

MODIFICATION PROPOSAL FORM			
<b>Proposer</b> <i>(Company)</i>	<b>Date of receipt</b> <i>(assigned by System Operator)</i>	<b>Type of Proposal</b> <i>(delete as appropriate)</i>	<b>Modification Proposal ID</b> <i>(assigned by System Operator)</i>
EP UK Investments	6 <sup>th</sup> March 2025	Standard	CMC_02_25
Contact Details for Modification Proposal Originator			
<b>Name</b>	<b>Telephone number</b>	<b>Email address</b>	
Harry Molloy		Harry.molloy@epuki.ie	
Modification Proposal Title			
Separate De-Rating Factor for New Vs. Existing Capacity			
<b>Documents affected</b> <i>(delete as appropriate)</i>	<b>Section(s) Affected</b>	<b>Version number of CMC used in Drafting</b>	
CMC	C, D, E, G and, I, Glossary, Appendix D	Version 12.0	
Explanation of Proposed Change <i>(mandatory by originator)</i>			
<p>Under the current arrangements, a de-rating factor is applied to a generator unit or interconnector, based on size and technology type. In the case of energy storage, de-rating factors also consider hours of storage available.</p> <p>Currently, this de-rating factor does not include a variable associated with the age of the unit and is rather calculated based on average historical availability of the technology type in question. This fails to account for the individual age of the plant, thereby treating a new plant of the same technology almost at par with an existing plant, this does not accurately reflect the new plant's performance potential. This modification wishes to change this provision and include the age of unit in the de-rating factor calculation. This will more accurately reflect expected performance of units in the Capacity Market.</p> <p>EPUKI notes that bespoke de-rating factors for each year might be complex and challenging. A consideration to address this could involve categorising plants based on age, using broader categories (i.e., grouping in five year or ten year blocks).</p>			
Legal Drafting Change <i>(Clearly show proposed code change using <b>tracked</b> changes, if proposer fails to identify changes, please indicate best estimate of potential changes)</i>			
<p><b><u>Main Body of the CMC</u></b></p> <p><i>Modify the following paragraph as shown:</i></p> <p>C.1.1.2 Key concepts used in the Capacity Market include:</p> <p style="padding-left: 40px;">(g) a <i>de-rating curve</i> is specific to a technology class and defines the de-rating factor applicable to a specific value of initial capacity, initial maximum on time, <b>Age of Unit</b> and initial annual run hours limit. The de-rating curves are determined by the Regulatory Authorities; and</p> <p><i>Add the Following sub-section:</i></p>			

*(i) **Age of unit** which is the number of years the unit has been in operation, based on the Final Operational Notification or, where one is issued, based on the Market Readiness Certificate, as applicable.*

*Modify the following paragraphs as shown:*

D.3.1.2 The Initial Auction Information Pack for a Capacity Auction shall set out:

- (a) the final Marginal De-Rating Curves, defining Marginal De-Rating Factors by Technology Class (including for Interconnectors), **Age of Unit**, Initial Capacity and Maximum On Time to be used in the Capacity Auction;

D.3.1.3

- (a) the final Marginal De-Rating Curves, defining Marginal De-Rating Factors by Technology Class (including for Interconnectors), **Age of Unit**, Initial Capacity and Maximum On Time to be used in the Capacity Auction;

E.7.8.2 (g) (ii) the De-Rating Factor applicable to that Initial Capacity (Total) (without applying any tolerance), **Age of Unit** and Initial Maximum On Time (Total) and Initial Annual Run Hour Limit (Total), as applicable.

E.8.2.6 (e) DRFT is the Marginal De-Rating Factor applicable to the Technology Class, **Age of Unit**, 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.8.2.8 (h) DRFT<sub>i</sub> is the Marginal De-Rating Factor applicable to the Technology Class, **Age of Unit**, Initial Capacity (Total) and Initial Maximum On Time (Total), as applicable, of Generator *i* as specified in the relevant Initial Auction Information Pack;

E.8.5.3 (a) in the case of an Aggregated Generator Unit, the sum, for all of the Generators that form part of that Aggregated Generator Unit, of the Firm Network Access Capacity of the Generator multiplied by the De-Rating Factor applicable to a Generator of the Technology Class and Initial Maximum On Time (Total) and Initial Annual Run Hour Limit (Total), **Age of Unit** of that Generator with an Initial Capacity equal to the Firm Network Access Capacity of that Generator; and

(b) in all other cases, the Firm Network Access Capacity of the Generator Unit or Interconnector multiplied by the De-Rating Factor applicable to a unit of the Technology Class and Initial Maximum On Time (Total) and Initial Annual Run Hour Limit (Total), **Age of Unit** of that Generator Unit or Interconnector and with an Initial Capacity equal to the Firm Network Access Capacity of that Generator Unit or Interconnector.

I.1.3.1(b) at all times during the Capacity Year the cumulative de-rated capacity provided by the mix of Generators (based on each Generator's individual Initial Capacity and the De-Rating Factor applicable to its Technology Class, Annual Run Hour Limit, **Age of Unit** and Initial Maximum On Time (Total), at the time the Aggregated Generator Unit last Qualified) equals or exceeds the Awarded Capacity provided by that Aggregated Generator Unit applicable to that Capacity Year (except to the extent the System Operators agree otherwise in writing);

## **Glossary**

*Add the following definitions:*

**Age of unit** which is the number of years the unit has been in operation, based on the Final Operational Notification or, where one is issued, based on the Market Readiness Certificate, as applicable.

*Modify the following definition:*

### **Marginal De-Rating Curve**

means a curve for a Technology Class that represents the Marginal De-Rating Factor applicable by unit Initial Capacity, **Age of Unit** 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.

## **Appendices**

*Modify the following sub-paragraphs as shown:*

Appendix D, 4(m) the quantity proposed in respect of each of:

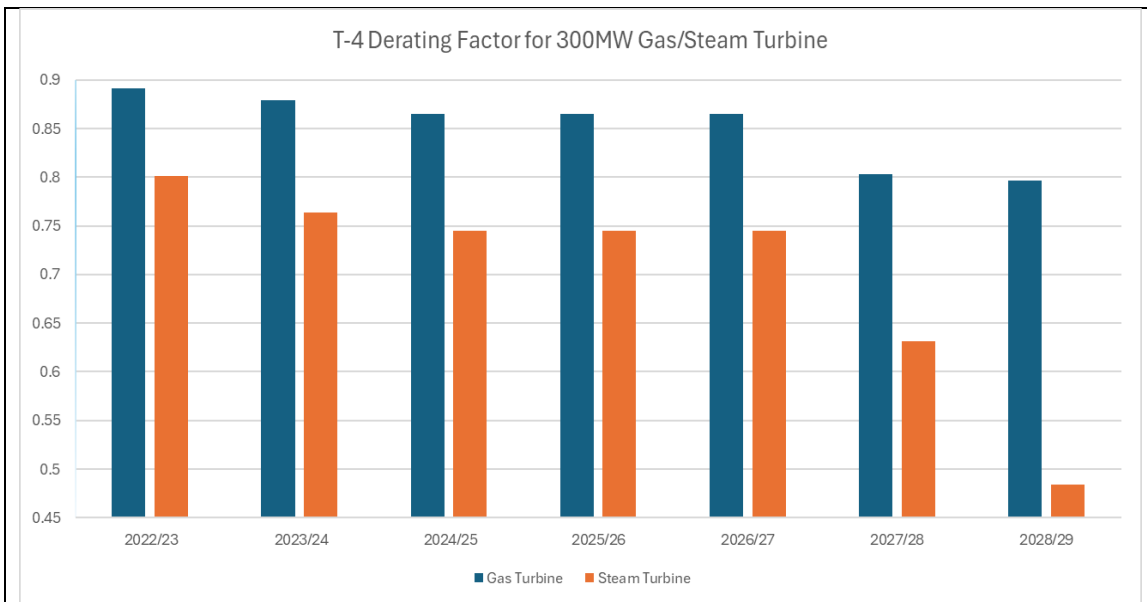
- (i) Initial Maximum On Time (Existing), **Age of Unit** of the Candidate Unit
- (ii) Initial Maximum On Time (Total), **Age of Unit** of the Candidate Unit
- (iii) where the Candidate Unit is not a Demand Side Unit, Initial Annual Run Hours Limit (Existing), **Age of Unit** of the Candidate Unit
- (a) where the Candidate Unit is not a Demand Side Unit, Initial Annual Run Hours Limit (Total), **Age of Unit** of the Candidate Unit

### **Modification Proposal Justification**

*(Clearly state the reason for the Modification)*

Current derating factors for both gas and steam turbine units are based on the performance of an older generation fleet. This results in de-rating factors being calculated which are inaccurate and lower than one would expect for new plant. Lower derating factors are a negative signal for future investment in generation, which in turn require higher Auction Price Caps to have a robust business case. The need to deliver new investment in generation is critical given the existing Security of Supply issues and forecasted increase in electricity demand.

A graph showing the derating factors in the past 5 year's T-4 auctions for Gas/Steam turbine plants:



This highlights the steady decline in de-rating factors associated with conventional generation over the past several years. This decline reduces the return available for new units through the Capacity Market, dampening investment signals at a critical time for the Irish electricity system.

The SEMC note in SEM-24-012 that “DRFs for units with higher availabilities are being adversely affected by the DRFs of units with historically lower availabilities over the last 5 years”. While this comment was in relation to Existing Capacity units with a historically higher availability, this would also apply to new units which would expect higher reliability than units which are 15-20 years old.

Undervaluing the reliability of newer plants can potentially lead to higher overall costs for consumers (through the need for higher Auction Price Caps) and heightened Security of Supply risks. A more refined approach that differentiates between new and aging units would enhance market efficiency, improve cost-effectiveness, and result in a more accurate reflection of expected availability of new units.

The impact of declining de-rating factors was identified by the SEMC stating that “significant feedback was received from industry at the Senior Stakeholder Forum held on 26th January 2024, regarding the APC (Auction Price Cap) and the impact of generally declining derating factors on the financial viability of projects” in SEM-24-012. A non-zero INCTOL was initially considered as a means to address this challenge, but the SEMC later decided not to implement this approach due to concerns around whether a non-zero INCTOL could feasibly be implemented in time for the T-4 2028/2029.

EPUKI notes that other regulatory jurisdictions typically have higher de-rating factors, due to the age of the existing fleet in Ireland, and the smaller market size meaning that an extended outage to a single plant can have a meaningful impact for the entire technology class. For comparison, in the most recent T-4 auction in GB (with respect to CY 2027/2028), the de-rating factor applied to gas turbine units was 0.9435<sup>1</sup>. This is 18% higher than the de-rating factor applicable to a 300MW gas turbine in the SEM.

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<https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Auction%20Guidelines%20and%20User%20Guide%202023%20V1.00.pdf>

This difference makes Ireland a less attractive investment opportunity for new generation, as a greater return is required to offset revenue lost through Capacity Market de-ratings.

**Code Objectives Furthered**

*(State the Code Objectives the Proposal furthers, see Sub-Section A.1.2 of the CMC Code Objectives)*

A.1.2.1 This Code is designed to facilitate achievement of the following objectives (the “**Capacity Market Code Objectives**”):

c) to facilitate the participation of undertakings including electricity undertakings engaged or seeking to be engaged in the provision of electricity capacity in the Capacity Market;

d) to promote competition in the provision of electricity capacity to the SEM;

f) to ensure no undue discrimination between persons who are or may seek to become parties to the Capacity Market Code; and

g) through the development of the Capacity Market, to promote the short-term and long-term interests of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity across the Island of Ireland.

**Implication of not implementing the Modification Proposal**

*(State the possible outcomes should the Modification Proposal not be implemented)*

The market might be exposed to capacity inadequacy issues, as the new units, under current arrangements are not permitted a higher de-rating factor relative to an existing plant. This lack of efficiency adds to the high cost borne by the consumer and also adds to security of supply concerns.

**Impacts**

*(Indicate the impacts on systems, resources, processes and/or procedures)*

The calculation of de-rating factor, the qualification process and process to determine substantial completion will be impacted.

**Please return this form to the System Operators by email to [CapacityModifications@sem-o.com](mailto:CapacityModifications@sem-o.com)**

### Notes on completing Modification Proposal Form:

1. If a person submits a Modification Proposal on behalf of another person, that person who proposes the material of the change should be identified on the Modification Proposal Form as the Modification Proposal Originator.
2. Any person raising a Modification Proposal shall ensure that their proposal is clear and substantiated with the appropriate detail including the way in which it furthers the Code Objectives to enable it to be fully considered by the Regulatory Authorities.
3. Each Modification Proposal will include a draft text of the proposed Modification to the Code unless, if raising a Provisional Modification Proposal whereby legal drafting text is not imperative.
4. For the purposes of this Modification Proposal Form, the following terms shall have the following meanings:

CMC / Code:	means the Capacity Market Code for the Single Electricity Market
Modification Proposal:	means the proposal to modify the Code as set out in the attached form
Derivative Work:	means any text or work which incorporates or contains all or part of the Modification Proposal or any adaptation, abridgement, expansion or other modification of the Modification Proposal

The terms "System Operators" and "Regulatory Authorities" shall have the meanings assigned to those terms in the Code.

In consideration for the right to submit, and have the Modification Proposal assessed in accordance with the terms of Section B.12 of the Code, which I have read and understand, I agree as follows:

1. I hereby grant a worldwide, perpetual, royalty-free, non-exclusive licence:
  - 1.1 to the System Operators and the Regulatory Authorities to publish and/or distribute the Modification Proposal for free and unrestricted access;
  - 1.2 to the Regulatory Authorities to amend, adapt, combine, abridge, expand or otherwise modify the Modification Proposal at their sole discretion for the purpose of developing the Modification Proposal in accordance with the Code;
  - 1.3 to the System Operators and the Regulatory Authorities to incorporate the Modification Proposal into the Code;
  - 1.4 to all Parties to the Code and the Regulatory Authorities to use, reproduce and distribute the Modification Proposal, whether as part of the Code or otherwise, for any purpose arising out of or in connection with the Code.
2. The licences set out in clause 1 shall equally apply to any Derivative Works.
3. I hereby waive in favour of the Parties to the Code and the Regulatory Authorities any and all moral rights I may have arising out of or in connection with the Modification Proposal or any Derivative Works.
4. I hereby warrant that, except where expressly indicated otherwise, I am the owner of the copyright and any other intellectual property and proprietary rights in the Modification Proposal and, where not the owner, I have the requisite permissions to grant the rights set out in this form.
5. I hereby acknowledge that the Modification Proposal may be rejected by the Regulatory Authorities and that there is no guarantee that my Modification Proposal will be incorporated into the Code.