

I-SEM

Capacity Remuneration Mechanism Detailed Design 3

If you have any questions in relation to our response, please don't hesitate to contact me at connor.powell@sse.com

Executive Summary

Thank you for giving SSE the opportunity to comment on the I-SEM Capacity Remuneration Mechanism Detailed Design Paper 3. SSE has over 1700MW of generation capacity and 800,000 retail customers in the all-island market.

The long-term priority for our businesses is delivering sustainable, flexible, affordable energy production to our customers through a diverse portfolio of assets. A stable, well designed capacity remuneration mechanism is a critical component of I-SEM design, providing a predictable revenue stream for generators and a hedge for suppliers.

Our response covers each of the sections covered in the consultation paper. If you have any questions regarding our response, please don't hesitate to contact me.

Auction Frequency and Volumes

Transitional Auctions

The minded-to position does not appear to learn from the experience of GB, which had a similar 'transition' to overcome. Participants in the T-4 and T-1 auctions will be left with imperfect information on which to compete:

- Existing plant that wins T-4 contracts will not know whether they will secure transitional contracts.
- Ireland does not have a functioning forward market in which existing plants can lock in assumed dark/spark spreads over the transitional years.
- To cover the risk of both, appropriate risk premia will be applied to offers¹.

These risk premia are artificial and unnecessary – while a generator winning a T-4 contract cannot lock in their sparks, they should at least be able to assume their fixed costs will be covered over the transitional years prior to delivery. The minded-to decision creates unnecessary uncertainty on this point – providers must ensure that they will not be an unhappy winner² and customers will pay a rough 'estimate' to insure against this.

If the RAs are opposed to a 4 year block of capacity, **we would recommend instead that each of the transitional blocks is auctioned in 2017/18** – this gives existing providers a clear remain/exit signal and removes the need for customers to pay insurance premiums to hedge artificial uncertainty.

Timing & Flexibility

We agree with the decision to retain flexibility however, **any flexibility to introduce 'ad-hoc' auctions should be clearly detailed and limited within the Capacity Market Code**. A within-year auction will impose large operational demands on participants, particularly if an ad-hoc

¹ In simple terms, generators need to reflect fixed costs – ((IMR + SS) – Expected Difference Payments)*1.X where X is equal to the uncertainty around the previous components

² It is fairly easy to envisage scenarios in which providers that have won T-4 contracts immediately need to relinquish their contracts after a transitional auction paying either a penalty to the TSO or a premium through secondary trading

auction coincides with similar IE/GB process – there is a minimum lead time for preparation, validation and participation. We would also again stress that the RAs/TSO should quickly act to resolve contracts at risk of failure – even if they are left to the T-1 auction, participants should receive notification as soon as possible in order to prepare cost effective alternatives.

Market Power

Overall Approach

Under Reliability Options you are trading volatile spot market exposure against stable capacity revenue exposure – anyone without a dominant portfolio won't be able to sacrifice the latter for the former. The paper notes that:

“The I-SEM capacity market is likely to exhibit structural market power, creating challenges for the design of the auction”

This is correct – Reliability Options with split market settlement actually exacerbate this issue by strengthening the interactions between energy and capacity. However, only ESB will be able to unilaterally exercise market power within the CRM, **by overcorrecting for market power you actually create competition issues for anyone without a dominant portfolio**. A large diverse portfolio of assets can ride through a period of artificially dampened/volatile energy & capacity prices – a single asset cannot.

Individual measures

We believe that the combination of measures outlined in the CRM 3 paper overcorrects for market power – **there is a reasonable package that can be composed of elements outlined by the RAs, but the combination outlined damages the integrity of the auction as a whole**. We have outlined our views on each measure in the table below.

Measure	SSE Comments
Mandatory Bidding	This measure is theoretically sound and provides a strong basis for market power mitigation.
Adjusting the capacity requirement downwards	We believe that this measure introduces a downward bias into the auction – an unreliable marginal plant might not want to enter into a Reliability Option with a liability greater than its potential payout ³ but it may want to remain open for some, or all of the delivery year, operating in the secondary market only. By removing this capacity from the capacity requirement at a generic de-rating factor, the RAs are effectively forcing the TSO to over-procure unreliable capacity, introducing a downward bias. This is a bias that only works when you have excess capacity – when the system is balanced; it distorts both auction allocation and pricing . The RAs should be designing an enduring CRM, not a transitional CRM to manage plant exit.
Limiting future participation by	This measure also seems to assume that opted-out capacity is 'gaming' the CRM. This is not the case – a financial option can have

³ The generator would value the option at a negative price

<p>opted-out capacity</p>	<p>positive or negative value and the pricing of an option can be very uncertain⁴ particularly for a distant delivery year. By favouring a blunt mitigation approach for any plant that is not intermittent or lacking firm access, you are forcing participants to <i>'take a view'</i> of their risk regardless of how incomplete their information is – this will lead to allocative and pricing inefficiencies in excess of the damage caused by the withholding the RAs are seeking to prevent. SSE would recommend that the blanket measures favoured in the consultation paper are reconsidered and that a case by case approach using market monitoring and powers granted under REMIT are used to investigate and enforce against any physical withholding. Ireland is a small market - physical withholding will be obvious to both the RAs and other participants, both of which have clear incentives to identify bad behaviour, and in the case of the RAs, to enforce against it.</p>
<p>Auction Price Cap</p>	<p>An Auction Price Cap is a reasonable means for the SEM Committee to effectively set a <i>'notional cap'</i> on capacity prices. Given that the RAs do not currently have a transmission access policy in place for conventional plant; this will ensure that those with the limited quantity of transmission access allocated cannot extract rents from customers. We support this measure.</p>
<p>Individual Bidding Limits</p>	<p>We have serious concerns about the proposals in the consultation paper. Applying a 'technology going forward cost' calculation or a 'price-taker offer cap' can never reflect actual going forward costs at plant. This creates a number of major risks for smaller participants and the TSO:</p> <ul style="list-style-type: none"> • Miscalculation of costs will effectively ensure that capacity contracts are allocated to the dominant generator, unless participants choose to take a loss by undercutting the 'going forward cost'. • By setting technology going forward costs, the regulators will be picking a favoured, least cost, technology mix based on incomplete information. • If the auction clears at either the price-taker offer cap or the technology going forward cost step, the mechanism has effectively set a regulated price for capacity. With a number of technology cost steps applicable the RAs are making the

⁴ In a hypothetical example, the operator of a power station that requires substantial investment to remain open cannot be certain about the value of a Reliability Option four years from now – it does not have a functioning forward market in which to lock in a spark spread and it cannot predict legislative requirements around emissions which determine closure dates and fixed (and potentially some variable) costs. **A prudent course of action would be to operate in the secondary market until it has more information, entering into a T-1 auction if it feels that it can manage those risks.** Unfortunately, under the proposals in the paper, the RAs are effectively prescribing any conservative, prudent participation as physical withholding

	mechanism very likely to clear at a regulated price. This poses a State Aid Clearance risk to the mechanism as a whole⁵.
Use of a Sloping Demand Curve	A sloping demand curve is a sensible means for the SEM Committee to manage year on year volatility and control market power – TSO discretion significantly reduces incentives to exercise market power, particularly in a market the size of SEM where units are relatively large in comparison to overall system size. This is subject to the parameters used – we agree with the decision to set these parameters outside of the CRM 3 consultation.
Prohibitions on provision of aggregation services	Given HHI levels, there is only one participant that effectively meets the threshold at which you would want to restrict participation as a capacity aggregator. HHI creates a clear threshold level at which to prevent a dominant supplier from exacerbating market power by aggregating additional capacity. If you apply an additional pivotal supplier test, you are effectively creating a (potentially larger) competition issue in the market for PPA/tolling agreements.
Information and Communication Rules	This should be considered an auction design and efficiency question rather than a market power question. Other measures (like a sloped demand curve) already effectively remove some information from participants – making the process more opaque through publication of misleading or no information will only lead to inefficient allocation and pricing. We do think that information restrictions should be placed on bidders during the auction process to prevent the release of granular information and bidding intentions but the aggregated information published by the auctioneer should be clear and interpretable – uncertainty and misinformation create unnecessary risk premia.
Market Monitoring	In a market in which structural market power has been identified and in which a clear HHI threshold has been set above which participants can no longer aggregate capacity, there is a clear requirement for the RAs to monitor the first and enforce the second.

The paper acknowledges that:

“An appropriate balance must be struck between market power measures that adequately mitigate market power whilst at the same time achieve the long term objective of the capacity market to coordinate efficient entry and exit.”

Again, we believe that the combined package identified by the RAs is excessive and disproportionate – solving a single issue multiple times with multiple, conflicting measures. This will inevitably damage efficiency, and in the long run risk exacerbating the underlying structural market power issue. However, there is an identifiable package of measures within those identified by the RAs that does work. We have **highlighted** that package in the table above.

⁵ Hence the reason why technology cost estimates have been used in the US, but not in any EU CRMs to date

Auction Design

Auction Format

We do not think that there is any justification to use either the simple sealed bid or combinatorial auction formats. Multiple round descending clock is the only viable format if the RAs are seeking to allocate and price contracts efficiently, and actually hedge suppliers against volatile spot market prices. **Mitigating market power is a hollow outcome for generators and suppliers if the wrong plant enters/exits the auction leading to higher production costs and lower net welfare for customers as a whole.**

We believe that a sealed bid format has a number of clear flaws that are particularly damaging in a small electricity market. The paper notes that:

- *Bidders cannot exploit information provided between rounds to abuse market power.* By simply aggregating information up from a granular level, you provide the same benefit under multiple round descending clock auction.
- *A sealed bid auction is easier for small unsophisticated bidders to participate in.* This is not a valid concern – the underlying Reliability Option is difficult for small unsophisticated bidders to manage, regardless of the auction format. Allocation and pricing of these options should be sophisticated – they will have a major impact on end customer prices and Irish market fundamentals. **We do not want contracts to be allocated to providers that are likely to fail on their commitments to customers because they haven't adequately assessed their costs and risk.** As a net short participant, we want to make sure that we are getting value for money for our customers under our Reliability Option

Similarly, combinatorial auction has one fundamental issue – the DS3 auction format has not been designed or agreed, and the underlying product being allocated (a one sided option) is very different to the capacity product (a two sided obligation). Any dependency on the DS3 auction format will introduce a dependency that will likely lead to *“significant additional project risk to both the CRM and DS3 projects”* and also ensure that the DS3 auctions require State Aid Assessment and clearance.

Given that the first auction format is clearly inefficient, and the second auction format is unachievable, SSE strongly recommends a **multiple round descending clock** auction format.

Structure of Bids

As the paper notes:

“If we opt for a multiple round descending clock auction then each bidder bids its supply for a specified interval of prices in every round”

Assuming that Option 2 is chosen, the bid structure option can be selected through parameter setting later in 2016.

Winner Determination

We agree with the RAs preference for winner determination with no term adjustment. This simplifies participation and prevents any ‘preference’ being introduced into the auction process that may impact on State Aid clearance.

Pricing Rules

Again, assuming that Option 2 is chosen, pay-as-clear pricing based on highest accepted bid is the strongest option. Any move away from a uniform clearing price will make market monitoring far more difficult, as providers include an estimation of opportunity costs (in addition to Option Risk) in their bids.

Dealing with Lumpiness and Discrete Bids

We believe that the RAs have approached this issue with the wrong perspective – **the solutions in the paper are effectively asking how can we pretend generation capacity is not discrete and chunky?** This has been achieved by drawing a shaky parallel with constrained on generation. The implication appears to be that large generators have ‘constrained’ themselves out of allocation and pricing in the same way that the TSO might ‘constrain’ a generator with insufficient transmission capacity.

Generation capacity as a product is discrete and chunky – at the margin, a successful auction is going to price a product according to fundamentals⁶ - trying to ignore those fundamentals will:

- Bias the auction toward allocation of contracts for a particular type of unit.
- Limit incentives for participants to solve capacity issues using new technology like small modular generation or aggregated demand response.

The SEM Committee states that:

*“There are potential advantages to employing a pricing rule which would pay a clearing price only to in-merit bids, **and pay out-of merit bid accepted on a pay-as-bid basis.** This approach is **potentially consistent** with efficient pricing, as it avoids the clearing price being affected by the market imperfections introduced by the “lumpiness” of generation”*

The potential advantages appear to be entirely removed from efficiency and allocation – they are entirely based on underpaying for capacity by having their cake – *discretion with allocation at the margin* and eating it – *ensuring that the auctioneers exercise of discretion is removed from pricing.*

The SEM Committee are introducing discrimination between capacity providers into the fundamental structure of the auction. More importantly, the SEM Committee are introducing **undue discrimination** – the only justification is to *“avoid the clearing price being affected by the market imperfections introduced by the “lumpiness” of generation”*. Unfortunately, the market is for capacity – a lumpy product.

You cannot design a market for procuring a product by pretending the product is something it isn’t – you wouldn’t expect an auction for a house to allow bidders to ignore

⁶ Fundamentals being that generation capacity is provided by large generation sets, small generation sets and aggregated demand response

the number of rooms and make pro-rata offers for clean sections of the house⁷. **SSE believes that Option 3b should be used but with the net welfare calculation constrained by retaining uniform pricing.**

Tied Bids

Assuming that the adapted Option 3b is used with uniform pricing, a net welfare calculation should resolve tied bids.

Information and Communication Policies

These are effectively cover both market power and auction efficiency. The Auctioneer must publish aggregated information covering:

- **Capacity Requirement**
- **Capacity Parameters**
- **Auction Dates**

These need to be released with sufficient lead time for participants to prepare technical and commercial information. When it comes to aggregated information on qualification, there is a clear need for the auctioneer to release some but we would agree that information on technology and fuel types would likely be a level of information too far. Post auction, allocation and price should be revealed to allow informed secondary trading to take place.

The communication rules with regarding to bidder communications pre and post auction seem well-intended but not necessarily enforceable for the RAs or easy to comply with for participants. It is likely that a number of external parties (consultants, research institutes etc) will make public statements on expected auction outcomes – the RAs have no control over anyone who isn't a Capacity Market Code signatory.

Auction Parameters

Demand Curve

As stated previously, a sloping demand curve is a sensible means for the SEM Committee to manage year on year volatility and control market power. TSO discretion significantly reduces incentives to exercise market power, particularly in a market the size of SEM where units are relatively large in comparison to overall system size.

This is subject to the parameters used – **we believe that these parameters should be set outside of the CRM 3 decision.**

Given that the RAs have decided to apply an 8 hour LOLE which introduces a substantial level of risk for suppliers, **we would appreciate confirmation that the demand curve at 8 hour LOLE will be vertical with upward discretion.** The alternative is a 3 hour LOLE with discretion

⁷ The seller would receive a price that didn't reflect fundamentals – they thought were selling a 5 bedroom house and interacting with one buyer – now they have multiple sets of transaction costs and counterparty risks to consider. Likewise, the buyers will likely end up missing or sharing facilities they might have assumed existed and interacting with people with diverse plans for use of their 'chunk' of house – this are just potential distortions in a single auction, not to even approach the pricing/allocation distortions in an auction with multiple sellers

either side – **suppliers cannot accept scarcity pricing risk or reputational risk above an 8 hour LOLE.**

Auction Price Cap

Again, an Auction Price Cap is a reasonable means for the SEM Committee to effectively set a ‘*notional cap*’ on capacity prices. Given that the RAs do not currently have a transmission access policy in place for conventional plant; this will ensure that those with the limited quantity of transmission access allocated cannot extract rents from customers. As with the demand curve, **we believe that these parameters should be set outside of the CRM 3 decision.**

The existing BNE calculation provides some basis for a Net CONE calculation but it does not account for the negative option value that the RO can have, assuming that the stop loss is <1. The risk associated with difference payments and ASP needs to be included in any net CONE calculation. This is not a simple or certain calculation; hence most electricity markets taking the approach that any price cap is set at a multiple of net CONE. **We believe that a 1.5 multiplier, matching GB, would be appropriate** – ensuring there is no unnecessary arbitrage between the two mechanisms.

Bid Limits

Bid Limits should not be set at a technology level. Again, we have serious concerns about the proposals in the consultation paper. Applying a ‘technology going forward cost’ calculation or a ‘price-taker offer cap’ can never reflect actual going forward costs at plant. This creates a number of major risks for smaller participants and the TSO:

- Miscalculation of costs will effectively ensure that capacity contracts are allocated to the dominant generator, unless participants choose to take a loss by undercutting the ‘going forward cost’.
- By setting technology going forward costs, the regulators will be picking a favoured, least cost, technology mix based on incomplete information.
- If the auction clears at either the price-taker offer cap or the technology going forward cost step, the mechanism has effectively set a regulated price for capacity. With a number of technology cost steps applicable the RAs are making the mechanism very likely to clear at a regulated price. **This poses a State Aid Clearance risk to the mechanism as a whole.**

By setting any bidding limits you introduce inefficiencies – by setting multiple technology bidding limits you introduce multiple efficiencies and undermine the competitive auction approach itself. The paper states that ‘efficiency’ is a key criteria:

“The SEM Committee will be keen to ensure that capacity is procured at a low cost to customers.”

This is a very simplistic view of efficiency – buying capacity with cheap fixed costs that result in higher average energy costs is a very sub-optimal outcome. This is also an outcome that has been observed in other auctions where capacity with very high variable costs but low fixed costs have been favoured through auction design. The SEM Committee should be

seeking to avoid repeating these mistakes rather than creating a design feature that makes them a certainty.

Auction Governance, Roles & Responsibilities

Auction Legal and Governance Framework

The sections identified by the RAs in the document reflect the decisions within the existing CRM consultation documents – we think that the central multilateral code needs a more considered development process, potentially using an (accelerated) approach similar to the Rules Development, given that many of the underlying rules relating to Capacity Settlement are going through that process.

While we welcome the initial proposals on dispute resolution and modifications to the Capacity Market Code, we think they need a little more work to flesh them out, especially given that the nature of the underlying contracts being allocated (*short term energy obligation vs long term capacity obligation*).

Monitoring and Conflicts

We also welcome the Independent Auction Monitor role – similar to the existing SEM audit process. Given the dual roles – market monitoring and overall monitoring, we think that, while the RAs supported by the TSO can fulfil the first role, the second role must be fulfilled by an external party to manage inherent conflicts. Assuming that the key areas in which the TSO is potentially conflicted are within the scope of the audit (as well as linked areas like bilateral contracts for locational security such as those employed in Northern Ireland), these should be manageable.

Other Residual Issues

Carbon

We believe that the CIG and CIO parameters should be calculated as part of parameter setting.

Spot versus Forward Pricing

As the paper notes:

“A peak gas fired OCGT is unlikely to know precisely in advance when it will be required to run, and would generally buy its gas in the NBP Day Ahead or On-The-Day Commodity Market (OCM) spot markets.”

There is no issue with applying a daily spot price, given that any firm gas contract will be using something similar – costs should fluctuate with underlying markets. The RAs appear to want to move away from this approach on the basis that they believe that this has *‘simplicity benefits’* and creates *‘less risk to supplier hedge value’*.

The first is a non-issue – any simple spreadsheet can incorporate a dynamic variable. The second ensures that suppliers are less exposed to risk by exposing generators to substantial risk. Taking the example from the consultation paper, a generator would face substantial difference payments assuming that there was some limited gas flow from GB at opportunity

cost (or load shedding) even though the generator had no access to the underlying market. **Suppliers would receive a windfall at the expense of these generators without any obligation to deliver to end customers.**

Daily pricing is easy for participants (suppliers & generators) to incorporate into processes, and fair and equitable – the supplier side of the obligation does not use monthly parameters – they will make capacity option payments and receive difference payments during any period in which prices spike. We do not see why a generators hedge should hard code in monthly prices into parameters either.

Choice of Thermal Reference Efficiency

We agree with the proposal in the consultation paper – a value of T set at 15% is a reasonable compromise.

Fuel Input Data

If the CRM delivery body selects the spot fuel, carbon, transport and exchange rates to apply, the application of these should be audited by the independent monitor.

Socialisation

From a supplier perspective, the *suspend and accrue* approach is preferable. The CRM delivery body should be enabled by the RA to manage this mismatch in cash flow. Immediate additional charges cause operational and financial difficulties, particularly for smaller suppliers.