



## **Single Electricity Market**

**(SEM)**

**Capacity Market Code Urgent Modifications –  
Working Group 6 Decision Paper – Appendix A**

**SEM-19-046 (a)**

**12 September 2019**

# 1. CMC\_05\_19 – GENERAL HOUSEKEEPING MODIFICATIONS

## 1.1 CURRENT CAPACITY MARKET CODE DRAFTING

- F.5.1.2 The System Operators shall use reasonable endeavours to publish the Final Auction Information Pack for a Capacity Auction by the later of:
- a) the Final Auction Information Pack Date specified in the applicable Capacity Auction Timetable; and
  - b) two Working Days after the last of the date the Regulatory Authorities provide the Demand Curve and the final Annual Capacity Payment Exchange Rate for the Capacity Auction to the System Operators.
- J.4.3.5 In a certificate given under paragraph J.4.3.2(c)J.4.3.2(c), the Certified Engineer giving the certificate shall confirm that they are independent within the meaning of paragraph J.4.3.3 and shall certify each of the matters referred to in paragraph J.4.3.3.
- J.5.1.2 An application under paragraph J.5.1.1J.5.1.1 shall include:
- a) reasons for the request in reasonably sufficient detail to enable the System Operators in considering the request;
  - b) supporting evidence; and
  - c) details of any impact on other Implementation Plan dates, with detailed reasoning.
- J.5.1.3 The System Operators shall approve a request under paragraph J.5.1.1J.5.1.1, if they consider that the changed arrangements will not decrease the likelihood of delivery of the Awarded New Capacity prior to the Long Stop Date. The System Operators shall not unreasonably withhold or delay their approval under this paragraph.
- F.8.2.1 (b) (ii) the Locational Capacity Constraint Information referred to in paragraphs (a), (d) and (e) of the definition of that term in the Glossary;
- Appendix E.3 (b) (ii): the Gross De-Rating Factor for each Capacity Market Unit (FDERATE $\Omega$ ) where this is the value determined in accordance with paragraph E.8.8.1E.8.8.1(c), E.8.8.2(e) or E.8.8.3(d) as applicable (and allowing for paragraph E.8.8.4), with the exception that this is to be replaced by the value determined in accordance with paragraph E.8.8.1(b), E.8.8.2(d) or E.8.8.3(c) as applicable in the event that New Capacity is not Awarded Capacity in the Capacity Auction or if all the Awarded Capacity in respect of New Capacity is terminated. For the avoidance of doubt, the Gross De-Rating Factor for a Capacity Market Unit which has Qualified in respect of New Capacity does not change solely as a

result of it being allocated an amount of Awarded New Capacity in the Capacity Market Unit but the amount allocated is less than the amount of New Capacity Qualified in respect of that Capacity Market Unit; and

## 1.2 APPROVED MODIFICATION TO CAPACITY MARKET CODE DRAFTING

- F.5.1.2 The System Operators shall use reasonable endeavours to publish the Final Auction Information Pack for a Capacity Auction by the later of:
- a) the Final Auction Information Pack Date specified in the applicable Capacity Auction Timetable; and
  - b) two Working Days after the last of the date the Regulatory Authorities provide the Demand Curve and approval of the final Annual Capacity Payment Exchange Rate for the Capacity Auction to the System Operators.
- J.4.3.5 In a certificate given under paragraph J.4.3.2(c) ~~J.4.3.2(c)~~, the Certified Engineer giving the certificate shall confirm that they are independent within the meaning of paragraph J.4.3.3 and shall certify each of the matters referred to in paragraph J.4.3.3.
- J.5.1.2 An application under paragraph J.5.1.1 ~~J.5.1.1~~ shall include:
- a) reasons for the request in reasonably sufficient detail to enable the System Operators in considering the request;
  - b) supporting evidence; and
  - c) details of any impact on other Implementation Plan dates, with detailed reasoning.
- J.5.1.3 The System Operators shall approve a request under paragraph J.5.1.1 ~~J.5.1.1~~, if they consider that the changed arrangements will not decrease the likelihood of delivery of the Awarded New Capacity prior to the Long Stop Date. The System Operators shall not unreasonably withhold or delay their approval under this paragraph.
- F.8.2.1 (b) (ii) the Locational Capacity Constraint Information referred to in paragraphs (a), ~~(c) (d)~~ and ~~(d) (e)~~ of the definition of that term in the Glossary;

Appendix E.3 (b) (ii): the Gross De-Rating Factor for each Capacity Market Unit (FDERATE $\Omega$ ) where this is the value determined in accordance with paragraph ~~E.8.8.1~~E.8.8.1(c), E.8.8.2(e) or E.8.8.3(d) as applicable (and allowing for paragraph E.8.8.4), with the exception that this is to be replaced by the value determined in accordance with paragraph E.8.8.1(b), E.8.8.2(d) or E.8.8.3(c) as applicable in the event that New Capacity is not Awarded Capacity in the Capacity Auction or if all the Awarded Capacity in respect of New Capacity is terminated. For the avoidance of doubt, the Gross De-Rating Factor for a Capacity Market Unit which has Qualified in respect of New Capacity does not change solely as a result of it being allocated an amount of Awarded New Capacity in the Capacity Market Unit but the amount allocated is less than the amount of New Capacity Qualified in respect of that Capacity Market Unit; and

## 2. CMC\_06\_19 – MODIFICATION TO THE PROPOSRTION OF DELIVERED CAPACITY CALCULATION

### 2.1 CURRENT CAPACITY MARKET CODE DRAFTING

- C.1.1.2 (g) a de-rating curve is specific to a technology class and defines the de-rating factor applicable to a specific value of initial capacity. The de-rating curves are determined by the Regulatory Authorities; and
- D.3.1.2 The Initial Auction Information Pack for a Capacity Auction shall set out:
- a) the final De-Rating Curves, defining De-Rating Factors by unit Initial Capacity and by Technology Class (including for Interconnectors) to be used in the Capacity Auction;
- D.3.1.3 The Regulatory Authorities shall determine the following parameters for each Capacity Auction and provide them to the System Operators for inclusion in the applicable Initial Auction Information Pack:
- a) the final De-Rating Curves, defining De-Rating Factors by unit Initial Capacity and by Technology Class (including for Interconnectors) to be used in the Capacity Auction;
- E.7.8.2 Where the System Operators are required to determine Qualification Decisions for a Candidate Unit using the Alternative Qualification Process, they shall do so by applying the following principles:
- e) in determining the Gross De-Rated Capacity (Existing) of the Capacity Market Unit in the case of Candidate Units (other than Demand Side Units and Generator Units referred to in paragraph E.2.1.1(e) that are Variable Generator Units), the System Operators shall use the methodology set out in sections E.8.2 and E.8.3 except that, in substitution for the value(s) of Gross De-Rated Capacity (Existing)

nominated in the Application for Qualification, they shall use, subject to paragraph E.8.3.2, the product of:

- (i) the applicable Initial Capacity (Existing) as determined under section E.8.1; and
- (ii) the De-Rating Factor applicable to that Initial Capacity (Existing) (without applying any tolerance);

g) in determining the Gross De-Rated Capacity (New) of the Capacity Market Unit in the case of Candidate Units (other than Demand Side Units and Generator Units referred to in paragraph E.2.1.1(e) that are Variable Generator Units), the System Operators shall use the methodology set out in sections E.8.2 and E.8.3 except that, in substitution for the value(s) of the Gross De-Rated Capacity (Existing) nominated in the Application for Qualification, they shall use the value determined under paragraph (e) and in substitution for the value of Gross De-Rated Capacity (New) nominated in the Application for Qualification they shall use the product of:

- (i) the applicable Initial Capacity (Total) as determined under section E.8.1; and
- (ii) the De-Rating Factor applicable to that Initial Capacity (Total) (without applying any tolerance),

E.8.2.3 For the purposes of paragraphs E.8.2.1 and E.8.2.2:

d) DRFE is the De-Rating Factor applicable to the Technology Class and Initial Capacity (Existing) of the Generator Unit or Interconnector as specified in the relevant Initial Auction Information Pack;

E.8.2.6 For the purposes of paragraphs E.8.2.4 and E.8.2.5:

e) DRFT is the De-Rating Factor applicable to the Technology Class and Initial Capacity (Total) of the Generator Unit or Interconnector as specified in the relevant Initial Auction Information Pack;

E.8.2.7 The System Operators shall determine the Gross De-Rated Capacity (Existing) of an Aggregated Generator Unit in accordance with the following formula:

g)  $DRFE_i$  is the De-Rating Factor applicable to the Technology Class and Initial Capacity (Existing) of Generator  $i$  as specified in the relevant Initial Auction Information Pack;

E.8.2.8 The System Operators shall determine the Gross De-Rated Capacity (New) of an Aggregated Generator Unit is determined in accordance with the following formula:

h)  $DRFT_i$  is the De-Rating Factor applicable to the Technology Class and Initial Capacity (Total) of Generator  $i$  as specified in the relevant Initial Auction Information Pack;

- n)  $DRFE_i$  is the De-Rating Factor applicable to the Technology Class and Initial Capacity (Existing) of Generator  $i$  as specified in the relevant Initial Auction Information Pack; and

G.3.1.4 The Proportion of Delivered Capacity in respect of Awarded New Capacity at a given time is a percentage value being:

- a) the greater of:
  - (i) zero; and
  - (ii) the lesser of:
    - (A) the Grid Code Commissioned Capacity; and
    - (B) the Initial Capacity (Total);less the Initial Capacity (Existing);
- b) divided by:
  - (i) the Initial Capacity (Total); less
  - (ii) the Initial Capacity (Existing),

where “Initial Capacity (Existing)” and “Initial Capacity (Total)” shall have the values determined when the Awarded New Capacity Qualified.

G.3.1.5 Where at a given time there is more than one Tranche of Awarded New Capacity in respect of a Capacity Market Unit (whether for the same Capacity Year or different Capacity Years), the System Operators shall calculate the Proportion of Delivered Capacity in respect of each Tranche by applying the methodology under paragraph G.3.1.4 but with such modifications to the values of Initial Capacity (Existing) and Initial Capacity (Total) as are necessary to account for the multiple Tranches. The required modifications shall include (as applicable):

- a) increasing Initial Capacity (Existing) of the relevant Tranche to account for the contribution of other Tranches commissioned since the relevant Tranche Qualified;
- b) decreasing Initial Capacity (Total) of the relevant Tranche to account for other Tranches that Qualified but were not allocated the full amount in the relevant Capacity Auction or that have been terminated or reduced under section J.6 after the relevant Tranche Qualified; and
- c) reducing the Grid Code Commissioned Capacity in respect of any increased capacity of the Capacity Market Unit that was not Qualified as New Capacity and that was not otherwise accounted for in the Initial Capacity (Total).

## 2.2 APPROVED MODIFICATION TO CAPACITY MARKET CODE DRAFTING

### Modify

- C.1.1.2 (g) a de-rating curve is specific to a technology class and defines the de-rating factor applicable to a specific value of initial capacity and initial maximum on time. The de-rating curves are determined by the Regulatory Authorities; and

### Addition

#### C.3.7 Initial On Time

C.3.7.1 For a Generator Unit (other than a Demand Side Unit), the Initial Maximum On Time (Existing) for a Capacity Year shall be equal to the Maximum On Time based on the Final Compliance Certificate, Operational Certification or Final Operational Notification for that Generator Unit or Interconnector under the applicable Grid Code.

C.3.7.2 For a Demand Side Unit, the Initial Maximum On Time (Existing) for a Capacity Year shall be equal to the Maximum Down Time based on the Final Compliance Certificate, Operational Certification or Final Operational Notification for that Demand Side Unit under the applicable Grid Code.

C.3.7.3 For a Generator Unit (other than a Demand Side Unit), the Initial Maximum On Time (Total) for a Capacity Year shall be equal to the Participant's expectation of the Generator Unit's Maximum On Time under the applicable Grid Code.

C.3.7.4 For a Demand Side Unit, the Initial Maximum On Time (Total) for a Capacity Year shall be equal to the Participant's expectation of the Demand Side Unit's Maximum Down Time under the applicable Grid Code.

### Modify

- D.3.1.2 The Initial Auction Information Pack for a Capacity Auction shall set out:
- a) the final De-Rating Curves, defining De-Rating Factors ~~by unit Initial Capacity and~~ by Technology Class (including for Interconnectors) to be used in the Capacity Auction;
- D.3.1.3 The Regulatory Authorities shall determine the following parameters for each Capacity Auction and provide them to the System Operators for inclusion in the applicable Initial Auction Information Pack:

- a) the final De-Rating Curves, defining De-Rating Factors ~~by unit Initial Capacity and~~ by Technology Class (including for Interconnectors) to be used in the Capacity Auction;

E.7.8.2

Where the System Operators are required to determine Qualification Decisions for a Candidate Unit using the Alternative Qualification Process, they shall do so by applying the following principles:

- e) in determining the Gross De-Rated Capacity (Existing) of the Capacity Market Unit in the case of Candidate Units (other than Demand Side Units and Generator Units referred to in paragraph E.2.1.1(e) that are Variable Generator Units), the System Operators shall use the methodology set out in sections E.8.2 and E.8.3 except that, in substitution for the value(s) of Gross De-Rated Capacity (Existing) nominated in the Application for Qualification, they shall use, subject to paragraph E.8.3.2, the product of:
  - (i) the applicable Initial Capacity (Existing) as determined under section E.8.1; and
  - (ii) the De-Rating Factor applicable to that Initial Capacity (Existing) (without applying any tolerance) and Initial Maximum On Time (Existing), as applicable;
  
- g) in determining the Gross De-Rated Capacity (New) of the Capacity Market Unit in the case of Candidate Units (other than Demand Side Units and Generator Units referred to in paragraph E.2.1.1(e) that are Variable Generator Units), the System Operators shall use the methodology set out in sections E.8.2 and E.8.3 except that, in substitution for the value(s) of the Gross De-Rated Capacity (Existing) nominated in the Application for Qualification, they shall use the value determined under paragraph (e) and in substitution for the value of Gross De-Rated Capacity (New) nominated in the Application for Qualification they shall use the product of:
  - (i) the applicable Initial Capacity (Total) as determined under section E.8.1; and
  - (ii) the De-Rating Factor applicable to that Initial Capacity (Total) (without applying any tolerance) and Initial Maximum On Time (Total), as applicable,

E.8.2.3

For the purposes of paragraphs E.8.2.1 and E.8.2.2:

- d) DRFE is the De-Rating Factor applicable to the Technology Class ~~and~~ Initial Capacity (Existing) and Initial Maximum On Time (Existing), as applicable, of the Generator Unit or Interconnector as specified in the relevant Initial Auction Information Pack;



- E.8.2.6 For the purposes of paragraphs E.8.2.4 and E.8.2.5:
- e) DRFT is the De-Rating Factor applicable to the Technology Class ~~and~~<sub>z</sub> Initial Capacity (Total) and Initial Maximum On Time (Total), as applicable, of the Generator Unit or Interconnector as specified in the relevant Initial Auction Information Pack;
- E.8.2.7 The System Operators shall determine the Gross De-Rated Capacity (Existing) of an Aggregated Generator Unit in accordance with the following formula:
- g) DRFE<sub>i</sub> is the De-Rating Factor applicable to the Technology Class ~~and~~<sub>z</sub> Initial Capacity (Existing) and Initial Maximum On Time (Existing), as applicable, of Generator i as specified in the relevant Initial Auction Information Pack;
- E.8.2.8 The System Operators shall determine the Gross De-Rated Capacity (New) of an Aggregated Generator Unit is determined in accordance with the following formula:
- h) DRFT<sub>i</sub> is the De-Rating Factor applicable to the Technology Class ~~and~~<sub>z</sub> Initial Capacity (Total) and Initial Maximum On Time (Total), as applicable, of Generator i as specified in the relevant Initial Auction Information Pack;
  - n) DRFE<sub>i</sub> is the De-Rating Factor applicable to the Technology Class ~~and~~<sub>z</sub> Initial Capacity (Existing) and Initial Maximum On Time (Existing), as applicable, of Generator i as specified in the relevant Initial Auction Information Pack; and

#### **Addition**

- G.3.1.2A The value of Grid Code Commissioned Maximum On Time in respect of a Generator Unit or Interconnector (other than a Demand Side Unit) at a given time is the Maximum On Time based on the Final Compliance Certificate, Operational Certification or Final Operational Notification for that Generator Unit or Interconnector under the applicable Grid Code.
- G.3.1.2B The value of Grid Code Commissioned Maximum On Time in respect of a Demand Side Unit at a given time is the Maximum Down Time based on the Final Compliance Certificate, Operational Certification or Final Operational Notification for that Demand Side Unit under the applicable Grid Code.

## Modify

G.3.1.4 The Proportion of Delivered Capacity in respect of Awarded New Capacity at a given time is a percentage value being:

- a) the greater of:
  - (i) zero; and
  - (ii) the lesser of:
    - (A) the De-rated Grid Code Commissioned Capacity; and
    - (B) the Initial Awarded Capacity ~~(Total)~~;  
less the Awarded Existing ~~Initial~~ Capacity ~~(Existing)~~;
- b) divided by:
  - (i) the Initial Awarded Capacity ~~(Total)~~; less
  - (ii) the Awarded Existing ~~Initial~~ Capacity ~~(Existing)~~,

where “Initial Capacity (Existing)” and “Initial Capacity (Total)” shall have the values determined when the Awarded New Capacity Qualified.

## Addition

G.3.1.4A For a Capacity Market Unit, the De-Rated Grid Code Commissioned Capacity shall be the Grid Code Commissioned Capacity of the Generator Unit or Interconnector multiplied by the lesser of:

- (a) the De-Rating Factor applicable to a unit of the Technology class of that Generator Unit or Interconnector and with an Initial Capacity equal to the Grid Code Commissioned Capacity and an Initial Maximum On Time equal to the Grid Code Commissioned Maximum On Time of that Generator Unit or Interconnector as specified in the Initial Auction Information Pack for the relevant Capacity Auction in which the relevant Awarded New Capacity was allocated.
- (b) the Gross De-Rating Factor, as specified in item 3 (b) of Appendix E “Qualification Capacity Register Data”;

## Modify

- G.3.1.5 Where at a given time there is more than one Tranche of Awarded New Capacity in respect of a Capacity Market Unit (whether for the same Capacity Year or different Capacity Years), the System Operators shall calculate the Proportion of Delivered Capacity in respect of each Tranche by applying the methodology under paragraph G.3.1.4 but with such modifications to the values of ~~Initial Awarded Existing Capacity (Existing)~~ and ~~Initial Awarded Capacity (Total)~~ as are necessary to account for the multiple Tranches. The required modifications shall include (as applicable):
- increasing ~~Initial Capacity (Existing)~~ Awarded Existing capacity of the relevant Tranche to account for the contribution of other Tranches commissioned since the relevant Tranche Qualified;
  - decreasing ~~Initial Awarded Capacity (Total)~~ of the relevant Tranche to account for other Tranches that Qualified but were not allocated the full amount in the relevant Capacity Auction or that have been terminated or reduced under section J.6 after the relevant Tranche Qualified; and
  - reducing the Grid Code Commissioned Capacity in respect of any increased capacity of the Capacity Market Unit that was not Qualified as New Capacity and that was not otherwise accounted for in the ~~Initial Awarded Capacity (Total)~~.

## Addition

Appendix D, Paragraph 4 (m)

In respect of each Candidate Unit to which the Application for Qualification relates and which is, or is intended to be, registered under the Trading and Settlement Code:

m) the quantity proposed in respect of each of:

(i) Initial Maximum On Time (Existing) of the Candidate Unit

(ii) Initial Maximum On Time (Total) of the Candidate Unit

## Glossary Additions and New Definitions

**De-Rating Curve** means a curve for a Technology Class that represents the De-Rating Factor applicable by unit Initial Capacity and Initial Maximum On Time to be used in a Capacity Auction and is determined by the Regulatory Authorities and provided to the System Operators under paragraph D.3.1.3.

### De-Rated Grid Code

Commissioned Capacity In respect of a Capacity Market Unit is determined in accordance with paragraph G.3.1.4A.

**Awarded Existing Capacity** in respect of a Capacity Market Unit, means Awarded Capacity which is Existing Capacity at the time of the relevant Capacity Auction.

**Initial Maximum On Time**

**(Existing)** has the meaning given in paragraph C.3.7.1 or C.3.7.2, as applicable to the relevant Unit Type.

**Initial Maximum On Time**

**(Total)** has the meaning given in paragraph C.3.7.3 or C.3.7.4, as applicable to the relevant Unit Type.