EirGrid TSO Consultation:

Implementation of Locational Scarcity Scalars for System Services

23 June 2020

Disclaimer

EirGrid as the Transmission System Operator (TSO) for Ireland, and SONI as the TSO for Northern Ireland make no warranties or representations of any kind with respect to the information contained in this document. We accept no liability for any loss or damage arising from the use of this document or any reliance on the information it contains. The use of information contained within this consultation paper for any form of decision making is done so at the user's sole risk.

1 Table of Contents

2 Introduction

On 4 February 2019, the Commission for Regulation of Utilities (CRU) published consultation paper CRU/19/011[1] on its proposals to adjust the System Services Locational Scarcity Scalar above one, for a limited number of System Services, for providers in the Dublin Region. In this paper, the CRU noted the need for locational signals in the Dublin Region to incentivise generation that provides system support, both in terms of entry and exit, which is important for the long-term security of supply in the region, in the context of unprecedented levels of forecast demand growth. This was preceded by the publication of two Information Papers, the Regulatory Approach to Maintaining Local Security of Supply in Electricity (CRU/17/346) in 2017 [2] and Dublin Security of Supply: Measures to mitigate the risk of disorderly exit (CRU/18/228)[3] in 2018. The output of CRU's consultation was a direction for EirGrid to develop scalar values for the Locational Scarcity Scalars, based on the decisions outlined in the decision paper Dublin Security of Supply: Locational Scarcity Scalars for System Services (CRU/19/128)[4], published on 19 December 2019.

The CRU's decision can be summarised as follows:

- The Locational Scarcity Scalars will be adjusted above one for all eligible service providers in the Dublin Region for the following services:
    - Replacement Reserve – Desynchronised (RRD)
    - Replacement Reserve – Synchronised (RRS)
    - Ramping Margin 1 (RM1)
    - Ramping Margin 3 (RM3)
    - Steady State Reactive Power (SSRP)

---

[1] https://www.cru.ie/wp-content/uploads/2019/02/CRU19011-Consultation-Paper-on-Locational-Scalars-in-the-Dublin-Region-updated.pdf

[2] https://www.cru.ie/wp-content/uploads/2017/12/CRU17346-Information-Paper-Regulatory-Approach-to-Maintaining-Local-Security-of-Supply.pdf

[3] https://www.cru.ie/wp-content/uploads/2018/10/CRU18228-Information-Note-on-DMILC-process-1.pdf

[4] https://www.cru.ie/wp-content/uploads/2019/12/CRU19128-Dublin-Security-of-Supply-Locational-Scarcity-Scalars-for-System-Services.pdf

- Tertiary Operating Reserve (TOR2)

- €12.5m will be allocated annually, to cover the costs of adjusting the System Services Locational Scarcity Scalars in the Dublin Region. Scalars will be set ex-ante against this allocation and cost recovery will be dealt with through the established CRU tariff review process;

- The Locational Scarcity Scalars will be set for five years from their initial adjustment. In subsequent years, the Scalar values will be set five years in advance on an annual basis (i.e. the 2026 scalar will be set in 2021). The application of locational scarcity scalars in the Dublin Region will end in 2027, when the necessary reinforcements will have been delivered;.

- The Locational Scarcity Scalars will be applied to payments for the relevant technologies and System Services in line with the payment rules for the Temporal Scarcity Scalar as set out in the DS3 System Services Market Ruleset. Therefore, only units who have committed to make the services available in the ex-ante markets will receive the scalar payments. Units constrained on by the TSO will not. This approach rewards units based on decisions they have made as opposed to TSO decisions.

This consultation document sets out proposals by EirGrid to implement the CRU decisions in line with the principles set out in CRU/19/128. We are seeking stakeholders' views on these proposals and welcome feedback on the four questions posed within this paper, which will be used to inform the final decision made by the CRU ahead of implementation.

3 Defining a Dublin Region

In identifying the optimal arrangements for the scalars, EirGrid notes the CRU's overarching principles, as detailed in CRU/19/128:

1. To increase the remuneration for services that most contribute to increasing local security of supply;

2. To send appropriate long-term market signals to market participants to promote efficient locational decisions for new and existing generation which can provide system support;

and

3. To adopt an approach that can be implemented quickly, that is pragmatic and fit for purpose and in a manner that delivers reasonable certainty for market participants.

Acknowledging these principles, combined with the fundamental aim of minimising consumer cost and potential market distortion (as outlined in CRU/17/346), EirGrid is seeking to align the Locational Scarcity Scalars areas with those which have proven to be effective in the context of the capacity market. As noted by the CRU in its summation of consultation responses, System Services Locational Scalars are the only means of recognising the locational value of generation in constrained areas, something which is not explicitly recognised in the energy or capacity markets. Hence, introducing an alternative means of determining an area could serve to drive segregation between the capacity and energy markets, at a time when these should be seen to function in unison. Furthermore, we consider that such an approach that can be implemented quickly, is pragmatic, and is fit-for-purpose, in keeping with the CRU's aspirations, as detailed in CRU/17/346. It is proposed therefore to implement the Dublin region as per the level 2 locational capacity constraint area defined for the purposes of the CRM T-4 auction for the Capacity Market.

It is also proposed that locational scalars shall apply to units of all technologies located within this defined Dublin region that provide the relevant system services specified by RAs in CRU/19/128. Technology types in Dublin region at present include both conventional units and DSUs. In a manner similar to the capacity mechanism for DSUs all Individual Demand Sites (IDS) must be located within the defined Dublin region. DSUs which are located in the defined Dublin region but which do not hold a capacity contract, shall be eligible for locational scalars provided that they have a systems services contract for any of the products specified by the

RAs. For such units, validation of the location will be carried out in a similar manner to that of the capacity mechanism.

Question 1: Do you agree that the Dublin region applicable to Locational Scalars should be as per the level 2 locational capacity constraint area defined for the purposes of the CRM T-4 auction for the Capacity Market? If not please specify other approach for defining the Dublin region.

Question 2: Do you agree with the proposal that Locational Scalars should apply to all technologies that provide any of the required system services? If you believe they should only apply to a subset please specify the relevant technologies and basis for same.

4 Calculation of Locational Scarcity Scalars

In CRU/19/011, the CRU proposes that the Locational Scarcity Scalars will be adjusted above one for all services providers in the Dublin Region for the following six services:

- Replacement Reserve – Desynchronised (RRD)
- Replacement Reserve – Synchronised (RRS)
- Ramping Margin 1 (RM1)
- Ramping Margin 3 (RM3)
- Steady State Reactive Power (SSRP)
- Tertiary Operating Reserve (TOR2)

It has been specified by CRU that payments for the locational element of System Services are to be in line with the payment rules for the Temporal Scarcity Scalar as set out in the DS3 System Services Market Ruleset.(SEM_18_032) This means that only units who have committed to make the services available in the ex-ante markets will receive the scalar payments. In its calculations, the TSO has projected locational scalar values based on the most recent market model used to forecast system services expenditure. For the implementation of

the locational scalars for 2020/21, the most recent available system services market model is that for the 2019/20 tariff year.

With regard to the weighting of the scalars, in CRU19/128 it was stated that "*at least initially, an equal weighting across the relevant services would likely be most appropriate and implementable approach*" Given that there is an allocation of €12.5M to be allocated across the six products, this results in additional €2.083M being available for each product.

Incorporating these principles the methodology has two key steps defined as follows for determining the appropriate locational scalar for each relevant product.

1. The forecast system services revenue for each product is estimated for the most recently available tariff year. This is calculated based on contracted volumes for system services, current tariff rates and application of the relevant TSS for periods when System Non Synchronous Penetration (SNSP) exceeds 60%.
2. Based on the total revenues for each product for units located in the Dublin region, locational scalar value for each product can be calculated using the formula below:

$$Locational\ Scalar\ per\ Product\ = \frac{(Total\ Revenue + Locational\ Scalar\ Allocation)}{Total\ Revenue}$$

Using the methodology outlined, the values of locational scalars are shown in Table 1 below.

RRD	RRS	RM1	RM3	SSRP	TOR 2
4.35	2.35	2.97	2.49	1.39	1.62

Table 1: Proposed Locational Scalar Values for each prodct

Question 3: Do you agree with the proposed methodology for implementation of Locational Scalars? If not please provide an alternate methodology and basis for same.

Question 4: Do you agree that the proposed values of the Locational Scalars reflect the value of these services to the SEM? If not please outline the values you believe are appropriate and basis for same.

5 Next Steps

Responses to the four questions posed are invited from all interested stakeholders. Responses should be submitted by email to DS3@EirGrid.com before on, or before, 4 August 2020. We request that respondents use the associated questionnaire template published alongside this document. Responses will be collated and reviewed, before a final proposal is submitted to the CRU. Implementation of the approved Locational Scarcity Scalars will take place in line with the direction of the CRU.