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Submitted by email to: Thomas Quinn and Karen Shiels

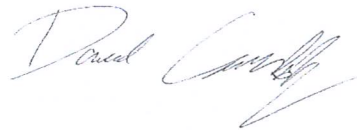
Re: IWEA response for wider circulation

To whom it may concern,

The Irish Wind Energy Association would like to relay its response to the CRM wider Circulation Consultation.

IWEA is the leading renewable energy representative body in Ireland and as such has an active interest in the potential and capacity for renewable energy development, and in particular wind energy, in Ireland. Approximately 120 organisations are members of IWEA across all areas of the wind industry including community engagement, planning, grid development, market design, health & safety, and asset management. IWEA hosts two of Ireland's largest energy conferences each year and regularly engages with key stakeholders across policy, regulation, industry, and research. IWEA works in a proactive and engaging manner with all stakeholders and as such feels it is both appropriate and important to make this submission, which is attached to this cover letter.

Yours Sincerely,



David Connolly
CEO

IWEA welcome the opportunity to respond to the consultation SEM-18-009 and to provide views upon the treatment of battery storage under the I-SEM capacity market. Responses to the specific questions in the consultation relating to the treatment of battery storage assets under the CRM are provided in the next section but first IWEA would emphasise the pressing need to ensure coordination of wider market arrangements for battery storage to remove any potential unnecessary barriers to market entry. While the specific example presented below relates to the interaction of the CRM with the DS3 arrangements, the general principle that market arrangements should not impose unnecessary barriers to ‘revenue stacking’ applies to all potential cross market interactions, for example, between DS3 and the I-SEM energy trading arrangements.

IWEA expect new battery storage projects will target provision of DS3 system services as a primary revenue stream. To facilitate market entry for battery storage technologies however DS3 system service provision needs to be ‘stackable’ with other potential revenue streams, and conflicting contractual obligations avoided. In particular, market arrangements should in the event of a clash:

- Clarify which obligations should be prioritized; and
- Minimise the provider’s exposure to penalties to avoid unnecessary barriers to market entry.

It is useful to consider how this challenge is addressed in GB, a market that has already faced and is resolving similar types of issues for battery storage. In GB, the Capacity Market rules have an Annex titled ‘Relevant Balancing Services’. The principle underlying this Annex is that providers of system services should not be penalised in the Capacity Market when (compliantly) providing these system services. The formulae within the Annex essentially amend the Capacity Provider’s Capacity Obligation to match/exceed their balancing service obligations. For instance, if you are contracted to provide frequency response, then as long as you successfully respond to frequency as per your frequency response contract, then you do not suffer any penalty during a Capacity Market system stress event. This ‘Relevant Balancing Services’ Annex is very helpful in clarifying obligations for storage providers and ensuring penalties do not act as potential barriers to entry.

The primary principle underlying the I-SEM CRM should be similar to GB: namely, that providers of system services should not be penalised under the CRM during scarcity events for provision of DS3 services and vice versa. However, it is not clear how this is operationally implemented for all DS3 products, including those that are not directly dispatched by the TSO. IWEA would therefore be grateful for substantially more clarity on how ‘revenue-stacking’ of DS3 services with other potential revenue streams, including the I-SEM CRM, will be facilitated. We believe this would be particularly helpful to developers of storage projects, as well as beneficial to other technology providers.

IWEA responses to specific consultation questions

IWEA sets out its responses to the consultation questions directly related to battery energy storage below.

)Do you have any comments on the indicative auction timetable set out in this section?”

“Adjust the timing of the first T-4 auction to September 2019 – this avoids a clash with the ECP-1 timelines and the DS3 procurement cycle.

There is a mismatch between different policies that needs to be addressed, otherwise the contradictions will impact on the success of the CRM. The CRM auction cycle does NOT fit with the

DS3 cycle or the ECP-1 timetable. Final ECP-1 grid connection offers will not be made until June 2019. Participants therefore would need to take the risk of bidding into the capacity market without having a grid connection offer. Furthermore those going for DS3 volume capped auction would not expect to be contracted in May 2019. All such parties would be deterred from bidding into the first T-4 auction because of its timing (scheduled April 2019)

Do participants have any comments on the methodology for calculating DRFs for storage units as described in this paper?

While the proposed methodology is broadly in line with how DRFs are calculated for other technologies, we note that it may underestimate the value of the flexibility offered by battery storage (including short-duration battery storage) in relation to managing an electricity system with high levels of renewable penetration balanced with reasonably inflexible thermal generation – i.e. the ability of storage to provide “bridging” capacity / demand as renewable generation output ramps up / down. While acknowledging the direction of travel in GB regarding de-rating factors for storage devices, IWEA recommend that, if not recognised via the CRM, this flexibility is appropriately rewarded within the wider market arrangements to ensure there are no unnecessary barriers placed in the way of its provision.

In relation to specific comments on the proposed methodology IWEA provides two observations below. The first relates to the possibility to augment the energy capacity of battery storage systems, while the second comments upon the proposed use of the system average outage rate for battery storage in the de-rating methodology.

System Augmentation

Batteries have the benefit of being inherently modular, meaning that asset owners have the option of retrofitting additional energy capacity to their plant during its lifespan. Such retrofit is beneficial to consumers as it can enable plant to offer longer duration support during CRM stress events - i.e. the asset’s contribution to system security of supply is increased. At present, the CRM seems to generally apply a simple ‘fit and forget’ approach to duration and de-rating factors for multi-year contracts with a de-rating factor being fixed throughout the contract lifetime. IWEA recommends that consideration is given to providing a mechanism that incentivises / rewards additional contribution to security of supply a battery system, already subject to a long term capacity contract, may offer to consumers through retrofitting of additional energy capacity – e.g. this could be through allowing holders of multi-year contracts to update their de-rating categories or to secure new top-up CRM contracts. If such a mechanism already exists under the current CRM rules it would be useful if its specific application to battery storage technologies could be clarified, and its ability to incentivise / reward augmentation explained.

Availability Assumption

IWEA notes the high availability requirement being proposed under the DS3 fixed contract regime and observes that it is important that there is consistency between assumptions employed for the purposes of de-rating in the CRM and the wider market arrangements, specifically DS3. IWEA therefore recommends that, as a minimum requirement, availability assumptions consistent with the availability implied by the requirements implemented for DS3 fixed contracts are used for the purposes of the de-rating methodology, if such requirements are higher than the system average availability. This avoids any potential inconsistency in

market arrangements and ensures battery storage is adequately treated under the CRM given the obligations being imposed under DS3.

In the absence of significant historical data, do participants consider it reasonable to apply system-wide outage statistics to new technologies (such as batteries)? If not, please provide alternative with justification.

Our response to this question relates only to battery storage technologies and not to any other new technologies.

Availability / outage rates vary with battery storage system design, and it may be useful to provide a mechanism that rewards additional investment in designs that reduce single point of failure reinforcing incentives to deliver high levels of availability, thereby benefiting overall security of supply.

As the CRM is not paid on availability, designs that provide increased availability can only be rewarded via less severe de-rating factors. Acknowledging the need to keep the approach for calculating de-rating factors for technology classes reasonably straightforward IWEA provide a suggestion regarding how investment in system designs that will deliver higher availability than assumed for de-rating purposes could be rewarded under the CRM in our response to the question on DECTOL below.

Regarding Storage Units with Storage Volume sizes that are not a multiple of 30 minutes: Do participants have any comments on the TSO's preferred methodology for calculating DRFs for such storage unit, i.e. interpolating between storage sizes? What other options do they believe may be more appropriate?

IWEA supports the TSO preferred approach of using the linear interpolation between the boundaries. The approach has the benefit of being simple, easy to understand and is likely to provide the fairest outcomes.

Should storage units be allowed to apply a DECTOL to their De-rated Capacity? Please provide arguments to support your response

IWEA does not agree with the example used to support the use of DECTOL and would again emphasise that DS3 services should be fully 'stackable' with other potential revenue streams, including CRM, and any potential conflicting contractual obligations avoided, as has been the principle adopted in GB. Ensuring consistency across wider market arrangements will avoid any unnecessary barriers to market entry for battery storage assets and help successfully deliver DS3 objectives, increasing renewable penetration and benefiting consumers.

Notwithstanding the above IWEA however sees significant potential benefit in providing battery storage units with a degree of flexibility in relation to the ability to adjust their de-rating factors and therefore supports the option for such units to be able to apply a DECTOL to their de-rated capacity providing it is at their own discretion. This flexibility may help with revenue stacking by offsetting potential exposure to scarcity events (which could be sustained beyond the duration of discharge a storage unit is capable of achieving at its standard de-rated capacity) by allowing them to lower their contracted capacity volume, thereby facilitating a reduction in power output and extending the potential discharge time during a scarcity event.

It is difficult for IWEA to assess the sensitivity of de-rating factors to the availability assumption used within the de-rating methodology for battery storage technologies but, if the impact is material, IWEA suggests that INCTOL could be used as a means to reward battery storage systems designs that reduce single point of failure and thereby facilitate higher levels of availability than assumed for the purposes of the de-rating methodology. Assuming the impact on de-rating factor is material an application for an INCTOL could be submitted to the TSO and approved if the applicant can demonstrate their battery storage system design is capable of delivering higher availability than implied by the relevant standard de-rating factor calculated for the technology class.

Should specific DRF values be published for units with energy storage volumes of 6.5 hours or greater? Are participants aware of potential projects that might make such a change appropriate?

IWEA does not foresee a pressing need for DRF values for battery storage units that have energy storage volumes exceeding 6.5 hours but suggest it may be prudent to review this requirement on an ongoing basis to accommodate any potential future changes within the technology class