



**Single Electricity Market
(SEM)**

**Capacity Market Code Urgent Working Group
Modification Decision Paper: WG26b**

CMC_11_22 – De-rating for Annual Run Hour Limits

SEM-22-063

05 September 2022

EXECUTIVE SUMMARY

The purpose of this decision paper is to set out the decisions relating to the proposed urgent modification to the Capacity Market Code (CMC) discussed at Working Group 26b held on 17 August 2022.

The decision within this paper follows on from the associated consultation ([SEM-22-055](#)) which closed on 25 August 2022.

This paper considers the proposed urgent modification presented at WG26b which related to:

➤ **CMC_11_22: De-rating for Annual Run Hours Limits**

Following the decision by the SEM Committee on 11 August 2022, this modification introduces a downward adjustment to de-rated capacity for Candidate Units with a limit on their annual run hours.

12 responses were received to the Capacity Market Code Working Group 26b Urgent Modification Consultation Paper, one of which was marked as 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_11_22 – De-rating for Annual Run Hours Limits	Approved	05/09/2022

Contents

EXECUTIVE SUMMARY 2

1. Overview 4

 1.1. Background 4

 1.2. Responses to Consultation 6

2. CMC_11_22 – De-rating for Annual Run Hour Limits..... 7

 2.1. Consultation Summary..... 7

 2.2. Summary of Responses 8

 2.3. SEM Committee Decisions.....14

3. Next Steps17

Appendix A – Responses to SEM-22-055

Appendix B – Approved Modification Text Drafting – CMC_11_22

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, these are all 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). An updated version of the CMC (6.0)¹ was published on 18 February 2022 and the most recent version of the TSC² was published on 17 May 2022.

Process for modification of the CMC

1.1.2. Section B.12 of the CMC outlines the process used to modify the code. In particular, it sets out the processes for proposing, consideration, consultation and implementation or rejection of Modifications to the CMC.

1.1.3. The purpose of the Modifications process is to allow for modifications to the CMC to be proposed, considered and, if appropriate, implemented with a view to better facilitating code objectives as set out in Section A.1.2 of the CMC. (B.12.1.2).

1.1.4. Modifications to the CMC can be proposed and submitted by any person, (B.12.4.1), at any time. Unless the modification is urgent modifications are subsequently discussed at a Working Group held on a bi-monthly basis. Each Working Group represents an opportunity for a modification proposer to present their proposal(s) and for this to be discussed by the workshop attendees.

1.1.5. For discussion at a Working Group, Modification proposals must be submitted to the System Operators at least 10 working days before a Working Group meeting is due to take place. If a proposal is received less than 10 working days before a Working Group and is not marked as urgent it is deferred for discussion to the next Working Group.

1.1.6. Following each Working Group, and as per section B.12.5.6 of the CMC, the RAs are required to publish a timetable for the consideration, consultation and decision relating to the Modification(s) proposed during a Working Group.

1.1.7. If a proposal is received and deemed to be contrary to the Capacity Market Code Objectives or does not further any of those objectives, the Regulatory Authorities (RAs) will reject the proposal on the grounds of being spurious, as set out in section B.12.6 of the CMC.

1.1.8. If a proposed modification is deemed urgent by the RAs, CMC Section B.12.9.5 will become active and the RAs will determine the procedure and timetable to be followed in the assessment of the Modification Proposal. The CMC states that the procedure and timetable may vary from the normal processes set out in the code, allowing for the modification to be fast-tracked.

¹ <https://www.sem-o.com/rules-and-modifications/capacity-market-modifications/market-rules/>

² <https://www.sem-o.com/rules-and-modifications/balancing-market-modifications/market-rules/>

Urgent Modifications

- 1.1.9. This paper is concerned with an urgent modification proposal.
- 1.1.10. A proposer may choose to mark a Modification proposal as “Urgent” (B.12.9.1). In this case, the RAs, as per section B.12.9.3 of the CMC, will assess whether or not the proposal should be treated as urgent. If the RAs deem a proposal to be urgent they have the power to fast-track the proposal.
- 1.1.11. In this regard B.12.9.5 provides:

“If the Regulatory Authorities determine that a Modification Proposal is Urgent, then:

the Regulatory Authorities shall determine the procedure and timetable to be followed in assessing the Modification Proposal which may vary the normal processes provided for in this Code so as to fast-track the Modification Proposal; and

subject to sub-paragraph (a), the System Operators shall convene a Workshop.”

- 1.1.12. The RAs may request the SOs to convene a Working Group to discuss the proposed Modification.

Process and Timeline for this Modification

- 1.1.13. On 11 August 2022 the Regulatory Authorities submitted a modification proposal (CMC_11_22) under the terms of B.12.4. The Modification Proposal was marked as Urgent.
- 1.1.14. The Regulatory Authorities determined that the Modification Proposal was Urgent. This was because the Modification Proposal was proposed to deal with a matter that could reasonably be anticipated would imminently and unduly interfere with, disrupt, or threaten the proper operation of the Capacity Market.
- 1.1.15. On the 15 August 2022 the RAs determined the procedure to apply to the Modification Proposal. The procedure is shown in detail in Appendix A. An overview of the timetable is as follows:
- i. The System Operators convened an urgent Working Group where the Modification Proposal was considered on 17 August 2022.
 - ii. The System Operators, as set out in B.12.7.1 (j) of the CMC, are to prepare a report of the discussions which took place at the workshop, provide the report to the RAs and publish it on the Modifications website promptly after the workshop.
 - iii. The RAs will then consult on the Proposed Modification, with a response time of 5 Working Days (as per B.12.9.5 in the CMC), from the date of publication of the Consultation.
 - iv. As contemplated by B.12.11 the RAs will make their decision as soon as reasonably practicable following conclusion of the consultation and will publish a report in respect of their decision.

1.1.16. The purpose of this decision paper is to set out the decision relating to Urgent Modification Proposal discussed during Working Group 26b to either:

- a) Implement a modification;
- b) Reject a modification; or
- c) Undertake further consideration in regards to matters raised in the modification proposal.

1.1.17. This decision paper sets out a summary of the consultation proposals and sets out the SEM Committee's decision.

1.2. RESPONSES TO CONSULTATION

1.2.1. This paper includes a summary of the responses made to the Capacity Market Code Modifications consultation paper ([SEM-22-055](#)) which was published on 18 August 2022.

1.2.2. A total of 12 responses were received by close of the consultation period, one of which was marked confidential. The respondents are outlined below and copies of each response can be obtained from the SEM Committee website.

- Mutual Energy
- Federation of Response Aggregators (FERA)
- Bord na Móna (BnM)
- Powerhouse Generation Ltd (PHG)
- Electricity Association of Ireland (EAI)
- iPower Solutions Limited
- Bord Gáis Energy (BGE)
- ESB GT
- Demand Response Association Ireland (DRAI)
- EirGrid and SONI (SOs)
- SSE

2. CMC_11_22 – DE-RATING FOR ANNUAL RUN HOUR LIMITS

2.1. CONSULTATION SUMMARY

- 2.1.1. This proposal was submitted following the direction by the SEM Committee on 11 August 2022 and introduces a downward adjustment to de-rated capacity for Candidate Units with a limit on their annual run hours.
- 2.1.2. The proposed modification uses analogous drafting to that employed for daily run hour limits for storage and DSUs and, like current interconnector de-rating, it will compound an additional de-rating factor to the marginal outage-based de-rating factor to produce an effective de-rating factor.
- 2.1.3. The proposal sets out that the additional de-rating will only apply to combustion plant and will initially only apply to New Capacity. The RAs deem this to be important to provide New Capacity with appropriate economic incentives to deliver capacity for the whole Capacity Year.
- 2.1.4. However, the RAs are of the view that it is not appropriate to apply this additional de-rating to Existing Capacity at this time as it could lead to early exit of capacity at a time of capacity shortage given the current level of the Auction Price Cap.

However, in the longer term it is anticipated that the additional de-rating for annual run hours limits would apply to all combustion plant.

- 2.1.5. The current Capacity Market de-rating process does not distinguish between a project that can run continuously for the whole year and one that has restricted running: for example, a unit limited to less than 1500 run hours per year. Not providing a categorization for ARHL de-rating factors, means there is no differentiation to incentivise unrestricted run hour unit configurations.
- 2.1.6. In order to comply with the SEM Committee decision of 11 August 2022, this proposal would need to be implemented for the forthcoming T-4 CY2026/27 Capacity Auction, and given the impacts on the calculation of de-rating curves, the Qualification process and the process to determine Substantial (or Minimum) Completion will be affected, would need to be implemented ahead of the publication of the Initial Auction Information Pack (IAIP).
- 2.1.7. Failure to implement this proposal could lead to either the market risking capacity adequacy issues, as some units are not permitted to operate due to the emissions limits; or the market procures large volumes of run hour restricted units to deliver the required “effective” de-rated capacity, at a significant cost to consumers, which is an inefficient way for delivering security of supply.
- 2.1.8. The decision by the SEM Committee to implement an annual run hour limit-based de-rating factor for New Capacity requires modification to the CMC.

- 2.1.9. The RAs noted that the proposed Modification uses processes and techniques that are already used in the determination of de-rating curves and factors which should help to minimise the impact of implementation.

This will be important if the change is to be live in time to be used for the CY2026/27 T-4 Auction without pushing back the auction timetable so that it can no longer consider a T-4 Auction.

- 2.1.10. Taking account of the above, the SEM Committee were minded to approve this proposal for implementation.

2.2. SUMMARY OF RESPONSES

- 2.2.1. Following a review of the responses received to the consultation paper, the decision to implement the proposal was split amongst respondents. A number of respondents highlighted their support, whilst others either were not in favour or were of a view that amendments should be made.
- 2.2.2. Mutual Energy were of the view that the proposed modification is in line with the above Code Objectives as it should promote development of cleaner and more efficient generation.
- 2.2.3. Mutual Energy elaborated to state that where a plant is gas-fired it will drive more efficient use of the capacity in the gas network and therefore promote the long-term interests of electricity consumers as electricity generated in future will be cheaper. Further to this, they advise that without making the change, adequate future capacity would not be secured in a financially optimal manner.
- 2.2.4. Mutual Energy welcomed the updated drafting following WG26b and were of the view that it goes a large part of the way to delivering the objectives of the modification. They highlighted that the inclusion of C.3.8.5 and G.3.1.2E would effectively mean that new units will be required to get an independent third-party to validate their self-declared ARHL.
- 2.2.5. However, they believe that there is still a risk of 'gaming' in this regard. They provided an example whereby units might face overall emissions limits, rather than 'run hour' limits. Further, they advised that as emissions are a product of both run hours and actual generation, it is possible that a unit might assume that it will operate at minimum generation when called upon, and therefore increase its estimated ARHL.
- 2.2.6. Mutual Energy stated that this situation is dis-incentivised to some degree through exposure to difference charges if the unit is subsequently unavailable due to emissions constraints in the event of prices exceeding the CRM strike price, however a unit might feel this is a risk worth taking to obtain a higher de-rating factor and associated capacity payments. As a result, they proposed amending the proposal text further, advising that strengthening this would avoid gaming the capacity market auctions to get a higher de-rating than intended
- 2.2.7. BnM stated it is not clear within the proposal how a mix of new and existing capacity within the same Capacity Market Unit would be treated and highlighted that clarification on this would be welcomed.

- 2.2.8. The responses received from FERA, PHG and iPower were in the same vein and highlighted that it has been concluded by participants, SEMO and the Dispute Resolution Board that only the rules that exist at the start of the capacity auction process can be used to set the parameters and settlement thereof for the capacity year in mention.
- 2.2.9. Further to this they advise that since the start of I-SEM the RAs and SEMO have maintained the position that Demand Side Units (DSU) are turn off response and as such do not attract any energy payments. Since the RAs currently hold this position through the existing CMC and T&SC then there is no corresponding belief that DSUs have any emission limits. Elaborating on this point, they stated that if the RAs and SEMO introduce energy payments for DSUs in the future, then it would be from that time that it could be looked upon that DSUs may have emissions. It would only be from that future time that modifications could be introduced such that annual run hour limitations would be made attributable to DSUs.
- 2.2.10. FERA, PHG and iPower advised that the modification suggests that in the future the Annual Run Hour Limits may be applied to Existing capacity. PHG noted that DSUs and AGUs must be greater than 4MW to exist. They also pointed out that recent proposals to reduce this to 1MW were rejected. Further to this, they advise that if CMC_11_22 was to be applied to existing capacity, then the DSUs and AGUs would need to group their sites with similar run hour limits, which would likely result in groups of sites that do not sum up to the required 4MW. This would mean the loss of such site's capabilities and a reduction in the available generation on the island.
- 2.2.11. FERA, PHG and iPower referred to the statement contained within the proposal that "The additional de-rating will only apply to combustion plant" and reiterated comments at WG26b that DSUs are currently viewed as 'turn off' and do not attract energy payments, therefore are not viewed as having 'combustion plant'. Further, they are of the understanding that this Urgent Modification is only to address concerns over emission limits and no other measure, which is why the RAs refer to combustion plant only.
- 2.2.12. FERA, PHG and iPower suggested a number of edits to the drafting, or in some instances the removal of text / clauses relating to DSUs. Full details on these suggestions can be found within the responses provided by FERA, PHG and iPower.
- 2.2.13. The EAI advised that the rationale behind this proposal appears to be that a saturation of units, which are energy limited or have Annual Run Hours Limits applied to them, is a risk for security of supply and decarbonisation aims. Based on this, the EAI provided several comments.
- 2.2.14. They highlighted that significant concerns exist amongst some of their members about the proposed changes to de-rating factors for energy limited and annual run hour limited plant. They elaborated that if de-rating is going to be applied in the manner proposed, they are of the view that this must be reflected in uplifted bid limits to enable such units to participate in future capacity auctions and contribute to security of supply.
- 2.2.15. The EAI reiterated the concerns from with regards to the high de-rating factors applied to interconnectors in past auctions, which they stated can be contrasted with ongoing SO actions to curtail interconnector flows in the market. They are of the view that this would suggest that de-rating factors for interconnectors must be revisited.

- 2.2.16. The EAI are of the view that it is unclear as to what is being proposed with respect to the treatment of battery and storage insofar as de-rating this, coupled with the current assumption from the SOs that storage will only be for reserve requirement, and could further undermine investment in this area. Further to this the EAI stated that battery and storage must be viewed as more than simply reserve and should be signalled entry for more than this activity.
- 2.2.17. BGE confirm their support of this modification as in their view it is in keeping with the primary objectives of the Capacity Market in Particular Section A 1.2.1 (a) and (g).
- 2.2.18. Their response states that there is a risk of large volumes of ARHL units qualifying without an additional de-rating and that their inclusion without further de-rating would undermine the capacity markets contribution to general system adequacy. BGE state that applying an additional de-rating for ARHL will enable a more accurate picture of the capability of those units to contribute to the generation adequacy situation.
- 2.2.19. In addition, BGE feel that an annual run hour limited de-rating factor clearly signals that the RAs are serious about the need to procure cleaner technologies.
- 2.2.20. Their response states that an additional de-rating factor will have a number of benefits to consumers which will see lower prices due to greater availability, and reduced carbon emissions.
- 2.2.21. In their response, ESB GT confirm they agree with two points outlined in the modification proposal:
- The additional de-rating will only apply to combustion plants and will initially only apply to New Capacity; and
 - It is not appropriate to apply this additional de-rating to Existing Capacity, at this time, as it could lead to early exit of capacity at a time when generation margins are tight.
- 2.2.22. With that said however, ESB GT questioned if the RAs could provide relevant evidence to support how this Modification will deliver the objectives of the CMC more efficiently as there was insufficient evidence provided.
- 2.2.23. ESB GT feel that as this Modification applies only to New Capacity initially, it could create a degree of regulatory uncertainty that may harm future investments. In addition, ESB GT state that in their view, if the SEMC approve this change, it should only apply to New Capacity.
- 2.2.24. In their support of this Modification, ESB GT feel that implementation of de-rating factors proposed via this Modification should go so far as to ensure that the de-rating factors used at the Qualification stage should apply throughout the duration of the capacity contract.
- 2.2.25. The DRAI are of the view that the modification proposal differs to that presented within Working Group 26b and that it is unworkable in its current format. DRAI believe the modification represents a fundamental change to how DSUs are treated under the code, and that this should not be approved.

- 2.2.26. In their response, the DRAI note that the updated proposal introduces new treatment of Demand Side Units and reference to characteristics at an individual site level which have been hastily formulated and not given due consideration via a transparent consultation process or presented to a Working Group.
- 2.2.27. With regards to data provided during the Qualification stage, the DRAI feel that introducing a requirement to provide data on a site by site basis would effectively prevent demand aggregators from qualifying capacity via capacity auctions.
- 2.2.28. The DRAI state that the algebra used to calculate Gross De-Rated Capacity in section E.8.2.9, if applied to units on a site by site level versus at a unit level, would yield different results in terms of the de-rating to apply, including duration related de-rating. The DRAI feel that this impact has not been considered or intended by the RAs in the development of the proposed changes.
- 2.2.29. The DRAI response acknowledges that, following Working Group 26b, the RAs have sought to address some of the concerns raised by DSU participants in relation to New Capacity and the issue where existing and already operating DSU sites would be considered New Capacity if moving between capacity market units. However, it is felt that the change to the definition of New Capacity would only cover the scenario where sites are moving to a new Participant. DRAI feel that there are several scenarios where a site could move between units under the same Participant and in their view, updated Mod_11_22 does not address this.
- 2.2.30. The DRAI believe that a number of the changes, particularly those in section G.3.1.4 of the Code are discriminatory, and would be problematic to implement. They feel that the changes around Substantial Completion propose an entirely new process around Demand Side Units and have concerns that this would impact capacity currently in train to meet that milestone.
- 2.2.31. In addition, the DRAI response notes that the requirement to provide the kind of site level information stipulated in Appendix D4 (k) at Qualification stage is unworkable and would effectively exclude demand side participants from qualifying capacity.
- 2.2.32. The DRAI feel that the intention to simply multiply the ARLH de-rating factor by the another DSU de-rating factor represents significant “double counting” and that some units (such as DSUs which can run for 2 hours) are already heavily de-rated in the CRM based on their constrained run hours. Further de-rating based on restricted run hours due to emissions limits would not reflect the true value of the capacity which such units provide.
- 2.2.33. The DRAI feel that ARHL de-rating should not apply to DSUs given the distributed nature of sites within an aggregated portfolio, and the nature of the dispatch pattern that would apply to DSUs.
- 2.2.34. The SOs confirmed their support of measures which mitigate the risk of over-valuing technology classes with marginal contributions to reliability. They note that implementing the ARHL de-rating factors for New Capacity at this time, especially when there are significant Security of Supply concerns in Ireland and Northern Ireland.

- 2.2.35. In their response, the SOs note their concerns in relation to the appropriate application of de-rating factors and the appropriate valuing of each technology class with respect to the provision of capacity. The SOs expanded upon this further, stating there is potential for a fully subscribed auction to procure insufficient capacity due to run hour limited technology and that this in turn increases the risk to Security of Supply whilst providing an uneconomic outcome.
- 2.2.36. The SOs feel that the implementation of ARHL de-rating may lead to additional requirements in relation to supporting evidence required during the Qualification process which they feel is currently lacking. They state that they look forward to liaising with the RAs to develop suitable templates to be used by market participants.
- 2.2.37. The SOs are of the view that the introduction of de-rating factors for ARHL will provide an important differentiating signal for investment in delivering New Capacity units that are more efficient and that are not limited by operational constraints. In addition, the SOs place importance on the need to ensure that data submitted during Qualification is appropriately weighted to allocate the average run hours across a typical capacity year which spans across two calendar years.

The SOs advise that taking such action should ensure that New Capacity does not front load their run hours allocations in order that they qualify for higher de-rating factors. Their response states that consideration could be given to referring to calendar year as a definition rather than Capacity Year as this would avoid any issues that may arise in respect of the Capacity Year covering two or more reporting periods.

- 2.2.38. In their response, the SOs propose the following changes within the legal drafting of this Modification:

- Suggested text within C.3.8.1 to remove references to combustion and the environmental licence and simply refer to the Annual Run-Hour Limit:

“For a Generator Unit, the Initial Annual Run Hours Limit (Existing) for a Capacity Year shall be equal to its Annual Run Hour Limit.”

- Suggested removing C.3.8.2 & C.3.8.3 as it is important to define Annual Run-Hour Limit at a Candidate Unit / Generator Unit Level and not at the Generator or Demand Site level.

- A possible revised definition of Annual Run-Hour Limit was also included as follows:

“means, in respect of a Generator Unit that generates or reduces demand, in whole or part, using combustion, the maximum number of hours in the Capacity Year during which the Generator Unit may operate at a level equal to its Initial Capacity in compliance with all applicable legislation, licences, authorisations, consents and permits; and, in respect of all other Generators Units, the total number of hours in the Capacity Year.”

2.2.39. In addition, the SOs noted that it is not clear whether the current definition of the Annual Run-Hour Limit is sufficiently robust to ensure that limits that are subject to five-year averages are captured as for example, in some instances, it is possible for a unit to run for 2250 hours in the first year provided that it runs no more than 1650 hours in subsequent years. They propose two possible options:

- Widen the bands to which the DRF application would apply so that the 500 MW band would increase to 1000 MW and the 1500 MW band would increase to 3000 MW.
- Ensure that the definition of the Annual Run-Hour Limits is sufficiently precise to require a unit that is limited on average over five years to 1500 hours/year to submit an Initial Annual Run-Hour Limit of 1500 hours/year.

2.2.40. In closing their response, the SOs proposed the inclusion of text used in relation to CO₂ limits to ensure that newly commissioned combustion based generators on Demand Sites and components of AGUs are captured.

2.2.41. In their response SSE have set out various concerns that are Process related and principal based concerns.

2.2.42. With regards to Process concerns, SSE have advised that whilst the proposed legal drafting as presented at the modifications workshop is reasonable in terms of seeking to provide the correct insertions into the Code, the modification is limited in addressing the process and consequential issues arising from the change.

2.2.43. In terms of process, SSE were of the view that the modification and the discussion on the modification failed to address the following:

- Which prevailing legislation should be used as the guiding framework for a unit deciding its initial de-rating?
- How units will be treated that take remedial action to positively impact their run hours before qualification/as part of the project?
- How annual run hours plant are going to be identified to apply this de-rating?
- How the modification will deal with the lack of concrete banding of units because final decisions on turbine procurement and EPA licensing are not completed yet?
- Whether the RAs have considered the commercial impact of setting of additional residual MW as existing capacity in a future auction.
- How borderline cases will be addressed?

2.2.44. From a principle stand point, SSE are of the view that this proposed modification has not been fully demonstrated as being urgent and that the rationale to insert this change for the T-4 CY2026/27 Capacity Auction has not been demonstrated objectively.

- 2.2.45. SSE stated that in the current order of things, market participants are left in a vacuum of seeing the impact of this modification to their business case without understanding the updated market framework in which this change sits. Additionally, SSE are of the view that where the RAs are careful to illustrate an awareness of the exit signal this would present to Existing Capacity, they fail to demonstrate equal awareness of impact to New Capacity when not confirming how this loss will be recovered.
- 2.2.46. SSE are of the view that the proposals still fail to realise that annual run hour limited plant will be the unit of choice when wind penetration increases or that the capacity market design is signalling the units that are being offered at auction. The investment case for an all-year/mid-merit plant to run on in market when it will only be called to support renewables intermittency, is currently not built into the CRM framework.
- 2.2.47. SSE stated their preference would be for the RAs to consider a mechanism to account for the dynamism of capacity within the Capacity Requirement methodology. SSE are of the opinion that this would allow for the function of protecting security of supply being correctly attributed to the RAs and TSOs to mitigate within their signal for procurement of capacity.
- 2.2.48. With regards to the multiplier associated with DSUs, SSE have advised that it is unclear why this is being bundled into this change since technically DSUs are demand response/interruptible contracts. Further to this they advise that their emissions would be based on customer emissions and choice of fuel which the DSUs have no control over. Therefore, SSE stated that it makes little sense to be attaching de-rating where DSU incentives have not currently worked to improve on demand responsiveness and where fuel choice is not up to the DSU.

2.3. SEM COMMITTEE DECISIONS

- 2.3.1. The SEM Committee welcomes the feedback provided by participants, both as part of the Working Group forum and with regard to the Consultation process.
- 2.3.2. The SEM Committee notes that this Modification is designed to implement the existing Parameters Decision relating to annual run hour limits (SEM-22-044) for the CY2026/27 T-4 Auction and changes to that decision are not within the scope of the Modification or this Decision.
- 2.3.3. The SEM Committee also notes that actual emissions from combustion will be affected by running regime. However, the Parameters Decision (SEM-22-044) on which the Modification is based is only attempting to manage the annual limits arising from the Industrial Emission Directive (and related legislation) and these are not based on actual performance that arises for a given running regime.

- 2.3.4. The SEM Committee is cognisant that, at present, DSUs only receive energy payments at times when uncovered difference charges could arise. However, they are of the view that where demand response is provided by the use of generation based on combustion (a process unaffected by anything drafted in the Code) and that this generation will likely have annual run hour limits associated with it, these limits will affect the ability of such generation to contribute to capacity.
- 2.3.5. The SEM Committee notes the comment from EAI about bid limits and interconnector de-rating but would note that these do not relate to this Modification which is implementing a small portion of SEM-22-044 relating to Annual Run Hour Limits. Interconnector de-rating and bid limits form part of the Parameters Decision and changes to them are outside the scope of this Modification.
- 2.3.6. The SEM Committee highlight that as neither batteries nor storage use combustion, they are not impacted by this Modification.
- 2.3.7. The SEM Committee take on board the SOs comments w.r.t section C.3.8. They agree that Annual Run Hour Limit needs to be defined at a Candidate Unit Level however, as noted above, this concept does not have any well-defined meaning for Aggregated Generator Units or Demand Side Units.
- 2.3.8. The CMC already has an established process, e.g. as set out in E.8.2.8, for establishing the Gross De-Rated Capacity for an AGU by building it up from the component Generators. It seems reasonable to extend this approach to cover de-rating for ARHL Limits.
- 2.3.9. The SEM Committee highlight that there is no such established approach for DSUs.
- 2.3.10. The Committee further recognises that the detailed composition of a Demand Side Unit is not known at the time of Qualification, and so Qualification Data for DSUs in the legal drafting for the Modification has been simplified to require submission of an anticipated ARHL De-Rating Factor for the DSU. This recognises the fact that while Annual Run Hour Limit has no meaning for a DSU, the ARHL de-rating factor does represent a meaningful quantity.
- 2.3.11. Given that Demand Site level data for DSUs is not available at Qualification, the drafting around DSUs in Chapter E has been significantly simplified.
- 2.3.12. The use of an ARHL de-rating factor for DSUs requires the de-rating factor used to be split into its two components, a Marginal De-Rating Factor (i.e. the de-rating factor in use prior to this Modification) and an ARHL De-Rating Factor. This necessitates additional definitions to be added to the Glossary and inclusion of the update variables in the IAIP.
- 2.3.13. Use of the Marginal and ARHL De-Rating Factors requires changes to the formulae used in E.8.2 to determine Gross De-Rated Capacities.
- 2.3.14. The inclusion of ARHL De-Rating Factors in the Qualification Data required from DSUs requires modification to the definition of Qualification Data in Appendix D.

- 2.3.15. This introduction to the ARHL De-Rating Factor removes the need to define a default Annual Run Hours Limit of 8760 hours. Instead, a default value of one is set for the ARHL De-Rating Factor where no additional de-rating is required, e.g. for Existing Capacity.
- 2.3.16. The SEM Committee notes that Demand Sites can move between DSUs within a Participant and the revised drafting for New Capacity has been modified to allow this to occur without the Demand Site being considered New Capacity where the change of DSU registration is the only change.
- 2.3.17. Taking account of the ARHL De-Rating Factor in the determination of commissioned capacity in section G.3.1 raises a number of complex issues, including the potential for retrospective impact on the treatment of capacity already qualified.
- 2.3.18. The principles to be applied are clear: the measurement of commissioned capacity should take account of the ARHL De-Rating Factor that was applicable at the time of Qualification. As the Annual Run Hour Limit cannot be measured directly by the SOs at the time of commissioning, the commissioned value will rely on the certification supplied under J.4.3.2, strengthened to cover the additional requirement if necessary.
- 2.3.19. While the principles are clear, there is significant risk that hurried implementation could have unintended consequences.
- 2.3.20. The urgency of this Modification relates to the need for the impact of the Annual Run Hour Limits to be included in the CY2026/27 T-4 auction and thus in the IAIP.
- 2.3.21. In consequence, the SEM Committee have decided to de-scope the changes to section G.3.1 from this Modification as they are not required for the IAIP. The RAs will bring forward a new Modification to cover the changes required to G.3.1 with the intention that this should be implemented on (or before) issue of the FAIP for the CY2026/27 T-4 auction.
- 2.3.22. The SEM Committee recognises that the analysis carried out by the SOs to determine the ARHL De-Rating Factors did not consider the impact of an annual run hours limit on units with a maximum on time based run hours limit. This means that compounding a maximum on time reduced de-rating factor with the ARHL de-rating factor is likely to double-count the same running hours restriction. In consequence, an ARHL De-Rating Factor of less than one should only apply to a DSU with a Maximum Down Time of more than 6 hours.
- 2.3.23. The SEM Committee notes the SOs remarks that, in some cases, there is flexibility in how the run hour limits set by permit or licence are distributed between years. The legal drafting has been modified to require the average to be taken over the flexible period, or the Maximum Capacity Duration if this is shorter.
- 2.3.24. The SEM Committee notes the SOs comments on CO₂ Limits and would agree that compliance with these limits might impose a limit on annual run hours. For the avoidance of doubt, additional text has been added to the definition of Annual Run Hour Limit to make clear that such limitations should be taken into account.

- 2.3.25. The SEM Committee notes the concerns from SSE that final decisions on turbine procurement may not have been made at time of Qualification. The CMC drafting is based on the Participant’s expectation of the annual run hour limit that will apply and, in this respect, follows the existing approach for Initial Capacity.
- 2.3.26. The SEM Committee recognises that the impact of qualifying with the expectation of annual run hours limit that proves to be incorrect. This impact is particularly great if it proves that the limit is below 1500 hours rather than above that limit, as it is likely to render a Candidate Unit unable to achieve Minimum Completion. However, the SEM Committee do not feel this is a risk which it is appropriate for consumers to carry but feel it make sense for this to be a risk borne by the capacity provider. If the limit is larger than anticipated, any additional de-rated capacity that then exists will become New Capacity in the first instance and can be offered into future auctions.
- 2.3.27. Given the comments provided by the respondents and that failure to implement this proposal would lead to there being a disparity between the CMC and TSC, the SEM Committee approves the Modification with the amended legal drafting set out in Appendix B.

3. NEXT STEPS

- 3.1.1. The SEM Committee require that the SOs incorporate the approved Modification contained within this paper into the CMC via an appropriate version control process and the Modifications are to become effective by no later than:

Modification	Implementation Date
CMC_11_22 – De-rating for Annual Run Hour Limits	05/09/2022

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