



Electric Ireland Response: DS3 System Services

**Auction Design Consultation Paper
SEM-15-105**

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1. RESPONDENT'S DETAILS

Electric Ireland's contacts for any clarifications or questions are given in the table below.

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2. GENERAL COMMENTS

Electric Ireland welcomes the opportunity to respond to the DS3 Auction Design Consultation Paper and the accompanying DotEcon report. Electric Ireland generally views each of the DS3 consultations from the perspective of a supplier and DSU operator. We are keen to ensure that the system service framework being developed enables and promotes full and effective participation from the demand side. We believe that, given the significant volumes of intermittent generation expected in the I-SEM, there is also a significant system services delivery role for the demand side to contribute to the overall security of the system. This activity may be focused initially on the I&C segment of the market but will increasingly include provision from residential and SME market segments and there are important interactions which will leverage benefits from the National Smart Metering Programme (subject to a positive cost / benefit assessment).

We recognise the potential for synergies between CRM and DS3 system processes and the benefits that this may offer to providers and customers. Any opportunity to combine these processes should take a streamlined and consistent approach. The DS3 Auction Design should be technologically neutral and not discourage new entrants. It must incentivise the right types of investment to ensure that future requirements for system service provision are met.

We consider that availability cannot be precisely known in advance as availability is determined in real time and can only be estimated at the time of the SS auction and may be subject to factors outside the control of the provider. It will be difficult for providers to predict availability on an annual basis, particularly for DSUs.

We believe that some form of expenditure cap or limitation measure would be beneficial in protecting the customer from the additional costs caused by the over-provision of services by participants beyond their indicated availability.

Our responses to the individual questions in the consultation paper are outlined in the following sections.

3. RESPONSE TO QUESTIONS

3.1 High Level Auction Design

Question 1: What are your views on the proposals to try to ensure a level of consistency between CRM and DS3 System processes?

Striving to ensure a level of consistency between CRM and DS3 system processes will be beneficial to consumers. DotEcon note that there should be no particular difficulty in integrating an auction of capacity with an auction of system services, should this be desirable, from an auction design perspective, however the consultation focuses on a standalone system services auction.

There are inherent differences between the designs of CRM and DS3 which may be unavoidable and which may pose an obstacle to achieving full consistency between both processes. In the CRM, auctions will likely be held annually for capacity for the year ahead and for 4 years out (i.e. a commissioning window). DS3 auctions are proposed to be held annually to provide services for up to 5 years out (including the years leading up to the fifth year). Additionally, the contract length for providing capacity (duration of reliability option) will be set by the RAs for a fixed period and the contract length for providing system services will be determined by the providers themselves, allowing more flexibility for the provision of system services. An integrated auction of capacity and system services would likely imply an alignment of delivery years, qualification processes (which would likely be beneficial), and the transitional arrangements.

Any solution looking to ensure consistency between CRM and DS3 should take a simplified approach, where possible. We recognise that the proposed auction design focuses on a standalone system services auction and that there are still a number of uncertainties regarding both the CRM and DS3 processes. Any efforts to ensure consistency should be further examined once it can be established how the markets may interact with each other and how providers are participating in order to ensure that both processes can be demonstrated effectively and also to manage levels of complexity.

Question 2: Do you consider that the SEM Committee should consider facilitating a link (where participants require) to only proceed with participation in the DS3 System Services auction subject to a successful outcome in the CRM auction or (vice versa) i.e. create an interdependency that as much as possible mitigates the need for auction re-runs.

DS3 and CRM auction interdependency will benefit providers relying on both revenue streams, particularly for new providers seeking investment. It will also be of significant benefit to consumers where any DS3 revenues are reflected in 'missing money' calculations as a primary input to CRM auction bids.

The suitability of this approach will depend on the timing of the auctions, the sequencing of the auctions and the turnaround time for winner and price determination. This approach may only marginally reduce the need for auction re-runs (if a provider is dependant on securing revenues from both auctions and is successful in the first and progresses to the second but is subsequently unsuccessful, there may still be a requirement for a re-run in the first auction) but it could deliver significant capacity cost efficiencies. Consequently it is important that the DS3 auctions occur before, or at the same time as, the CRM auctions relating to the same delivery year. This approach will allow a provider to determine the amount of their 'missing money' more robustly by accounting for DS3 revenues, and to bid into the CRM auction accordingly.

Question 3: What are your views on managing the interactions between the CRM and DS3 System Services auctions?

Coordination of CRM and DS3 auctions will be beneficial during the CRM transition period and on an enduring basis (see above). Opportunities to simplify and streamline both auction processes should be examined and utilised, where feasible. The potential to share or combine financial requirements such as bonds and collateral between both auctions should be examined. This may reduce some of the risk and potential expenditure which may pose a barrier to new entrants to the market.

Question 4: Do you agree with the proposals for separate DS3 System Services long-term and short-term auctions as set out in the DotEcon recommendation?

Electric Ireland notes the proposals in the second CRM Consultation on definitions for 'existing', 'refurbished', and 'new' capacity which may also be applicable to system services. A clearer definition of existing and new providers would be beneficial, particularly when considering an existing provider which has enhanced (or hopes to enhance) its system service capability through investment and the possibility of these providers pursuing long term contracts for these additional or enhanced services. There may be a scenario where a provider upgrades their capability to provide an additional or enhanced service and wishes to bid this service into the long-term auction to cover investment costs while bidding their existing services into the short-term auction.

Demand side providers of System Services in particular create a challenge for identification as new or existing providers. A demand side unit represents a portfolio of customer providers which is dynamic as some customers may go out of business and others would be recruited to provide services. In the context of stimulating greater participation from the demand side, it is likely that new customers will be continually recruited and the portfolio of customers will be continually growing.

Consequently Demand Side provision may be best considered as both an existing provider with an established portfolio of customers plus new capacity where new customers are recruited over e.g. a year - where these customers are capable of delivering system services earlier e.g. at quarterly intervals, the TSO might have the flexibility to accept the provision of these services at these earlier stages. Annual auctions would allow such Demand Side Units to make firm adjustments to the level of services offered to the market to reflect the prevailing portfolio of customers.

It has been noted that it should not necessarily be compulsory to procure the entire anticipated volume requirement for a 'future year' in the current auction. However, under this assumption, it may be difficult to facilitate a competitive auction process when the total volume available for a service (and therefore the levels of competition) in the future year is unknown. There is no way of accurately predicting the volume of provision bidding into the auctions in the interim years between the current year and the future year of interest. If the full volume for a future year is not procured (in anticipation of the contribution from additional volume from new investment) it cannot be presumed that conditions will be sufficiently competitive to support a competitive auction.

Question 5: Do you think the treatment of long-term contracting for System Services should be aligned with the proposed framework in the CRM?

We agree with the concept of aligning the contracting process for system services and the CRM in principle, where there is a consistency of delivery years, qualification requirements and transitional arrangements.

3.2 Volume Considerations

Question 6: What are your views on the proposals to calculate clearing volumes for the auction as set out by DotEcon?

It has been proposed that auction clearing volumes should be calculated on an additive basis. This seems suitable assuming that the total quantity of a service can be defined. It is likely that the required quantity could be met in a number of ways which suits this approach. The additive approach appears to be straightforward when considering a single service, but may introduce a high level of complexity when applied to 14 services with package bidding.

Question 7: Do you agree with the proposals for introducing granularity for the purposes of calculating auction clearing volumes?

The introduction of granularity will add an additional level of complexity to the DS3 process and perhaps not all forms of granularity may be warranted. For example, zonal granularity may not be required for some services and therefore would not be appropriate to apply to all 14 services. As with zonal capacity, the levels of competition in some locations e.g. for some services in Northern Ireland may not be sufficient to support competitive auctions. This could result in competitive auctions in RoI but a need for regulated tariffs in NI, even for the same service.

Time based granularity may be beneficial as a provider's availability may vary across timeframes and also on a seasonal basis. The ability for providers to accurately predict availability across multiple timeframes will introduce uncertainty and complexity, particularly for long term auctions. This is something that could be considered in the future if it is found that there is significant over procurement of services for certain timeframes.

Technology based granularity may result in an economically inefficient outcome. There should not be a restriction on a certain type of technology which can reliably and cheaply provide a particular service. There should be a focus on ensuring that the winner determination process determines the optimum outcome across all technology classes rather than ensuring that a certain volume from technology classes which may be expensive or unreliable is included in the auction. This form of granularity cannot be seen as technologically neutral.

If it is a key necessity to provide a distinction between some categories (timeframes, locations or technology groups), we propose that a minimum quantity for certain categories could be specified, rather than holding separate individual auctions.

Question 8: What are your views on the proposal to introduce flexibility on the volumes to be procured?

The introduction of flexibility will increase the likelihood that a feasible combination of bids capable of meeting the required volume will be achieved. The proposed methods of introducing flexibility are by setting a minimum volume requirement or by introducing a price dependant volume requirement. Setting a minimum volume requirement is the simplest option for increasing flexibility. It is noted that introducing a price dependant volume requirement is more complex, but has the potential benefit of limiting the impact of market power on prices.

We agree that the specification of a maximum volume requirement is not required, providing the methodology selects the 'least cost' option.

3.3 Bidding Parameters

Question 9: What are your views on the proposals for package based bidding?

Package based bidding is beneficial as it addresses risks that bidders may face when relying on winning contracts for a number of system services in order to cover their costs. As mentioned in our response to question 4, clarity is required regarding the potential for enhanced providers to bid services into long and short term auctions as this may cause complications with a package based bidding format.

Question 10: Do you consider that a provider will be able to predict its expected availability accurately on an annual basis?

We agree with the DotEcon view that availability cannot be precisely known in advance as availability is determined in real time and can only be estimated at the time of the SS auction and may be subject to factors outside the control of the provider. It will be difficult for providers to predict availability on an annual basis, particularly for DSUs. Demand side providers are likely to be relatively dynamic with the potential for individual elements to expand significantly or terminate within an annual timeframe. Providers would benefit from a tolerance band to assist with the difficulty in accurately forecasting availability. This band could be adjusted over time once providers can more accurately predict their availabilities, based on experience.

For a provider that is capable of providing two mutually exclusive services, they may technically be unavailable to provide one service while actively providing the other. This type of availability interdependency of some services should be considered.

Question 11: Do you agree with DotEcon's proposals in relation to quantity units for the services outlined above?

The proposed unit quantities seem suitable in general. However, the binary approach applied to FPFAPR and DRR simply indicates if a provider is capable of supplying the service, and does not give any indication of 'quantity'. It is unclear how the required volumes for these services will be met in auctions if providers are simply indicating capability and not quantity.

The suitability of a competitive auction for FPFAPR and DRR should be considered. It was previously noted in the Volume Calculation Methodology Consultation Paper that "we need the appropriate response from all new generation connecting to the system". As a result this value should be '1' (capable) for all future capability entering into long term auctions. As the required volume will equal the provided volume then a competitive auction will not be feasible.

If it is possible for existing non-synchronous providers to upgrade and enhance their ability to provide FPFAPR and DRR and to bid this provision into the *long term* auctions then a competitive auction may be suitable, but this approach may not be appropriate or fair. Synchronous

generation is inherently capable of providing these services and therefore the inclusion of this provision in short or long term auctions needs to be deliberated.

Early identification of any services which will not be suited to a competitive auction process should be considered. This will allow providers to exclude these services from their package bids where necessary and simplify the bid and auction process and reduce the need for auction re-runs.

Question 12: What are your views on a suggested cap or clawback on expected availability per plant to manage DS3 System Service expenditure?

In the event that a provider exceeds its expected availability it has been suggested that a cap or clawback mechanism could be employed to minimise TSO expenditure. This should encourage integrity and accuracy in the bidding process and will play an important role in protecting the customer from the additional costs caused by participants over-providing services. It is important that a cap is applied for all services, potentially at the upper end of a tolerance band, on the back of the auctions to protect customers. Given the uncertainties in forecasting the level of services that will be required and that there will be mechanisms for providers in the Balancing Market to earn revenues for services delivered as required by the TSO over and above the auction volumes, then a cap needs to be applied to restrict the cost to customers to that which is necessary.

One potential alternative may be to pay winning providers out at the 'loser' rate once their expected availability is reached. Should it be required by the TSO, it will be beneficial to reward providers capable of supplying extra availability (to an extent). Ideally, the level of remuneration should be lower than that rewarded for the provider's expected availability in order to reduce the benefits gained by providing additional availability above a provider's expected availability and to reduce DS3 costs for customers.

We believe that either way a cap should be introduced on the expected availability indicated by providers, with the TSO contracting for additional volume past the indicated availability, if required. The payment rate under these conditions could be the 'loser rate' in order to reduce gaming by participants understating their expected availabilities.

Consideration should be given to the level of system service provision from providers who have reached or exceeded their expected availability and whether these participants will be given priority to provide system services over participants who were unsuccessful in the auctions.

3.4 Auction Pricing

Question 13: Do you consider the DotEcon Report to have accurately captured the considerations for availability the TSO should use for different DS3 System Service products? If not, please explain your reasons why.

We agree with the considerations regarding availability, in principle.

Question 14: Do you agree with the proposals to ensure lower payments are received by System Service providers who are not successful in the DS3 auctions but who are dispatched by the TSO to provide System services, than those providers who are successful in the Auctions?

There may be benefits of ensuring that lower payments are received by System Service providers who are unsuccessful in the DS3 auctions as this may encourage participants to win the auctions and bid competitively. However, there should be a focus on rewarding providers who were successful in the auctions, rather than penalising those who are unsuccessful. This ideology should increase participation levels in the long run and encourage auction losers to participate in future auctions. Ideally, the auction design and procured volumes should minimise the requirement for provision of system services from auction losers.

Alternatively, providers could be paid the same amount for providing the same service. The benefit of participating in the auction is that successful providers would have the expectation of a fixed price up to a volume cap. Unsuccessful auction participants would earn the same price for services delivered but would have no certainty over the volumes to be provided.

Consideration should be given to the remuneration of potential providers who do not participate in the DS3 auctions at all but who may be dispatched to provide system services under certain circumstances. If these participants are remunerated on the same basis and under the same circumstances as auction losers (or winners), providers who are unable to provide competitively priced bids and have been unsuccessful in an auction will have little incentive to participate in future auctions whatsoever. This will have the effect of reducing levels of competition which is undesirable.

Question 15: Do you agree with the proposals for determining the winner/price as set out in the DotEcon recommendation?

Linear programming has been proposed to select the optimal outcome and prices which will be compatible with the proposed combinatorial auction format. This approach can facilitate a large number of feasible outcomes. The first step of the process involves determination of the winners, and once the winning bids have been selected the prices will be determined.

The DotEcon report notes issues with the 'bid stacking methodology' and 'uniform pricing requirement' proposed by the SEM-C and proposes solutions to amend this.

Bids will contain one bid amount for a bundle of services, rather than individual prices for specific services. The winner determination approach will either accept or reject bids in their entirety, with bidders capable of winning a maximum of one bid. The process will account for expected availability when evaluating bids which will make bids with a higher expected availability more competitive. The DotEcon report has noted that the complexity of the process depends on the number of volume requirements, number of bidders and the number of bids submitted by each bidder. Therefore factors such as granularity are likely to have an impact on overall complexity. It should be noted that Annex 2 of the report describes the computational tractability of the approach and the queries are generally solvable without specialist hardware, even with up to 100k variables.

It has been proposed that prices will be determined as part of a three step process, following determination of the winning bids. The optimal set of prices is selected by minimising the extent of 'unhappiness' amongst bidders. This level of 'unhappiness' is referred to as 'excursion' and reflects the potential increase in payoff the bidder could have achieved for a package it did not win, when compared to the package it did win. Excursion has a value of zero for a 'happy winner' or a positive value. The process ensures that a single, feasible set of clearing prices is selected based on the winning outcome. If the auction fails, there is a natural fall-back option in moving to a regulated tariff approach. This is noted to be unlikely as market conditions will be assessed prior to the auction process to ensure a competitive auction is suitable.

The proposed winner and price determination process appears to be complex, particularly when the potential introduction of separate short/long terms auctions and inclusion of granularity are considered.

Question 16: Do you agree with the proposed treatment of interconnectors? Should this apply equally to all interconnectors?

Yes, the SEM-C decision paper had proposed that the EWIC would act as a price taker and would not participate by bidding directly in the auction. DotEcon has proposed that EWIC would always be awarded a contract for the maximum quantity of system services that can be contracted from a single provider or its technical capability. It would act as a price-taker and would automatically be paid at the clearing prices established. EWIC would then receive payments whenever it is available. The same principle should also be applied to other interconnectors with similar technical capabilities.

Please note that the DotEcon report states that "The same logic could be applied to other interconnectors. They would act as price-takers for the highest of (a) their technical capabilities for system services and (b) the maximum quantity that can be contracted from a single provider". However, under this definition either the technical capability of the provider or the maximum allowable quantity will always be exceeded. Therefore the logic can only be applied to any interconnector if they act as price-takers for the lowest of (a) their technical capabilities for system services and (b) the maximum quantity that can be contracted from a single provider.

This ensures that the contracted volumes are within the technical capabilities of the interconnector and below the maximum quantity that can be contracted from a single provider under all circumstances.

3.5 Auction Commitment Requirements

Question 17: Do you agree with DotEcon's proposed preferred model of Contingent Commitment in DS3 System service Auction procurement?

A degree of contractual obligations may assist in achieving the auction objectives and is more suited to an annual auction environment. The proposed model appears to minimise some of the negative impacts associated with the Full Commitment and No Commitment models. However, the proposed contingent commitment model may have undesirable impacts on the balancing market. Additionally the 'contingent commitment' model rewards flexibility which may not necessarily be a technology neutral approach as different technologies will be capable of offering different levels of flexibility. Flexibility is not considered or accounted for during the bidding and auction process and therefore should not be considered as a key criteria for reward. The key considerations during the auction process (quantity, availability and price) are not directly related to flexibility.

Question 18: Do you agree with the position proposed by DotEcon that successful winners in the DS3 Auction should bid in the BM only at DEC prices set to a proxy of the energy price (section 7.2 above)?

Where providers are being paid for availability, there is a need for some bidding restrictions to apply to ensure that utilisation payments are appropriate.

DECs based on a proxy of the energy price are suitable for services which are dependant on a provider reducing its output in order for the service to be utilised. No DEC commitment would be required for services which are technically realisable independently of being at full/part load. Transparency will be required for TSO decisions to constrain down an individual unit. Will the unit with the lowest DEC price always have their output reduced first, where required?

Question 19: Do you agree with the position proposed by DotEcon that successful winners in the DS3 Auction should bid in the BM only at INC prices set to a proxy of the energy price, or on a costs minus System Services income basis (section 7.2 above)?

Similarly to DEC offers, there will be a need for some form of bidding restrictions to apply to ensure that utilisation payments are appropriate.

INCs are proposed to be implemented in a similar way to DEC's and will be required for providers of a service which is only technically realisable once the provider is exporting.

There are other considerations which should be accounted for when deciding to constrain on an individual unit, apart from simply its INC price. Different units may offer different levels of benefit to the system and this may not truly be reflected through the INC price. For example, in a situation where the provision of one service is required, one unit with a low INC price may only be capable of providing the required service and another with a high INC price may be capable of offering a large number of additional services also. Constraining on the unit with the low INC price may not provide the greatest benefit to the system in the event that some of the additional services are needed in the immediate future. When constraining on a unit, start up times will also be of importance. Provision of system services from a unit which is out of schedule in the market will benefit from short start up times and this may not be reflected in the INC prices submitted by a provider.

Transparency would be required for any TSO decisions to constrain on a unit. This could be more complex than the 'DEC' case, as the benefits of constraining on one unit rather than another may be difficult to compare, if not simply based on the INC price.

Providers should bid on a costs minus System Services income basis as it is important that they are not exposed to a loss by being constrained on. It should be noted that this cost will change over the period of service provision.

Question 20: Do you support the application of an alternative contingent commitment model that avoids direct commercial interaction and obligation within the Balancing Market (section 7.3 above)?

Yes, the alternative contingent commitment model proposed by the regulatory authorities does not require participants to adopt a bidding strategy in the balancing market. Under this approach, the provider indicates a minimum availability of system services over a defined period, but without defining the trading period in which the provider must make themselves available. This approach offers levels of system services security without directly interfering with the balancing price.

This is a more relaxed model than the contingent commitment model proposed by DotEcon and appears to mitigate the negative impacts and risks associated with the no commitment and full commitment models. This approach will introduce a risk of financial penalties to providers, but one which can be avoided if providers ensure their indicated availabilities are met. The TSOs will monitor rather than 'control' participants with responsibility on providers of system services to ensure that indicated availabilities are met. This should reduce administrative burden on the TSOs.

Question 21: Do you agree with the proposed treatment of plant that does not require it to be in the schedule or on for provision of System Services?

Yes, the proposed approach appears to enable different technologies to compete fairly. While some technologies have an inherent ability of being 'easier' to be available, these technologies are likely to have a small overall volume on the system (according to the Consultation on Volume Calculation Methodology and Portfolio Scenarios paper) and as a result will have a small overall impact. These alternative technologies are also likely to be more reliant on DS3 system services payments as a revenue stream to support investment and may not have significant alternative revenue sources. This plant should be treated equally to other technologies regarding meeting indicated availabilities.

Question 22: Do you believe that either the Full Commitment model or the No Commitment model offers a better option for DS3 System Service providers? Please explain your reasons for your view.

The No Commitment model offers a better option for DS3 System Service providers from a demand side perspective. It will allow DSUs to continue with day to day operations without being overly restricted in their activities and provides the opportunity to provide system services when possible / suitable. The no-commitment model has the desirable effect of ensuring that auction winners can never be worse off than losers. As mentioned in the DS3 Qualification and Process Design Consultation, there is scope for Performance Bonds to be implemented to ensure that providers meet their contracted values which may help ensure that providers meet their indicated availabilities, even under a No Commitment model.

Full commitment is not favourable from a demand side perspective, particularly under the annual auction approach proposed. The full-commitment model is likely to be overly restrictive on participants and we agree that this approach may result in the availability of system services frequently exceeding the real-time requirements.