



**Response by Energia to SEM Committee
Consultation Paper SEM-18-159**

***Capacity Remuneration Mechanism Reserves
Consultation Paper***

2nd November 2018

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1. Introduction

This document sets out Energia's response to the Capacity Remuneration Mechanism Reserves Consultation Paper SEM-18-159 ("the Consultation Paper").

Energia welcomes the opportunity to respond to the issues raised within the Consultation Paper and given the technical nature of the subject matter under consideration and its relevance to the TSOs we are also copying this response to EirGrid.

Energia notes a number of recent developments and publications by both EirGrid and CRU which support the requirement for the inclusion of reserves in LCCAs and most notably the Dublin area. These publications include a CRU information Paper on security of supply in Dublin¹ and a letter to EirGrid supporting participation of New Capacity in the Dublin area in the T-4 CY2022/23 Capacity Auction without a prior grid connection offer². EirGrid also published an updated Generator Capacity Statement 2018-2027 ("GCS 2018")³ which shows a significant increase in demand forecast in the Dublin area (see general comments in section 2). In addition an Urgent Capacity Market Code Modification⁴ has been published which seeks to provide the RAs with the ability to modify the MW Limits in an LCCA and which the RAs intend to be applicable for the upcoming T-1 CY2019 /20 Capacity Auction as well as subsequent auctions. We would be supportive of this proposal in the context of the clear requirement for reserves to be included in the Dublin minimum MW requirement, however not for the purpose of withholding capacity from the T-4 auction, for reasons which we have outlined below and in previous responses.

Energia would welcome the opportunity for a meeting with both the RAs and EirGrid to further explain our position if this would be deemed to be helpful.

The remainder of this response is structured as follows. We provide general comments in section 2 followed by our response to specific consultation questions in section 3.

¹ CRU/18/228 Information Paper –Dublin Security of Supply: Measures to mitigate the risk of disorderly exit (published 5th October 2018).

² CRU/18/229a CRU letter to EirGrid re Dublin Region Level 2 Locational Capacity (published 17th October 2018).

³ All-Island Generation Capacity Statement 2018-2017 (published by EirGrid on 17th October 2018)

⁴ CMC-14-18: Proposed Modifications in regards to the modification of LCC MW Limits by the RAs. Consultation published 23rd October 2018 with response due 5th November 2018.

2. General Comments

2.1 Change in demand Forecast

The change in demand forecast apparent from GCS 2018 is profound, and sudden. It appears to have been taken account of (at least in part) in the CY2022/23 T-4 auction parameters at system level (LCCA parameters are still to be set). However it is noted that the CY2019/20 parameters published as recently as June, were unchanged from those for CY2018/19, implying that the demand increase was not known at the time.

This sudden change is indicative of the risks to security of supply which can arise. While such a change would have a significant impact at system level, the impact on an LCCA (notably Dublin region in this case, where the demand growth is understood to be arising) would be immense. The inclusion of reasonable levels of operating reserve within the LCCAs would go some way to offset the risks and impacts. This should be clearly recognised and included in the reserves allocation methodology.

2.2 Capacity withholding from T-4 auctions

The SEM Committee has reserved its position on an amount of capacity which may be withheld from the CY2022/23 T-4 auction. While we believe this to be entirely unjustified in any case as outlined in our response to SEM-18-028 (i.e. withholding capacity will have a distorting impact on auction prices and to do so based on DSU bidding is flawed given the errors with the initial T-1 auction which may have inflated and over-stated DSU participation) the sudden and profound revision of the demand forecast underscores the level of risk which could result from withholding at any substantial level.

The main argument advanced by the SEM Committee for withholding is the possibility that large volumes of DSUs could be able to participate at the T-1 stage, but unable to at the T-4 stage. However consider an incidence of a sudden and unexpected change in circumstances, such as the recent demand re-forecast, arising between the T-4 and T-1 stage. DSUs would now be being relied upon not only to make up the amount withheld from the T-4 auction, but also the additional capacity required due to the changed circumstances⁵. Whatever the possibility of achieving that at system level, the likelihood of achieving it within a smaller area such as the Dublin LCCA, is remote.

Energia strongly contends that there should be no withholding from the T-4 auction. The full amount of capacity forecast to be required at the T-4 stage should be included in the auction, to avoid inappropriately depressing clearing prices and to avoid undue risk to security of supply.

⁵ While the change in this case resulted from re-forecast demand growth, it could equally arise from a different event such as a major generator outage/failure or a delay in a critical transmission circuit.

2.3 Demand distribution

Energia has previously commented on the criticality of the assumptions on distribution of the overall demand and the amounts allocated to the LCCAs. While the approach to allocation of demand in the CRM has never been fully clarified, we interpret from previous consultation and information papers that the allocation is in accordance with the demand distribution contained within the Ten_Year Transmission Forecast Statement (“TYTFS”). This raises some important issues.

Firstly, the TYTFS contains only a single scenario, equivalent to the GCS median scenario. However the CRM “least worst regrets” methodology selects a higher demand scenario (referred to in GCS 2018 as “Demand Case 8”). The purpose is to achieve the appropriate balance between cost and security of supply, on a least-regrets basis.

This principle is equally important at system-level and LCCA-level. As “Demand Case 8” is the appropriate demand scenario for CRM, then the demand distribution to LCCAs should also reflect Demand Case 8. Otherwise the security of supply in the LCCAs could be inferior to the rest of the system.

The significance of this is apparent from the GCS 2018 data. Regarding the CY2022/23 T-4 auction, the demand forecast for 2023 (Ireland; transmission-peak) is 6,180 MW (median case) and 6,640 MW (high case). We estimate that the “Demand Case 8” level would be about 6,460 MW. On the understanding that most or all of the difference between the Demand Case 8 and the median forecast (280 MW) relates to the Dublin region, then, if the demand allocation is carried out per the TYTFS distribution (representing a the median scenario), the Dublin demand would be understated by up to 280 MW.

This is a critical issue and must be clarified and addressed appropriately. The TYTFS forecast is not appropriate, without adjustments to recognise the location of the additional demand in the CRM reference case.

Secondly, it is critical that the demand distribution for the CY2022/23 T-4 and CY2019/20 T-1 auctions is based on up-to-date data that reflects the recent revised demand forecast changes. We do not know the intended publication date of the next TYTFS but it is in any case quite likely to be based on a data-freeze date which precedes the recent substantial revision of the demand forecast. Therefore on this occasion at least, the TYTFS distribution is likely to be grossly out of date. A more appropriate, up-to-date demand distribution should be adopted.

3. Response to Specific Consultation Questions

Reserves in CY2022/23 T-4 Auction

Question 1

Do you agree with the proposal to include reserves in Locational Capacity Constraint Area minimum MWs for the T-4 CY2022/23 capacity auction? Please explain.

Energia strongly agrees with the SEM Committee's proposal to include reserves in LCCAs for the T-4 CY2022/23 capacity auction. Energia believes that it is essential to do so, in order to:

- a) Provide that there is adequate capacity within LCCAs to achieve the same level of security as other areas; and
- b) Mitigate particular risks and uncertainties which pertain to LCCAs.

Each of these issues is expanded upon below.

To provide that there is adequate capacity within LCCAs to achieve the same level of security (LOLE) as other areas:

- As recognised in section 3.1.3 of the Consultation Paper, the capacity procured in the LCCAs in the T-1 2018/19 auction, only exceeded the stated MW requirement very marginally. This was particularly the case in Dublin where only 36 MW more than the minimum value cleared the auction. In the absence of adjustment of the required quantities in LCCAs by the inclusion of sufficient reserves, it is highly likely that a similar outcome would result from subsequent auctions; i.e. in effect, most or all of the reserves would in practice be procured external to the LCCAs. This would result in the LCCAs having a lower LOLE standard than other areas of the system.

To mitigate particular risks and uncertainties which pertain to LCCAs:

- Due to the relatively small size of LCCAs (compared to the system as a whole), risks such as loss of a major generation source or a transmission circuit, have a disproportionate impact on the security of supply within the LCCA. A single large generator or critical transmission circuit represents a significant proportion of the available resources to meet demand within the area.
- Section 3.1.7 of the Consultation Paper refers to "known" events or risks which will exist in LCCAs in transitional auction periods ("T-1 specific factors"). Such risks also exist in future periods (whether "known" or not), and will always have a disproportionate impact on LCCAs.
- GCS 2018 contains dramatically revised demand forecasts, which impacts on the CRM requirements at system and LCCA levels. The median forecast has increased (compared to GCS 2017) by 450 MW (for 2022) and 630MW (for 2023). The respective increases in the "Demand Level 8" scenario⁶, selected by the CRM, would be greater still. This huge change in forecast demand appears to have arisen in a very short space of time (notably it was not reflected in the CRM parameters decision for the CY19/20 T-1 auction as

⁶ Refer GCS 2018 (page 13)

recently as June 2018). It is also apparent that most or all of the increase applies to the Dublin area. An increase of this scale would have impacts on security of supply for the system as a whole, but has a vastly greater impact on an LCCA because of the limited resource pool available within the LCCA. This once more underscores the disproportionate risks faced in LCCAs and the consequently greater need for inclusion of reserves specifically in LCCAs.

- The Dublin LCCA in particular has a significant dependence on DSUs as a component of the available capacity portfolio. As previously noted by Energia (and also EirGrid), the performance of DSUs is untested in providing this sort of service, which is very different from that which they have traditionally provided. Furthermore the level of DSU participation from the first T-1 auction should be disregarded as the volume was artificially inflated due to erroneous auction parameters and the DSU de-rating factor has been subsequently reduced⁷. We also note from GCS 2018 that the availability of DSUs for the 12-month period to March 2018 was only 60%, as compared to a capacity planning assumption of 90%⁸. Energia believes that it is likely that DSUs will perform below expectations, again creating a disproportionate security of supply risk for the Dublin LCCA.

Question 2

If reserves are to be included across the Locational Capacity Constraint Areas, which of the above approaches (or other approaches do you favour and why)?

Energia strongly favours Option 1 (“bottom-up” approach) to establishing the reserve requirement within LCCAs. Only a bottom up approach is likely to be able to adequately cater for the particular characteristics of LCCAs (as acknowledged in section 2.4.1 of the Consultation Paper).

We concur with the views in section 2.4.2 of the Consultation Paper, that Options 2a and 2b (the “top-down” approaches) are unlikely to achieve the target security of supply standard in each LCCA, and at all-island level. Even if the top-down options were considered to be more transparent, while transparency is a sound objective, it cannot be at the cost of ensuring security of supply. Any of the top-down options outlined will not adequately take account of specific circumstances pertaining in the LCCAs (and particularly Dublin).

We also note the SEM Committee’s acknowledgement in section 2.3.8 of the Consultation Paper, that:

“given time constraints it is unlikely that much more detailed analysis can be completed before the CY2022/23 T-4 auction, and it may be necessary to implement a bottom-up type approach using some rules of thumb”.

We encourage the SEM Committee to take full account of the specific factors relevant to LCCAs in applying its judgement in this regard (both for the T-4 and interim T-1 CRM auctions). We further suggest that in exercising its discretion, the

⁷ Refer Energia response to SEMC Consultation SEM-18-028 (Pg 19-21)

⁸ Refer GCS 2018 (page 41)

SEM Committee should set out the basis for its determination and disclose (in so far as possible) the information on which it is relying (including system and locational demand data). This will support transparency and allow participants to reasonably assess and comment on the proposals reached by SEM Committee.

While we do not favour the “top-down” approaches in general (for the reasons outlined), we further consider that the approaches as described in the Consultation Paper are flawed. Our reasoning is set out below.

Option 2a: Top-down based on largest single infeed

The Executive Summary of the Consultation Paper describes Option 2a as

“a “top-down” allocation approach whereby the all-island reserves total is allocated down to LCCAs pro-rata to the largest single infeed in that area”

While this approach has some merit in principle, perhaps as a component of a methodology for allocating reserves⁹, the allocation given in the tables in section 2.3.12 of the Consultation Paper is quite different. Rather than allocate to each of the three areas (Northern Ireland, Dublin, rest of Ireland) based on their respective Largest Single Infeed (LSI, it allocates first between Northern Ireland and Ireland, and then “sub-allocates” the Ireland proportion between Dublin and the rest of Ireland. The resultant allocation to Dublin in particular is inadequate and does not reflect the LSI in the Dublin LCCA. A correct allocation would result in a much more even allocation between the three areas (the precise result depending on whether Dublin Bay Power is considered a single infeed or not).

Option 2b: Top-down approach based on current minimum MW methodology

In the tables in section 2.3.15 of the Consultation Paper, the reserve is allocated between the three areas (Northern Ireland, Dublin, rest of Ireland) based on a presumption of their respective CRM minimum capacity requirements. The capacity figures for Dublin and Northern Ireland (1300 MW and 1620 MW respectively in the example) represent the minimum capacity required in those LCCAs. However the methodology appears to implicitly assume that there is a similar “minimum” capacity requirement for the rest of Ireland. This is not the case. To allocate appropriately, a minimum capacity requirement for the “rest of Ireland” would need to be calculated following the same methodology as for the LCCAs. This would be significantly lower than the 3,960 MW figure (5,260-1,300) implicitly assumed in the calculations. This would give a significantly different allocation than shown in the table.

More generally, Option 2b (even with the above modification) does not reflect the respective security of supply requirements in each of the areas and is not, in our view, fit for purpose. It is widely accepted and understood within the electricity sector internationally, that given similar generation portfolios, a larger system requires a lesser percentage reserve capacity margin than a smaller system. This is because

⁹ While it may form a component of a longer term mechanism for reserve allocation, it is inadequate on its own due to the inability to reflect additional risk factors – as discussed in the Consultation Paper and in this response.

- a) the larger system benefits from having a larger number of generation units, and consequently benefits from more favourable statistical outage distributions;
- b) the LSI is a much higher percentage of the resource portfolio in the smaller system. Therefore an outage of one or more large units has a proportionately greater impact on security of supply than for a larger system.

This is precisely the situation that arises here. Both LCCAs (Dublin and Northern Ireland) are comparatively small, and applying the same percentage reserve margin to the LCCAs as for the rest of the system (as Option 2b does), would clearly result in a lower LOLIE standard in the LCCAs than the balance of the system. Therefore it simply does not meet the stated objectives.

Inclusion of Reserves in CY2019/20 T-1 Auction

Question 3

Do you agree with the proposal to include reserves in the forthcoming T-1 capacity auction for CY2019/20? Please explain.

Energia strongly agrees with the proposal to include reserves in the forthcoming T-1 auction for CY2019/20. In addition to the arguments for inclusion of reserves in the CRM auctions in general, there is an even greater imperative in respect of the T-1 CY2019/20 auction due to:

- a) The significant revision of the demand forecast in GCS 2018, which was not taken account of when the auction parameters were set in June. Therefore the “reserve” methodology may be the only readily-available mechanism for adjusting the capacity requirement at both All-Island and LCCA levels¹⁰;
- b) The “T-1 specific factors” referred to in the Consultation Paper. These factors are due to the methodology for calculating capacity requirements are based on historical averages for planned and forced outage rates which are more appropriate for T-4 auctions. The methodology does not account for more specific T-1 factors such as one-off upgrades, timing of major overhauls, uncertainties from short notice events etc. In addition, the impact of these factors has the potential to be more keenly felt at an LCCA level than on an all island level.

Aside from these critical imperatives, inclusion of reserves in the interim T-1 auctions is warranted in any case, for example:

- to provide a more consistent “glide path” to 2022/23 (avoiding unwarranted plant exits);
- recognising that the “margin” inherent in the T-1 mechanism (at least at all-Island level) due to the T-1 auctions being based on a 2021/22 demand forecast and the “over-procurement” due to LCCA capacity being additive to

¹⁰ Although we assume that given the extent of the demand forecast revision the SEM Committee would have to revise the CRM quantities in any case.

(rather than displacing) plant cleared in the main auction, being eroded over time with each T-1 auction.

Question 4

Do you agree with the view that the case for including significant reserves in the all-island demand curve is relatively weak?

While the case for inclusion of reserves in the all-Island CRM requirement is considerably less urgent than for the LCCAs (in particular Dublin), in principle it would still be correct to include reserves at all-island level. At least, it would be appropriate to adjust the all-island CRM requirement to reflect the revised demand growth. The CY2019/20 T-1 auction parameters are, in accordance with SEM Committee's earlier decisions, to be based on the demand forecast for 2021/22. The demand forecast for 2022 has been revised upwards in GCS 2018 by 450 MW (median case) and 490 MW (high case). This is a substantial change which, had it been included when the parameters were set in June, would have resulted in a significantly higher CRM MW requirement.

The potential for the CY 2019/20 T-1 auction to deliver more than sufficient capacity at all-island level¹¹ is a relevant consideration, and potentially reduces the criticality of adding reserves at all-island level. However, not adding them in order to "erode" the excess capacity delivered by the mechanism does seem to be at odds with the principles of earlier decisions. Adding reserves to the all-Island requirement would also reduce the risk of unwarranted exit of generation, in recognition of the expected large demand growth imminent in later years.

Also it should be noted that the excess procurement, though probably likely, is not a guaranteed outcome. A minimum measure could be to at least add additional capacity at all-island level, if the event that the required levels of capacity do not arise from the combination of the all-island and LCCA auctions, taken together.

Question 5

If reserves are to be included across the Locational Capacity Constraint Areas, which of the above approaches (or other approaches do you favour and why)?

For the reasons outlined above in response to Question 2, Energia believes that a bottom-up approach is the only mechanism which can take account of LCCA-specific issues and deliver security of supply. We further agree that it is appropriate to provide for additional adjustments (ref. section 3.2.5 of the Consultation Paper) to take account of other factors such as "*known variations in outage patterns from the norm*".

The impact of the revised forecasts will be most acute in the Dublin area. From GCS 2018 and previous comments made by the RAs and TSOs¹², it is likely that most of

¹¹ As outlined in section 3.2.1 of the Consultation Paper

¹² Comments to support this are included within the publications CRU/18/228 and CRU/18/229a as highlighted within the Introduction section.

the additional 450 MW (median demand case) or estimated 490 MW (“Demand Case 8”) forecasted for 2022, will arise in the Dublin LCCA. This is a very major increase in light of the scale of the LCCA and the current 1300 MW requirement set in the CY2019/20 T-1 parameters decision. A top-down approach will simply not deliver the necessary adjustments to provide for security of supply in the Dublin region.

In addition to other “known variations” referred to in the Consultation Paper, we would once more urge the SEM Committee to adopt prudent assumptions in respect of DSUs, which represent a significant portion of the Dublin CRM portfolio, until such times as their contribution is tested in “real life” situations.

Question 6

Are there reasons to use different approaches for the CY2019/20 T-1 auction and the CY2022/23 T-4 auction? If yes, please explain.

The overall approach in principle should be similar. However we agree it is important to recognise “known factors” in the T-1 timescale, as discussed in the Consultation Paper:

The current methodologies assume average levels of outage, and do not take account of specific information known in T-1 timescales. T-1 specific factors such as known outages, one-off upgrades to meet environmental restrictions and timing of major overhauls are more likely to be known at the T-1 stage.

The T-1 specific factors provide support for different LCCA allocations in the CY2019/20 T-1 and the CY2022/23 T-4 auction, and for requiring specific local adjustments in the CY2019/20 auction to take account of one-off factors, not fully reflected in the current methodology.

We do not consider this to create a difference in principle between T-1 and T-4 auctions. Were issues of this nature to be known at the time of a T-4 auction, it would be appropriate to include them in determining the CRM requirement. However, as the SEM Committee states, it is simply more likely that they will be known (and therefore able to be taken account of) at the T-1 stage.