SEM Committee

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RE: SEMO 2021 – 2024 Price Control

Energy Storage Ireland (ESI) is an industry representative association comprised of members who are active in the development of energy storage in Ireland and Northern Ireland. Our aims are to promote the benefits of energy storage in meeting our future decarbonisation goals and to work with policy makers in facilitating the development of energy storage on the island of Ireland. We have over 30 members from across the energy storage supply chain.

Energy storage technologies are a key enabler to a decarbonised electricity system, and their deployment supports climate action and energy security goals by providing a multitude of valuable services. Storage systems can act in the energy, capacity and system services markets to deliver a wide range of benefits such as wholesale energy price reductions, reduced CO2 emissions and flexible system support services to help manage the grid with higher levels of renewables.

We would like to thank the SEM Committee for offering us the opportunity to respond to the consultation on the SEMO 2021 – 2024 Price Control.

Battery Storage Market Integration Issues

This Price Control comes at an important period for the energy storage industry with over 250 MW of battery storage projects now commercially operational as of July 2021 and this number expected to grow to between 700 – 800 MW operational by the end of 2022.

These projects are providing essential fast acting reserves and system support services to help manage our electricity system with growing levels of renewable generation. As the system services market becomes more and more saturated, and tariff rates potentially fall, it is expected that revenue streams such as energy arbitrage will need to become more of a focus to ensure appropriate returns on investment. However, the current market system limits the ability of battery projects to take advantage of these revenue streams and provide wider system and consumer benefits. A well-functioning market that allows technologies such as battery storage to fully participate and compete with other market participants is essential.

The Trading & Settlement Code (TSC) envisages the main mechanism for operating battery units and managing the state-of-charge of energy storage to be via the ex-ante and balancing markets. However, as identified below there are currently a number of known technical and process-related limitations that prevent this happening effectively.

In particular, issues exist associated with the charging (import) of batteries via the ex-ante markets or the balancing market, and also with the ability of batteries to be fairly included in scheduling and dispatch decisions. This creates a number of issues not just for the commercial interests of asset owners and operators, but also in terms of preventing the efficient use of these flexible and zero-carbon assets on the system by the TSOs.

The known key limitations often involve IT and market systems as follows:

a) There is no capability for current market interfaces (MPI) to accept and process 'negative' Physical Notifications (PNs) into central scheduling, for charging of batteries;

b) Standard dispatch tools (EDIL) do not have the capability to relay 'negative' MW instructions for charging (even if negative PN actions could be submitted as envisaged under the TSC) – although the TSOs note the possibility to use telephone instructions here;

c) The lack of an appropriate battery storage market model, which results in storage units being registered and setup as 'Multi-Fuel Generator' Units. This therefore precludes effective operation in the balancing market in several ways, including:

(i) Multi-fuel units do not allow representation of the full operating range of a battery (import as well as export), meaning it is not possible for the TSO to utilise the batteries negative operating ranges, leaving them at a significant disadvantage to traditional pumped storage units;

(ii) Key TOD/COD parameters cannot be submitted to allow proper representation of assets in TSO optimisation and scheduling decisions (for example energy limit, efficiency);

(iii) units are non-marginal flagged inappropriately due to the zero-MW minimum stable export limit of batteries; and

(iv) There are potential issues with the visibility of batteries in the merit order due to logic associated with circuit-breaker status and a 'normal' zero MW output level.

It is imperative that the enduring solutions to remove the current IT and market systems issues and allow battery projects to participate in the market as intended under the TSC are progressed as quickly as possible within the Price Control period to allow the most effective

use of batteries on the system. It is important that a roadmap is set out to get to this enduring solution to provide clarity and certainty to industry.

In the meantime, in advance of the commercial operation of a number of battery storage projects on 1 April 2021, the TSOs put in place an interim solution to allow some form of charging for these projects so they can provide their contracted services. This effectively allows battery units to charge up to a pre-agreed charging level (up to the lower of 5 MW or 20% of MEC, MIC) while any charging above this level would require engagement and agreement with the TSOs' control centre.

We recognise that the approach above was a pragmatic step given the imminent commercial operation of a number of battery projects. However, we believe more engagement is needed with industry to build on this interim approach to ensure the most appropriate solution for the different types of battery projects already connected and connecting onto the system in the coming months. There is a significant risk that the current approach disproportionately impacts larger projects or projects with more symmetrical MEC/MIC ratios that then leads to stranded investments and inefficient use of the assets.

The current interim approach also hinders the value of storage as a balancing tool for the TSO in terms of uses cases beyond DS3, particularly projects which have symmetrical connections and longer durations.

We also emphasise the downstream impacts that this proposal has for the wider market and market participants. The industry needs clarity and transparency on which batteries are charging, when and to what extent through the relevant market reports, notably but not only to understand the system NIV at any time. Transparent and clear information is a basic foundation of a properly functioning and efficient market.

In addition, we have the following specific comments in relation to the consultation sections outlined.

Operational Expenditure (Opex)

We note that the RAs' proposals are for quite a substantial reduction of 27% overall in relation to SEMO's submission. While we do not wish to comment on individual line items such as salary levels we believe it is important that the Price Control focuses on allowing SEMO the resource capability to deliver what it needs to over the coming period rather than overly relying on benchmarking against previous periods. There is likely to be substantial shift in system dynamics required to achieve our national renewable targets. This requires radical thinking from the development community and should be supported by a stable platform to be able to implement such changes. The past is certainly not a reflection of the effort required in future to achieve this.

Given the scale of market evolution over the coming years, and the fact it has already been noted that there are number of deficiencies in the existing market set up, it is reasonable to assume that more resources will be needed to manage multiple parallel workstreams going forward. We would be concerned that limiting this resource capability will mean SEMO will not be able to deliver all the required changes over the next few years.

Capital Expenditure (Capex)

We agree that SEMO needs to have flexibility to adapt and find the best solutions to system challenges, particularly with respect to the 'known unknowns' highlighted in the consultation. We support an agile approach that allows SEMO to deliver on these requirements. It would appear that integration of battery storage into the market falls into the 'known unknowns' and we are very keen that solutions to the issues we have highlighted above are progressed as a matter of urgency in the Price Control.

We recognise that the cap proposal would allow SEMO some flexibility to progress projects within the allowance as specific needs and parameters become clearer but we would have some concerns that the cap might place a constraint on the amount of projects SEMO are able to progress in the timeframe and that some much needed fixes, such as storage integration, will be de-prioritised. We cannot comment at this stage whether the cap is sufficient given there is little detail available on the projects to be undertaken, therefore, it is essential that any mechanism for additional allowances above the cap is straight forward, transparent and implementable and the process is made clear at the outset.

We also support more transparency and industry involvement in the planning for Capex projects in the Price Control period.

Incentivisation

We are fully supportive of including a KPI in relation to fully incorporating existing technologies such as battery storage and allowing their full participation in the market. This KPI must be strategically set to move the dial on efficient storage integration and follow the SMART principal (specific, measurable, achievable, relevant and time based) to assess progress. We appreciate that there are certain issues that SEMO must be incentivised to resolve in the first year of the Price Control but the issues affecting battery storage that we have outlined above are known issues that are impacting operational projects today, preventing their full utilisation and creating an unequal playing field. These issues must be prioritised within the Price Control. There is a risk that without a specific KPI or incentive then this issue will be lost or delayed among competing projects/priorities.

As the RAs rightly point out it is important that the next few years settle the current market and incorporate existing technologies in advance of the magnitude of change which is expected

post 2024 (EBGL, interconnection with Europe etc.), therefore it makes sense to incentivise SEMO to complete the necessary measures to achieve this.

In conclusion we would like to thank the SEM Committee for offering us the opportunity to respond to the consultation on the SEMO 2021 – 2024 Price Control and we are available to discuss any of these points if you wish.

Yours sincerely

Bobby Smith
Energy Storage Ireland