

Commencement Notice: Wholesale Electricity Market Rules

Amending Rules RC_2017_04

These Amending Rules are made under the *Electricity Industry Act 2004* and the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* on 26 September 2017.

These Amending Rules commence at 8:00 AM on 1 October 2017, immediately after the commencement of the amending rules set out in Schedule B, Part 3 of the *Wholesale Electricity Market Rules Amending Rules 2016*.

The following clauses are amended (~~deleted wording~~, new wording):

4.5.14C. The Market Procedure under clause 4.5.14B(a) is to provide for the Expected DSM Dispatch Quantity for a Capacity Year to be calculated by—

- (a) estimating the amount of Unserved Energy which would be expected to occur in ~~a~~ the Capacity Year if no Demand Side Programmes were dispatched; and
- (b) estimating the amount of Unserved Energy which would be expected to occur in the Capacity Year if each Demand Side Programme to which DSM Capacity Credits are (or are forecast to be) assigned, were dispatched for 200 hours; and
- (c) determining the difference between the estimates in clauses 4.5.14C(a) and (b); and
- (d) dividing the difference in clause 4.5.14C(c) by the total of all DSM Capacity Credits assigned (or forecast to be assigned) to Demand Side Programmes for the Capacity Year ~~to all Demand Side Programmes as at 1 October of Year 3 of the relevant Reserve Capacity Cycle.~~

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4.26.3. The Generation Capacity Cost Refund for Trading Interval *t* in Capacity Year *y* for a Market Participant *p* holding Capacity Credits associated with a generation system is the lesser of—

- (a) the Maximum Participant Generation Refund determined for Market Participant *p* and Capacity Year *y* less all Generation Capacity Cost Refunds applicable to Market Participant *p* in previous Trading Interval *t* falling in Capacity Year *y*; and
- (b) the Generation Reserve Capacity Deficit Refund for Market Participant *p* and Trading Interval *t*, plus the Net STEM Refund in Trading Interval *t* for Market Participant *p*,

where the Net STEM Refund is calculated as follows—

$$\text{N STEM Refund}(p, t) = \text{TIRR weighted}(p, t) \times \text{N STEM Short}(p, t)$$

$$\underline{\text{N STEM Refund}(p, t) = \text{TIRR weighted}(p, t) \times \text{N STEM Short}(p, t)}$$

Where—

- i. N STEM Refund(p, t) is the Net STEM Refund for Market Participant p in Trading Interval t;
- ii. TIRR weighted(p, t) is the weighted average of the Trading Interval Refund Rate in Trading Interval t for each Facility that Market Participant p holds Capacity Credits for and is calculated as follows—

$$\text{TIRR weighted}(p, t) = \frac{\sum_{f \in F} \text{TIRR}(f, t) \times \text{CC}(f, t)}{\sum_{f \in F} \text{CC}(f, t)}$$

$$\underline{\text{TIRR weighted}(p, t) = \frac{\sum_{f \in F} \text{TIRR}(f, t) \times \text{CC}(f, t)}{\sum_{f \in F} \text{CC}(f, t)}}$$

where—

1. F is the set of Scheduled Generators registered to Market Participant p and f is a Facility within that set;
 2. TIRR(f, t) is the Trading Interval Refund Rate for Facility f in Trading Interval t; and
 3. CC(f, t) is the number of Capacity Credits associated with Facility f in Trading Interval t; and
- iii. N STEM ShortRefund(p, t) is the Net STEM Shortfall for Market Participant p in Trading Interval t.

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4.28.4. For each Trading Month, AEMO must calculate a Shared Reserve Capacity Cost being the sum of—

- (a) the cost defined under clause 4.28.1(b);
- (b) the net payments to be made by AEMO under Supplementary Capacity Contracts less any amount drawn under a Reserve Capacity Security by AEMO and distributed in accordance with clause 4.13.11A(a); and
- (bA) the Tranche 2 DSM Dispatch Payments made ~~in~~for that Trading Month; less
- (c) the Intermittent Load Refunds for that Trading Month; less
- (d) any amount drawn under a Reserve Capacity Security by AEMO and distributed in accordance with clause 4.13.11A(b),

and AEMO must allocate this total cost to Market Customers in proportion to each Market Customer's Individual Reserve Capacity Requirement.

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- 6.11A.2. When AEMO receives a submission under clause 6.11A.1 from a Market ~~Customer~~Participant, it must as soon as practicable—
- (a) if the received data complies with, as applicable, clauses 6.11A.3 or 6.11A.4—
 - i. accept the received data and communicate the acceptance to the Market Participant; and
 - ii. revise the Standing Data accordingly; or
 - (b) if the received data does not comply with, as applicable, clauses 6.11A.3 or 6.11A.4—reject the received data and communicate the rejection to the Market Participant.

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- 6.17.6. The Non-Balancing Facility Dispatch Instruction Payment, DIP(p,d,t), for Market Participant p and Trading Interval t of Trading Day d equals the sum of:
- (a) the sum over all Dispatchable Loads registered to Market Participant p of the amount that is the product of:
 - i. the quantity, in MWh, by which the Dispatchable Load reduced its consumption in response to a Dispatch Instruction, where this quantity is equal to the lesser of:
 - 1. the Loss Factor adjusted quantity of the value determined by System Management under clause ~~6.17.6A(a)~~6.17.6A; or
 - ...
 - ...
 - (b) the sum over all Dispatchable Loads registered to Market Participant p of the amount that is the product of:
 - i. the quantity, in MWh, by which the Dispatchable Load increased its consumption in response to a Dispatch Instruction, where this quantity is equal to the lesser of:
 - 1. the Loss Factor adjusted quantity of the value determined by System Management under clause ~~6.17.6A(a)~~6.17.6A or
 - ...
 - ...
 - (c) the sum over all Demand Side Programmes registered to Market Participant p of the amount that is the ~~product~~ sum of—
 - i. the Tranche 2 DSM Dispatch Payments; and
 - ii. the Tranche 3 DSM Dispatch Payments.

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6.17.6C. The methodology described in 6.17.6B must ensure that, subject to clauses 6.17.6D and ~~6.16.6E~~6.17.6E, the Non-Balancing Facility Dispatch Instruction Payment is determined as follows—

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7.6.10. If a Power System Operationng Procedure is published under clause 7.6.10A, then a Market Participant who has been assigned DSM Capacity Credits must, in the time and manner specified in the Power System Operationng Procedure, provide System Management with, for each Trading Interval—

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7.13.5. System Management must—

(a) for the purposes of clause 7.13.1(eG) calculate, for each Demand Side Programme for each Trading Interval, the amount, in MWh, by which the Facility was requested by the applicable Dispatch Instruction to decrease its consumption for the Trading Interval, which amount—

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(b) develop a Power System Operationng Procedure that details how it will calculate the amount in clause 7.13.5(a).

~~9.7.1. The Reserve Capacity settlement amount for Market Participant p for Trading Month m is—~~

~~$$\text{RCSA}(p,m) = \text{Capacity Provider Payment}(p,m) - \text{Capacity Purchaser Payment}(p,m)$$~~

9.7.1. The Reserve Capacity settlement amount for Market Participant p for Trading Month m is—

$$\text{RCSA}(p,m) = \text{Capacity Provider Payment}(p,m) - \text{Capacity Purchaser Payment}(p,m)$$

Where—

Capacity Provider Payment(p,m) is calculated in accordance with clause 9.7.1A; and

Capacity Purchaser Payment(p,m) is calculated in accordance with clause 9.7.1B.

~~9.7.1A. For the purposes of clause 9.7.1, Capacity Provider Payment (p,m) is—~~

~~$$\begin{aligned} \text{CCP}(p,m) = & \text{Participant Capacity Rebate}(p,m) \\ & + \text{Non_Allocated_Gen_Capacity_Payments}(p,m) \\ & + \text{Non_Allocated_SPA_Payments}(p,m) \\ & - \text{Intermittent Load Refund}(p,m) \\ & + \text{Supplementary Capacity Payment}(p,m) \end{aligned}$$~~

+ DSM_Capacity_Payments (p,m)
+ Tranche 2 DSM Dispatch Payments (p,m)
– Capacity Cost Refund(p,m)

Where—

Non_Allocated_Gen_Capacity_Payments =
Monthly Reserve Capacity Price(m) x (CC_NSPA(p,m) – CC_ANSPA(p,m))

Where—

Monthly Reserve Capacity Price(m) is the Monthly Reserve Capacity Price which applies for Trading Day d defined in accordance with clause 4.29.1;

CC_NSPA(p,m) is the number of Capacity Credits held by Market Participant p in Trading Month m that are not covered by Special Price Arrangements and are not DSM Capacity Credits;

CC_ANSPA(p,m) is the number of Capacity Credits held by Market Participant p in Trading Month m that are not covered by Special Price Arrangements and which are allocated to other Market Participants;

Non_Allocated_SPA_Payments =
Sum(a ∈ A, Monthly Special Price(p,m,a) x (CC_SPA(p,m,a) – (CC_ASPA(p,m,a)))

Where—

Monthly Special Price(p,m,a) is the Monthly Special Reserve Capacity Price for Special Price Arrangement a for Market Participant p defined in accordance with clause 4.29.2 which applies for Trading Day d

CC_SPA(p,m,a) is the number of Capacity Credits held by Market Participant p in Trading Month m that are covered by Special Price Arrangement a;

CC_ASPA(p,m,a) is the number of Capacity Credits held by Market Participant p in Trading Month m that are covered by Special Price Arrangement a and which are allocated to other Market Participants for Trading Month m under sections 9.4 and 9.5;

DSM_Capacity_Payments (p,m) =
DSM Capacity Credits (p,m) x Monthly DSM Reserve Capacity Price (m)

Monthly DSM Reserve Capacity Price (m) is the DSM Reserve Capacity Price divided by 12;

Tranche 2 DSM Dispatch Payments (p,m) are the Tranche 2 DSM Dispatch Payments for Market Participant p for month m;

Capacity Cost Refund(p,m) is the Capacity Cost Refund payable to AEMO by Market Participant p in respect of that Market Participant's Capacity Credits for Trading Month m, as specified in clause 4.29.3(d)(vi);

Intermittent Load Refund(p,m) is the sum over all of Market Participant p's Intermittent Loads of the Intermittent Load Refund payable to AEMO by Market Participant p in respect of each of its Intermittent Loads for Trading Month m, as specified in clause 4.28A.1;

Supplementary Capacity Payment(p,m) is the net payment to be made by AEMO under a Supplementary Capacity Contract to Market Participant p for Trading Month m, as specified by AEMO in accordance with clause 4.29.3(e)(i);

Participant Capacity Rebate(p,m) is the Participant Capacity Rebate payable to the Market Participant p for all Trading Intervals in Trading Month m, as determined in accordance with clause 4.29.3(d)(vii);

A is the set of all Special Price Arrangements associated with a Facility where "a" is used to refer to a member of that set;

P is the set of all Market Participants where p is a member of that set

9.7.1A. For the purposes of clause 9.7.1, Capacity Provider Payment(p,m) for Market Participant p for Trading Month m is—

Capacity Provider Payment(p,m) = Participant Capacity Rebate(p,m)
+ Non Allocated Gen Capacity Payments(p,m)
+ Non Allocated SPA Payments(p,m)
– Intermittent Load Refund(p,m)
+ Supplementary Capacity Payment(p,m)
+ DSM Capacity Payments(p,m)
+ Tranche 2 DSM Dispatch Payments(p,m)
– Capacity Cost Refund(p,m)

Where—

Participant Capacity Rebate(p,m) is the Participant Capacity Rebate payable to the Market Participant p for all Trading Intervals in Trading Month m, as determined in accordance with clause 4.29.3(d)(vii);

Non Allocated Gen Capacity Payments(p,m) =
Monthly Reserve Capacity Price(m) × (CC NSPA(p,m) –
CC ANSPA(p,m))

Non Allocated SPA Payments(p,m) =
Sum(a ∈ A, Monthly Special Price(p,m,a) ×
(CC SPA(p,m,a) – CC ASPA(p,m,a)))

Intermittent Load Refund(p,m) is the sum over all of Market Participant p's Intermittent Loads of the Intermittent Load Refund payable to AEMO by Market Participant p in respect of each of its Intermittent Loads for Trading Month m, as specified in clause 4.28A.1;

Supplementary Capacity Payment(p,m) is the net payment to be made by AEMO under a Supplementary Capacity Contract to Market Participant p for Trading Month m, as specified by AEMO in accordance with clause 4.29.3(e)(i);

DSM Capacity Payments(p,m) =
DSM Capacity Credits(p,m) × Monthly DSM Reserve Capacity Price(m)

Tranche 2 DSM Dispatch Payments(p,m) are the Tranche 2 DSM Dispatch Payments for Market Participant p for Trading Month m;

Capacity Cost Refund(p,m) is the Capacity Cost Refund payable to AEMO by Market Participant p in respect of that Market Participant's Capacity Credits for Trading Month m, as specified in clause 4.29.3(d)(vi);

Monthly Reserve Capacity Price(m) is the Monthly Reserve Capacity Price which applies for Trading Month m defined in accordance with clause 4.29.1;

CC_NSPA(p,m) is the number of Capacity Credits held by Market Participant p in Trading Month m that are not covered by Special Price Arrangements and are not DSM Capacity Credits;

CC_ANSPA(p,m) is the number of Capacity Credits held by Market Participant p in Trading Month m that are not covered by Special Price Arrangements and which are allocated to other Market Participants;

A is the set of all Special Price Arrangements associated with a Facility where "a" is used to refer to a member of that set;

Monthly Special Price(p,m,a) is the Monthly Special Reserve Capacity Price for Special Price Arrangement a for Market Participant p defined in accordance with clause 4.29.2 which applies for Trading Month m;

CC_SPA(p,m,a) is the number of Capacity Credits held by Market Participant p in Trading Month m that are covered by Special Price Arrangement a;

CC_ASPA(p,m,a) is the number of Capacity Credits held by Market Participant p in Trading Month m that are covered by Special Price Arrangement a and which are allocated to other Market Participants for Trading Month m under sections 9.4 and 9.5;

DSM Capacity Credits(p,m) is the number of DSM Capacity Credits held by Market Participant p in Trading Month m, as determined under clause 4.29.3(d)(ivA); and

Monthly DSM Reserve Capacity Price(m) is the DSM Reserve Capacity Price which applies for Trading Month m divided by 12.

9.7.1B. ~~For the purposes of clause 9.7.1, Capacity Purchaser Payment is—~~

~~CPP(p,m) =~~

~~Targeted Reserve Capacity costs(p,m)
+ Shared Reserve capacity costs (p,m)
- LF_Capacity_Cost(p,m)~~

~~Where—~~

~~Targeted Reserve Capacity costs(p,m) =~~

~~Targeted Reserve Capacity Cost(m) x Shortfall Share(p,m)~~

~~Where—~~

~~Targeted Reserve Capacity Cost(m) is the cost of Reserve Capacity to be shared amongst those Market Participants who have not had sufficient Capacity Credits allocated to them for Trading Month m~~

where this cost is specified for Trading Month m under clause 4.29.3(b)

$$\text{Shortfall Share}(p,m) = \frac{(\text{IRCR}(p,m) - \text{Allocated Capacity Credits}(p,m))}{\text{Sum}(p \in P, (\text{IRCR}(p,m) - \text{Allocated Capacity Credits}(p,m))}$$

Where—

$\text{IRCR}(p,m)$ is the Individual Reserve Capacity Requirement for Market Participant p and Trading Month m expressed in units of MW;

$\text{Allocated Capacity Credits}(p,m)$ equals the capacity credits allocated to Market Participant p in month m in accordance with sections 9.4 and 9.5

$$\text{Shared Reserve Capacity Cost}(p,m) = \text{Shared Reserve Capacity Cost}(m) \times \text{Capacity Share}(p,m)$$

Where—

$\text{Shared Reserve Capacity Cost}(m)$ is the cost of Reserve Capacity to be shared amongst all Market Participant for Trading Month m where this cost is specified for Trading Month m under clause 4.29.3(c)

$$\text{Capacity Share}(p,m) = \frac{\text{IRCR}(p,m)}{\text{Sum}(p \in P, \text{IRCR}(p,m))}$$

$$\text{LF_Capacity_Cost}(p,m) = \text{LF_Capacity_Cost}(m) \times \text{Capacity Share}(p,m)$$

Where—

$\text{LF_Capacity_Cost}(m)$ is the total Load Following Service capacity payment cost for Trading Month m as specified in clause 9.9.2(q);

P is the set of all Market Participants where p is a member of that set

9.7.1B. For the purposes of clause 9.7.1, Capacity Purchaser Payment(p,m) for Market Participant p for Trading Month m is—

$$\text{Capacity Purchaser Payment}(p,m) = \text{Targeted Reserve Capacity Cost}(p,m) + \text{Shared Reserve Capacity Cost}(p,m) - \text{LF Capacity Cost}(p,m)$$

Where—

$$\text{Targeted Reserve Capacity Cost}(p,m) = \text{Targeted Reserve Capacity Cost}(m) \times \text{Shortfall Share}(p,m)$$

$$\text{Shared Reserve Capacity Cost}(p,m) = \text{Shared Reserve Capacity Cost}(m) \times \text{Capacity Share}(p,m)$$

$$\text{LF Capacity Cost}(p,m) = \text{LF Capacity Cost}(m) \times \text{Capacity Share}(p,m)$$

Targeted Reserve Capacity Cost(m) is the cost of Reserve Capacity to be shared amongst those Market Participants who have not had sufficient Capacity Credits allocated to them for Trading Month m where this cost is specified for Trading Month m under clause 4.29.3(b);

$$\text{Shortfall Share}(p,m) = \frac{(\text{IRCR}(p,m) - \text{Allocated Capacity Credits}(p,m))}{\text{Sum}(p \in P, (\text{IRCR}(p,m) - \text{Allocated Capacity Credits}(p,m)))}$$

Shared Reserve Capacity Cost(m) is the cost of Reserve Capacity to be shared amongst all Market Participants for Trading Month m where this cost is specified for Trading Month m under clause 4.29.3(c);

$$\text{Capacity Share}(p,m) = \frac{\text{IRCR}(p,m)}{\text{Sum}(p \in P, \text{IRCR}(p,m))}$$

LF Capacity Cost(m) is the total Load Following Service capacity payment cost for Trading Month m as specified in clause 9.9.2(q);

P is the set of all Market Participants where p is a member of that set;

IRCR(p,m) is the Individual Reserve Capacity Requirement for Market Participant p for Trading Month m expressed in units of MW; and

Allocated Capacity Credits(p,m) equals the Capacity Credits allocated to Market Participant p in Trading Month m in accordance with sections 9.4 and 9.5.

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11 Glossary

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Consumption Decrease Price: A price specified in items (h)(vi)(1) or (2), (i)(xA)(3) or (i)(xA)(4) of Appendix 1 Standing Data, accepted by AEMO under section 6.11A, to apply in forming the Non-Balancing Dispatch Merit Order for a Trading Interval for a Dispatchable Load or Demand Side Programme and in the calculation of the Non-Balancing Facility Dispatch Instruction Payment for that Dispatchable Load or Demand Side Programme for that Trading Interval.

Consumption Increase Price: A price specified in items (i)(xA)(1) or (i)(xA)(2) of Appendix 1 Standing Data, which must be not less than the Minimum STEM Price, not more than the Alternative Maximum STEM Price to apply in forming the Non-Balancing Dispatch Merit Order for a Trading Interval for a Dispatchable Load and in the calculation of the Non-Balancing Facility Dispatch Instruction Payment for that Dispatchable Load for that Trading Interval, which varies for Peak Trading Intervals and Off-Peak Trading Intervals.

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DSM Reserve Capacity Price: The price that will be paid per DSM Capacity Credit for a Capacity Year.- It equals:

- (a) the Expected DSM Dispatch Quantity for that Capacity Year plus 0.5 ~~MWh~~;
multiplied by
- (b) the DSM Activation Price for that Capacity Year.

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Extra Consumption Decrease Price: A price specified in item (h)(vi)(3) and (4) of Appendix 1 Standing Data, accepted by AEMO under section 6.11A, to apply in forming the Non-Balancing Dispatch Merit Order for a Trading Interval for a Demand Side Programme and in the calculation of the Non-Balancing Facility Dispatch Instruction Payment for that Demand Side Programme for that Trading Interval.

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Maximum Participant Generation Refund: The total amount of the Capacity Credit payments paid or to be paid under these Market Rules to a Market Participant in relation to its generating Facilities and in relation to a Capacity Year assuming that—

- (a) AEMO acquires all of the Capacity Credits held by the Market Participant in relation to its generating Facilities; and
- (b) the cost of each Capacity Credit so acquired is determined in accordance with clauses ~~4.28.2(b)~~, 4.28.2(c) and 4.28.2(d) (as applicable).

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