# Single Electricity Market

# (SEM)

# Capacity Market Code Modifications

# Workshop 45

# CMC_18_25

# Decision Paper

**CMC_18_25:** Introduction of Modular Generator Unit Types and De-Rating Methodology

## SEM-26-020

## 1st May 2026

## EXECUTIVE SUMMARY

The purpose of this decision paper is to set out the decision relating to one of the three Proposed Modifications to the Capacity Market Code (CMC) discussed at Workshop 45, held on the 17 September 2025:

CMC_18_25: Introduction of Modular Generator Unit Types and De-Rating Methodology

Decisions on CMC_16_25 and CMC_17_25 were published on 18 March 2026 (SEM-26-013). The decision within this paper follow on from the associated consultation (SEM_25-057), which closed on 14 November 2025.

A consultation period followed where 10 responses were submitted, none of which were confidential.

### Summary of Key Decisions

Following consideration of the proposals and the responses received to the consultation, the SEM Committee have decided:

| Modification | Decision | Implementation Date |
|---|---|---|
| CMC_18_25: Introduction of Modular Generator Unit Types and De-Rating Methodology | Not make a Modification | N/A |

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# 1. OVERVIEW

## 1.1. BACKGROUND

1.1.1. The SEM CRM detailed design and auction process has been developed through a series of consultation and decision papers, all of which are available on the SEM Committee's (SEMC) website. These decisions were translated into legal drafting of the market rules via an extensive consultative process leading to the publication of the Trading and Settlement Code (TSC) and the Capacity Market Code (CMC). Current versions of the CMC and the TSC are published on the SEMO website.

**Process and Timeline for this Modification Proposal**

1.1.2. On 05 September, EPUKI submitted one Modification Proposal (CMC_18_25), all under the terms of B.12.4 of the CMC. This was marked as Standard.

1.1.3. The RAs reviewed the Modification Proposal and determined that it was not spurious as per B.12.6.1 of the CMC.

1.1.4. On the 29 September 2025, the RAs determined the procedure to apply to the Modification Proposal. An overview of the timetable is as follows:

i. The System Operators convened Workshop 45 where the Modification Proposal was considered on 17 September 2025, alongside two other proposals[1].

ii. The System Operators, as set out in B.12.7.1 (j) of the CMC, prepared a report[2] of the discussions which took place at the workshop, provided the report to the RAs, and published it on the Modifications website promptly after the workshop.

iii. The RAs then consulted on the Modification Proposal from the date of publication of the consultation until the closing date of Friday, 30 May 2025.

iv. As set out in B.12.11.6, the RAs shall make their decision as soon as reasonably practicable following conclusion of the consultation and publish a report in respect of their decision. The purpose of the decision paper is to set out the decision relating to the Standard Modification Proposal discussed during Workshop 36 to:

a) Make a Modification;

b) Not make a Modification; or

c) Undertake further consideration in relation to the matters raised in the Modification Proposal.

1.1.5. This decision paper provides a summary of the consultation proposal and sets out the SEM Committee's decision.

[1] CMC_16_25 and CMC_17_25 were also discussed at Workshop 45. The decision paper for these proposals has been published in SEM-26-013.

[2] Capacity Modifications Workshop 45 Report.pdf

## 1.2. RESPONSES RECEIVED TO CONSULTATION

1.2.1. This paper includes a summary of the responses made to Capacity Market Code Workshop 45 Consultation Paper (SEM-25-057) which was published on 13th October 2025 and closed on 14th November 2025.

1.2.2. A total of 10 responses were received to consultation SEM-25-057 with none marked as confidential. Of these, 9 respondents commented on this proposal. The responses to the consultation are from:

- Energia
- ESB Generation and Trading (ESB GT)
- SSE
- Bord Gáis Energy (BGE)
- EP UK Investments (EPUKI)
- FERA
- PHG
- EirGrid and SONI (SOs)
- Enel-X
- Demand Response Association of Ireland (DRAI)

# 2. CMC_18_25 – INTRODUCTION OF MODULAR GENERATOR UNIT TYPES AND DE-RATING METHODOLOGY

## 2.1. CONSULTATION SUMMARY AS PRESENTED BY EPUKI

2.1.1. This Modification Proposal seeks to introduce a new 'Modular Generator Unit' type to the CMC along with a new de-rating methodology associated with these units.

2.1.2. According to the proposer, this new unit type would be similar to an Aggregated Generator Unit (AGU), with the distinctions that the components contributing to the unit are not 'generators', and the absence of a 10MW maximum restriction. The proposer described the main example of this proposed new unit type to be a CCGT that is capable of operating and exporting to the grid both in open mode only and in combined mode.

2.1.3. The Modification Proposal would derate individual components of a modular unit separately and then add them together.

## 2.2. RESPONSES TO MODIFICATION PROPOSAL

2.2.1. Feedback to this Modification Proposal was mixed. Of the nine responses that commented on this Modification Proposal, three were supportive, five were not supportive and one did not express a clear opinion.

2.2.2. The DRAI stated that it is highly supportive of the Modification Proposal and that the generator type proposed provides greater availability certainty and should, therefore, have a higher DRF. It also opined that it would result in a lower cost to the consumer.

2.2.3. BGE stated that this proposal presents a reasonable case for applying separate DRFs to 'modular components' of a unit which can operate in two separate modes.

2.2.4. BGE also opined that if this Modification Proposal was accepted, it should be made clear that this classification should not change the Reliability Obligation or the obligation to deliver the full contracted capacity if there is a single point of failure that impacts one or both components of the Modular Unit.

2.2.5. SSE sought greater clarity on how this proposal would be operated and dispatched in the Balancing and other markets and how it would be provided for in the Balancing and Capacity Codes.

2.2.6. Energia stated that it does not support this Modification Proposal as it opined it is inappropriate to selectively review DRFs for a single technology type and stated that a DRF review should be consistent across all technologies with rigorous analysis and stakeholder engagement to prevent unintended consequences to security of supply or impose unnecessary costs to the consumer.

2.2.7. Energia also opined the proposal is untenable for implementation due to unaddressed challenges and components of the modification which are not sound in its view.

2.2.8. ESB GT stated it is not supportive of the Modification Proposal as it has the potential to introduce an additional complexity without a clear benefit and, due to the potential for 'single points of failure' discussed at the workshop, questioned the claim that this proposal better reflects the reliability contributions of open and closed cycle components.

2.2.9. ESB GT also questioned whether a marginally better DRF would incentivise investment for this technology type, given that ILCs provide a pathway for refurbished capacity to compete with new capacity.

2.2.10. ESB GT opined that the proposed concept of a 'Modular Generator Unit' is distinct from an AGUs as the closed cycle component cannot function as an independent generator and called for the RAs to consider whether the 'Modular Generator Unit' Components can truly be considered independent.

2.2.11. Lastly, ESB GT called for a fundamental review of DRFs to ensure that the capacity market is fit for purpose, avoids over procurement and deters speculative applications.

2.2.12. FERA and PHG appreciated the intention to improve the accuracy of de-rating and operational flexibility but considered that this proposal overlooks the operational interdependence of 'modular units' and flagged technical and operational concerns in relation to the risk of a single point of failure. They also opined that the Modification Proposal understates the system risks associated with the proposed changes.

2.2.13. Both further contrasted the proposed configuration with an AGU, in which if one unit fails, the other units remain fully operational, while in a 'modular plant', the loss of one key module could partially or fully compromise the entire unit.

2.2.14. EPUKI stated that it strongly supports the Modification Proposal as the proposer. It opined that the existing DRF methodology is overly punitive to 'modular' CCGTs, arguing that adding a combined-cycle component to an open-cycle generator reduces its DRF. EPUKI argued that this removes the incentive for units to add combined cycle capabilities despite its advantages such as supporting the alleviation of run-hour limitations for gas units in Northern Ireland and its associated benefits.

2.2.15. EPUKI addressed the concerns highlighted at the workshop in its response. In relation to the difficulty of implementation of the modification, EPUKI stated that as the calculation for AGUs already exists, there would be no need for the development of a new process to implement the change and the process would remain the same post-calculation with no system changes required for the market operator or impact on the system operators.

2.2.16. EPUKI also commented that this Modification Proposal should have no impact on Annual Run Hour Limits (ARHL) or CO2 verification and that these concerns raised at the workshop stage have not been explained in the context of the modification and should be dismissed.

2.2.17. In relation to the 'single point of failure' topic, EPUKI considered that, while all generators with a single connection point will have a single point of failure, the connection point is typically the most reliable element and is seldom the reason for unavailability. EPUKI further outlined that some combined units have separate infrastructure and not a single point of failure (e.g.

Ballylumford). EPUKI also opined that 'modular' CCGT units are more reliable than 'non-modular' CCGTs and the addition of the closed component does not affect the reliability of the open-cycle generator.

2.2.18. EPUKI also refuted concerns in relation to the potential impact of this Modification Proposal on other codes and markets and opined that changes only apply to the calculation of derated capacity. EPUKI also clarified that the modification would not change rules for multi-year capacity delivery and opined the proposal aligns with CMC objectives.

2.2.19. The SOs raised numerous concerns relating to the intention and the proposed implementation of this Modification Proposal, contending that the Modification Proposal does not contain sufficient evidence to meet the objectives of the CMC, namely objective (a),(b),(d),(e) and (g).

2.2.20. The SOs highlighted that the primary intent of the Modification Proposal is to reformulate the DRF methodology for CCGT units, evident by the proposed changes to the calculation of Gross De-Rated Capacity, and stated that, as with CMC_16_25, changes to the DRF methodology would require significant policy analysis and development.

2.2.21. The SOs further contended that insufficient evidence is provided in the proposal to justify lowering DRFs for CCGT units and flagged that CCGT unit availability may be overstated by ignoring the 'size effect'. Furthermore, the SOs highlighted that overstating availability could impact on the provision of Awarded Capacity and have cascading implications for security of supply and cost to the consumer via inflated capacity payments and having to procure capacity from other providers.

2.2.22. The SOs echoed the discussion at the workshop and repeated that the 'single point of failure' concern regarding CCGT units is ignored in the proposal.

2.2.23. The SOs also reiterated other auction-associated difficulties such as how this proposal would interact with ARHLs and CO2 verification.

2.2.24. The SOs also raised concerns that implications on the Grid Code or other Market Codes were not considered in the legal drafting, providing the example of an existing definition for incremental CCGT units under the Grid Code. The SOs opined that it is not clear how these proposed changes interact with existing definitions and believe that the proposed defined terms are overly broad and could incorporate unintended units (for example, Power Park Modules).

## 1.1. SEM COMMITTEE DECISION

1.1.1. The SEM Committee welcomes the feedback provided by participants from both the initial workshop and the subsequent consultation period.

1.1.2. Firstly, the SEM Committee recalls an important element of the marginal de-rating factor methodology used in the CRM, which is that the size of a unit impacts its marginal contribution to adequacy. This is to account for a larger unit causing a greater impact than a smaller unit if unavailable, particularly in the context of a small, islanded market, thus encouraging diversification of risk.

1.1.3. The SEM Committee notes that the proposal considers that a CCGT should be treated as two unique units from a de-rating perspective in the capacity market based on the potential for independent operation of the open cycle gas turbine from the closed cycle steam turbine. However, the SEM Committee shares concerns with some respondents that this claim ignores the reality of a 'single point of failure' for the unit.

1.1.4. The SEM Committee recognises that, on certain types of units, if the steam turbine of a CCGT is unavailable, the gas turbine can still operate. However, the converse is not true as the loss of the gas turbine will mean the unit cannot deliver any of its capacity.

1.1.5. Regarding the comparison made with AGUs, conversely, a local grid issue or other failures described would only affect the availability of individual generators that are part of an AGU and not the entire AGU. Units within an AGU operate independently and are connected at different locations. The SEM Committee, therefore, shares the view of respondents that the comparison between 'Modular Generator Units' and AGUs is inappropriate from a reliability perspective and does not support the claim of a higher reliability of 'modular units' compared to 'non-modular units'.

1.1.6. For all the reasons outlined above, the SEM Committee does not consider it appropriate to assess a CCGT as two separate units, which would result in such units having comparatively higher DRFs. Such an approach would ignore the issues identified with the same single point of failure, the fact that such units have additional points of failure and would overlook their full size, contrary to the marginal DRF approach.

1.1.7. The SEM Committee also notes several responses throughout this consultation calling for a review of the methodology for all technology classes, not only for the proposed 'modular units'. The SEM Committee notes its recent statement (in SEM-26-013) that it is considering the approach to DRFs in the CRM review, which forms part of the CRM Development Programme.

1.1.8. Based on the reasons outlined above, the SEM Committee has decided not to make a Modification.

## 2. NEXT STEPS

3.1.1. The SEM Committee will make not make any changes to the CMC based on these Modifications.

3.1.2. All SEM Committee decisions are published on the SEM Committee website: www.semcommittee.com.