption or power flow (in MW) of a *generating unit*, *load* or *scheduled network service*.

For a *wholesale demand response unit*, the level of *baseline deviation* (in MW) of the *wholesale demand response unit*.

***Market Participant***

A person who is registered by *AEMO* as a *Market Generator*, *Market Customer*, *Market Small Generation Aggregator*, *Demand Response Service Provider* or *Market Network Service Provider* under Chapter 2.

***Market Settlement and Transfer Solution Procedures***

The procedures from time to time *published* by *AEMO* under clause 7.16.2 which include those governing:

- (a) the recording of financial responsibility for *energy flows* at a *connection point*, the transfer of that responsibility between *Market*

*Participants and the recording of energy flows at a connection point; and*

- (b) *the recording of the classification of a connection point as a wholesale demand response unit and the Demand Response Service Provider responsible for the wholesale demand response unit.*

***Market Suspension Compensation Claimant***

- (a) *A Scheduled Generator or a Demand Response Service Provider who supplied energy or wholesale demand response during a market suspension pricing schedule period:*
  - (1) *in a suspended region; or*
  - (2) *in a region where spot prices were affected in accordance with clause 3.14.5(f); or*
- (b) *an Ancillary Service Provider in a suspended region, in respect of an ancillary service generating unit which is also a scheduled generating unit, who provided market ancillary services during a market suspension pricing schedule period.*

***PASA availability***

*The physical plant capability (taking ambient weather conditions into account in the manner described in the procedure prepared under clause 3.7.2(g)) of a scheduled generating unit, scheduled load or scheduled network service available in a particular period, including any physical plant capability that can be made available during that period, on 24 hours' notice.*

*For a wholesale demand response unit, the maximum MW wholesale demand response available in a particular period, including any wholesale demand response that can be made available during that period, on 24 hours' notice.*

***plant***

- (a) *In relation to a connection point, includes all equipment involved in generating, utilising or transmitting electrical energy.*
- (b) *In relation to dispatch bids and offers, controllable generating equipment, controllable loads and wholesale demand response units.*
- (c) *In relation to the statement of opportunities prepared by AEMO, individually controllable generating facilities registered or capable of being registered with AEMO.*
- (d) *In relation to the regulatory investment test for transmission, any of the definitions of plant in paragraphs (a) to (c) relevant to the application of the regulatory investment test for transmission to a RIT-T project.*

- (e) In relation to the *regulatory investment test for distribution*, any of the definitions of *plant* in paragraphs (a) to (c) relevant to the application of the *regulatory investment test for distribution* to a RIT-D project.
- (f) In relation to a *system strength remediation scheme*, includes all equipment involved in the implementation of the scheme.

***scheduled plant***

In respect of a *Registered Participant*, a *scheduled generating unit*, a *semi-scheduled generating unit*, an *ancillary service load*, a *scheduled network service* or a *scheduled load* classified by or in respect to that *Registered Participant* in accordance with Chapter 2.

***scheduled reserve***

The amount of surplus or unused capacity:

- (a) of *scheduled generating units*;
- (b) of *scheduled network services*;
- (c) of *wholesale demand response units*; or
- (d) arising out of the ability to reduce *scheduled loads*.

***unscheduled reserve***

The amount of surplus or unused capacity:

- (a) of *generating units* (other than *scheduled generating units*); or
- (b) arising out of the ability to reduce demand (other than a *scheduled load* or *wholesale demand response unit*).

**[3] Chapter 10            Omitted definitions**

Omit the definition of "*Market Ancillary Service Provider*".

**[4] Chapter 10            Amended definition**

In the definition of "*good electricity industry practice*", after "*supply of electricity*", insert "or the provision of *wholesale demand response*".

## **Schedule 6        Savings and Transitional Amendment to the National Electricity Rules**

(Clause 8)

### **[1] New Part ZZZA Wholesale demand response**

In Chapter 11, after Part ZZZZ, insert:

#### **Part ZZZA Wholesale demand response**

#### **11.125 Rules consequential on the making of the National Electricity Amendment (Wholesale demand response mechanism) Rule 2020**

##### **11.125.1 Definitions**

(a) In this rule 11.125:

**Amending Rule** means the National Electricity Amendment (Wholesale demand response mechanism) Rule 2020.

**Contracts and Firmness Guidelines** has the meaning in Chapter 4A.

**effective date** means the date of commencement of Schedules 1, 3, 4 and 5 of the Amending Rule.

**new Chapter 2** means Chapter 2 as in force immediately after the effective date.

**new Chapter 10** means Chapter 10 as in force immediately after the effective date.

**new clause 2.3.6** means clause 2.3.6 as in force immediately after the effective date.

**new clause 2.3B.1** means clause 2.3B.1 as in force immediately after the effective date.

**new clause 3.8.2A(g)** means clause 3.8.2A(g) as in force immediately after the effective date.

**new clause 3.8.3** means clause 3.8.3 as in force immediately after the effective date.

**new clause 3.8.3(a2)** means clause 3.8.3(a2) as in force immediately after the effective date.

**new clause 3.10.1** means clause 3.10.1 as in force immediately after the effective date.

**new clause 3.10.2** means clause 3.10.2 as in force immediately after the effective date.



**new clause 3.10.3(a)** means clause 3.10.3(a) as in force immediately after the effective date.

**new clause 3.10.3(c)** means clause 3.10.3(c) as in force immediately after the effective date.

**new clause 3.10.5(b)** means clause 3.10.5(b) as in force immediately after the effective date.

**new clause 3.10.6** means clause 3.10.6 as in force immediately after the effective date.

- (b) Italicised terms used in this rule 11.125 have the same meaning as in new Chapter 10.

### **11.125.2 Wholesale demand response guidelines**

- (a) No later than 4 months before the effective date, *AEMO* must make and *publish*:
- (1) the *wholesale demand response guidelines* in accordance with new clause 3.10.1; and
  - (2) *AEMO's* determination of the *baseline methodology metrics* and matters relating to *baseline compliance testing* under new clause 3.10.2.
- (b) *AEMO* must comply with the *Rules consultation procedure* when making the *wholesale demand response guidelines* and the determinations under paragraph (a).
- (c) The *wholesale demand response guidelines* and determinations made under paragraph (a) must come into effect no later than 4 months before the effective date so as to enable the following to be made before the effective date:
- (1) applications for approval to classify a *load* as a *wholesale demand response unit* under new clause 2.3.6; and
  - (2) applications for aggregation of *wholesale demand response units* under new clause 3.8.3(a2).
- (d) If an application referred to in paragraph (c) is made after the *wholesale demand response guidelines* are made under paragraph (a) and before the effective date, *AEMO* must assess the application in accordance with the applicable provisions in new clause 2.3.6 or new clause 3.8.3 (as applicable) and the *wholesale demand response guidelines* made under paragraph (a).

### **11.125.3 Baseline methodologies**

- (a) No later than 4 months before the effective date, *AEMO* must establish the register of *baseline methodologies* under new clause 3.10.3(c).

- (b) No later than 4 months before the effective date, *AEMO* must develop one or more *baseline methodologies* in accordance with new clause 3.10.3(a) and *publish* them in the register established under new clause 3.10.3(c).

#### **11.125.4 Wholesale demand response participation guidelines**

- (a) By the effective date, the *AER* must in accordance with the *Rules consultation procedures* make and *publish* the *wholesale demand response participation guidelines* under new clause 3.8.2A(g).
- (b) The guidelines made under paragraph (a) must come into effect on and from the effective date.

#### **11.125.5 Extension of time for registration and aggregation**

- (a) The period of 15 *business days* specified in clause 2.9.2(b) is extended to 30 *business days* as follows:
  - (1) during the period commencing 4 months before the effective date and ending 3 months after the effective date; and
  - (2) in respect of an application under new clause 2.3B.1 to register as a *Demand Response Service Provider* or an application for approval to classify a *load* as a *wholesale demand response unit* under new clause 2.3.6.
- (b) The period of 20 *business days* specified in clause 3.8.3(e) is extended to 40 *business days*:
  - (1) during the period commencing 4 months before the effective date and ending 3 months after the effective date; and
  - (2) in respect of an application to aggregate two or more *wholesale demand response units*.

#### **11.125.6 Amendments to AEMO, AER and AEMC documents**

- (a) By the effective date, *AEMO* must review and where necessary amend and *publish* the following documents to take into account the Amending Rule:
  - (1) the *spot market* operations timetable in accordance with clause 3.4.3;
  - (2) the procedure used by *AEMO* for preparation of the *short term PASA* and published under clause 3.7.3(j);
  - (3) the *market suspension compensation methodology* made by *AEMO* under clause 3.14.5A(h);
  - (4) the schedule of benchmark values made by *AEMO* under clause 3.14.5A(j);

- (5) the *PoLR cost procedures* made by *AEMO* under clause 3.15.9A(1);
  - (6) the principles and process used by *AEMO* to calculate the *estimated settlement amount* developed by *AEMO* under clause 3.15.12(c);
  - (7) the *RERT procedures*;
  - (8) the *Market Settlement and Transfer Solution Procedures*; and
  - (9) the other documents mentioned in clause 11.103.2(a).
- (b) Where the only change to:
- (1) a document referred to in paragraph (a); or
  - (2) any other document made by *AEMO* under or in accordance with the *Rules*,
- to take into account the Amending Rule is to replace the term *Market Ancillary Service Provider* with *Demand Response Service Provider*, *AEMO* is not required to consult before amending the document to make that replacement.
- (c) By the effective date, the *AER* must review and where necessary amend and *publish* the following documents to take into account the Amending Rule:
- (1) the guidelines maintained under clause 3.8.22 in respect of *rebidding*; and
  - (2) the Contracts and Firmness Guidelines.
- (d) By the effective date, the *AEMC* must review and where necessary amend and *publish* the compensation guidelines made under clause 3.14.6(e) to take into account the Amending Rule.
- (e) Amendments made in accordance with this clause must take effect on and from the effective date.

#### **11.125.7 Amendments to the demand side participation information guidelines**

- (a) By 31 December 2020, *AEMO* must review and where necessary amend and *publish* the demand side participation information guidelines made under rule 3.7D(e) to take into account the Amending Rule.
- (b) The amendments made in accordance with paragraph (a) must take effect on and from 31 March 2021.

### 11.125.8 Amendment to RERT guidelines

- (a) With effect on and from the effective date, the *RERT guidelines* are amended as set out below:

In the explanatory note at the end of section 2 of the *RERT guidelines*, insert "(including by means of *wholesale demand response*)" after "*energy only*".

- (b) By the effective date, the *Reliability Panel* must make and *publish* the *RERT guidelines* in the form amended by paragraph (a).
- (c) For the purposes of paragraph (b), the *Reliability Panel* is not required to make and *publish* the *RERT guidelines* in accordance with the *Rules consultation procedures*.

### 11.125.9 Renaming of Market Ancillary Service Providers

- (a) A person who immediately before the effective date is registered with *AEMO* as a *Market Ancillary Service Provider* in respect of an *ancillary service load* is taken to be registered with *AEMO* as a *Demand Response Service Provider* in respect of that *ancillary service load* with effect on and from the effective date.
- (b) A *load* classified as an *ancillary service load* immediately before the effective date continues to be classified as an *ancillary service load* on and from the effective date.
- (c) To avoid doubt, registrations and classifications referred to in paragraphs (a) and (b) are, on and from the effective date, subject to new Chapter 2 as if they had been made under new Chapter 2.

### 11.125.10 Wholesale demand response annual reporting

- (a) New clause 3.10.6 does not apply to the calendar year in which the effective date occurs (the **commencement year**).
- (b) *AEMO* must prepare the first report under new clause 3.10.6 within six months after the end of the calendar year after the commencement year, covering the period from the effective date to the end of that calendar year.