Commencement Notice: Wholesale Electricity Market Rules

Amending Rules RC_2018_06

These Amending Rules were made under the *Electricity Industry Act 2004* and the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* on 30 April 2019.

These Amending Rules commence at 8:00 AM on 1 September 2019.

The following clauses are amended (~~deleted wording~~, <u>new wording</u>):

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2.30.7A.   If AEMO approves the aggregation of Facilities of a Scheduled Generator then each individual facility in that aggregated Facility that injects energy at an individual network connection point to the South West interconnected system must be treated as an individual Facility for the purpose of determining the ~~Reserve Share~~<u>SR_Share</u>(p,t) values under Appendix 2.

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Appendix 2: Spinning Reserve Cost Allocation

This Appendix determines the value of SR_Share(p,t) of the Spinning Reserve service payment costs in Trading Interval t to be borne by Market Participant p.

In this Appendix the relevant Market Participant p is the Market Participant to whom a facility is registered, with the exception that in the case of unregistered generation systems serving Intermittent Loads, the relevant Market Participant p is the Market Participant to whom the Intermittent Load is registered.

The calculations in this Appendix are based on data for a set of applicable facilities (indexed by f) where this set comprises all Scheduled Generators and all Non-Scheduled Generators registered during Trading Interval t, except those Intermittent Generators exempted under clause 2.30A.2. This set also includes all unregistered generation systems serving Intermittent Loads.

<u>Step 1:</u> For the purpose of determining the SR_Share(p,t) values, each applicable facility f has an applicable capacity associated with it for Trading Interval t.

- If facility f is an Intermittent Generator with an interval meter then this is double the MWh average interval meter reading for the Trading Month containing Trading Interval t.

- If facility f is a Scheduled Generator with an interval meter then this is double the MWh interval meter reading for Trading Interval t.

- If facility f is a Scheduled Generator that is the sum of more than one aggregated Facility, each with an interval meter and each injecting energy at an individual network connection point to the South West interconnected system, then each individual Facility is treated as an individual Scheduled Generator under Appendix 2.

- If facility f is a Synergy Intermittent Generator without an interval meter then this is double the average monthly MWh sent out generation of that facility based on SCADA data over the Trading Month containing Trading Interval t.

- If facility f is a Synergy Scheduled Generator without an interval meter or an unmetered generation system serving Intermittent Load then this is double the MWh sent out generation of that facility based on SCADA data for Trading Interval t.

The applicable capacity value is set to zero if:

1. facility f was not synchronised to the SWIS during the whole Trading Interval t, or

2. the applicable capacity value for facility f resulting from the process described in the bullet points in this Step 1 is less than or equal to 10 MW.

Step 2: For Trading Interval t, rank all applicable facilities in ascending order from the facility with the lowest applicable capacity to the facility with the highest applicable capacity, as determined in accordance with Step 1. If two or more facilities have the same applicable capacity in Trading Interval t, these facilities are ranked in random order by AEMO.

Step 3: For each facility f determine the Facility Spinning Reserve Share for Trading Interval t as:

$$FSRS(f,t) = \sum_{i=1}^{rank(f,t)} \frac{MW(i,t) - MW(i-1,t)}{MW(n,t) \times (n+1-i)}$$

Where:

n is the total number of applicable facilities in the ranked list for Trading Interval t determined in Step 2.

rank(f,t) is the rank of facility f for Trading Interval t, as determined in Step 2.

MW(i,t) is the applicable capacity of the facility with rank i for Trading Interval t, where MW(0,t) = 0.

Step 4: Calculate the SR_Share(p,t) value for Market Participant p for Trading Interval t as:

$$SR\_Share(p,t) = \sum_{f \in F} FSRS(f,t)$$

Where:

F is the set of applicable facilities belonging to Market Participant p.

f is a member of the set in F.

FSRS(f,t) is the Facility Spinning Reserve Share for facility f in Trading Interval t calculated in Step 3.

The methodology makes use of the data in Table 1.

Block Number	Block Range (MW)	Block Size (MW)
1	> 200	100
2	>125 and ≤ 200	75
3	>65 and ≤ 125	60
4	>45 and ≤ 65	20
5	>10 and ≤ 45	35

Table 1: Data for Determine Reserve_Share(p,t)

For each Block, indicated by block number b, in Table 1, the Reserve Block Share is:

If Sum(f(i≤)) > 0

RBS(b) = [Block Size(b) / Sum(i, Block Size(i))] / Sum(f(i≤), TIS(f))

If Sum(f(i≤)) = 0

RBS(b) = 0

Where

Block Size(i) is the size of the Block with block number i listed in Table 1.

f(i≤) is the subset of applicable facilities that had applicable capacities for Trading Interval t lying within the block range of any Block with a block number value of b or less.

TIS(f) is 1 if the applicable facility f was synchronised to the SWIS during Trading Interval t, and is zero otherwise.

For each Block b in Table 1, the Reserve Generator Share is:

RGS(b) = Sum(i≥, RBS(i))

Where

i≥ is the set of Blocks listed in Table 1 that have a block number i greater than or equal to b.

For each Market Participant p, its unadjusted share of the Spinning Reserve service payment costs for the Trading Interval is:

USHARE(p) = Sum(f(p), RGS(b(f)) × TIS(f))

Where

f(p) is the set of applicable facilities for the Market Participant p that have applicable capacities within one of the block ranges listed in Table 1.

b(f) is the block number of the Block in Table 1 that has a block range that corresponds to the applicable capacity of the applicable facility f.

TIS(f) is 1 if the applicable facility f was synchronised to the SWIS during Trading Interval t, and is zero otherwise.

For each Market Participant p, its adjusted share of the Spinning Reserve services payment costs for Trading Interval t is:

SR_Share (p,t) = USHARE(p) / sum(q, USHARE(q))

Where

q is the index of the set of all Market Participants.

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