Mod_09_22 – Exclusion of Difference Charges during Non-RO Events – Accompanying Note

Previously Mod_02_19 was rejected by the SEM Committee on the basis that additional engagement and analysis was required before the mod could be implemented. Additionally, the SEMC had concerns that the modification might contradict the design of the CRM. Having assessed the SEM CRM Decision Papers and the EU State Aid decision in relation to the CRM, we do not believe this to be the case.

The EU State Aid decision states in Section 58 that the Strike Price "*must reflect the short-run marginal costs of a peaking unit*". Section 59 of this paper further establishes a Market Reference Price (MRP), which reflects the "*price actually obtained by an individual RO holder selling its electricity on the electricity market*". The interaction between the Strike Price and the MRP form the basis for Difference Charges for RO holders (i.e., when the MRP exceeds the Strike Price, charges are incurred). This section further states that "*only unreliable capacity is penalised*" as a result of Difference Charges.

The current implementation of the CRM does not align with this design decision. This is primarily due to the fact that the Strike Price is not calculated dynamically and thus does not reflect the short-run marginal costs of a peaking unit, while the MRP is dynamic. This means that the MRP is more likely to exceed the Strike Price, even where there are no shortages or system events. This means that capacity is penalised regardless of its reliability. Additionally, because the State Aid decision states that the intention of the CRM is to ensure that "*only unreliable capacity is penalised*", it appears that the CRM in its current state is not operating as intended.

It appears that this issue developed throughout the design and implementation of the CRM. CRM Detailed Design Decision Paper 1 introduced the Strike Price stating that it "*will be set dynamically to a level which should exceed the variable costs of most units*". This principle was maintained in CRM Decision Paper 2 but inadvertently changed in CRM Decision Paper 3 which made a decision to calculate the Strike Price on a monthly basis. While not apparent at the time (due to a greater stability in commodity prices), this transition to a monthly calculation would mean that the Strike Price design became misaligned with both CRM Decision Paper 1 and Section 58 and 59 of the EU State Aid Decision.

The State Aid decision implies that participants are exposed to Difference Payments when there is a high price event in the DAM, BM, or IDA (i.e., the Market Reference Price exceeds the Strike Price). However, having analysed the background papers of the CRM determination, we have determined that the MRP as applied in the State Aid decision does not reflect the actual implementation of the CRM. This is because there are two BM prices which participants can receive which does not appear to be fully appreciated in the State Aid paper.

SEM-15-044 explains the 'split market price' option stating that "there are two (or three) separate reference prices", and that "any capacity for which energy has not been sold in the DAM is settled against the BM reference price". This would suggest that the split market approach had not considered the concept of units being settled on their complex bid price in instances where it exceeds the BM price. Where a unit is settled at its complex price, it is not settled against the BM reference price. Where settled at the complex price, a unit should not be exposed to Difference Charges (other than in instances where the BM price has also exceeded the Strike Price). At the time that the State Aid application (including the CRM design) was submitted, there was no decision or suggestion that a unit's complex price would be settled in the BM, thus becoming the MRP.

Complex prices are fully auditable by the SEM Market Monitoring Unit (MMU) which ensures that these bids will only reflect the costs which units are exposed to. Additionally in these instances, where the BM price has not exceeded the Strike Price, suppliers would not be exposed to higher levels of payment for electricity as they can still buy at the BM price. Therefore, the application of Difference Charges in such instances is a singular downside with no advantages to suppliers.

We believe that this modification would re-align the implementation of the CRM with the designs as set out in CRM Decision Paper 1, CRM Decision Paper 2, and Sections 58 and 59 of the EU State Aid Decision in relation to the CRM.

Additionally, Section 63 of the EU State Aid decision states that "*difference payments that capacity providers have to pay in case of scarcity prices are used to compensate suppliers for those **same** scarcity prices".* Currently, suppliers are not compensated where the MRP is based on BM complex, which makes it unclear as to why generators are being charged. We question the fact that this element of the CRM design has been only partly applied.

Separately, we believe that the current implementation of the CRM is further misaligned with CRM Detailed Decision Paper 2, particularly when considering the interaction between Strike Price and Administered Scarcity Price (ASP). CRM 2 states that the ASP threshold "*should not be below the Reliability Option Strike Price in order to ensure all market participants' short-run marginal costs are met*". The ASP is further defined by reflecting the fact that "*normal balancing energy actions have been exhausted*". This would indicate that the Strike Price is set at a level which is reflective of normal balancing actions being exhausted, however this is not the case in practice in the current CRM design.

The misalignment between MRP and Strike Price means that units are being exposed to Difference Charges where normal balancing actions have not been exhausted and the unit is reliable and available. Mod_09_22 seeks to remedy this by applying Difference Charges when the imbalance price (PIMB) exceeds the Strike Price. This amendment would be consistent with the MRP outlined in Section 59 of the State Aid decision and would mean that Difference Charges are triggered in instances where balancing actions have been exhausted, or there is system scarcity.

We do not believe that the Strike Price mechanism is intended as an incentive for units to be efficient. This is not stated in any of the design documents pertaining to the CRM or the Strike Price. Furthermore, efficiency is already delivered within the SEM as a result of the competitive downward pressure in the ex-ante and real-time markets. This can be observed within our analysis of how maximum DAM and BM prices compare to Strike Prices on a month-to-month basis. Maximum prices show no correlation to Strike Prices in the data analysed back to August 2021. If the Strike Price functioned as a driver of unit efficiency, we would expect prices to be clearing at or close to the Strike Price.

Until this modification is implemented, units will remain at risk of exposure to significant Difference Charges in instances not intended for under the original CRM design. There are a number of examples where this has already been the case.

- Battery units are exposed to this risk when called on to provide power. In providing power to the market these units incur significant opportunity costs as a result of the forfeit of System Services revenue. This means that battery units will often incur short-run marginal costs which are close to or exceed the Strike Price. This issue is amplified in instances where there is a high renewable penetration, and the temporal scarcity scalar (TSS) is activated.

- Northern Irish gas units face significant risk as a result of the 'ratchet mechanism' which is in place for the booking of gas capacity. There are no short-term gas capacity products in NI and if a participant exceeds their gas capacity allocation, their use 'ratchets' (i.e., they are required to pay for the entire year at the higher gas capacity rate). This means that units will have to include this extra cost in their bids in order to not run at a loss. Due to the high costs associated with the ratchet mechanism, this can very easily push units' running costs above the Strike Price, leaving them exposed to an unavoidable downside. This risk increases throughout the gas capacity year (as there is less time remaining to recover ratcheted costs).

- There is a risk to all conventional fuel plants as a result of continued high commodity volatility. Tynagh was exposed to this risk in March 2022 when gas prices increased by over 300% over the course of one week (28/02/2022 to 06/03/22). Because the Strike Price had been established at the lower level of gas price, it was not possible for Tynagh to bid below the Strike Price and still recover costs. This risk exists as long as high volatility market conditions continue, which they are projected to do so.

We believe that these risks represent an unfair and disproportionate risk exposure to participants in the SEM.