

## DS3 System Services Consultation – Volume Calculation Methodology and Portfolio Scenarios

This questionnaire has been prepared to facilitate responses to the consultation. Respondents are not restricted to this template and can provide supplementary material if desired.

Please send responses in electronic format to [DS3@eirgrid.com](mailto:DS3@eirgrid.com) or [DS3@soni.ltd.uk](mailto:DS3@soni.ltd.uk)

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**Note:** It is the TSOs' intention to publish all responses. If your response is confidential, please indicate this by marking the following box with an "x". Please note that, in any event, all responses will be shared with the Regulatory Authorities.

**Response**

**confidential**

The closing date for responses is Friday, 4<sup>th</sup> December 2015.

<i>Question</i>	<i>Response</i>
<b>Determination of Capability Volume Requirements</b>	
<p>Do you agree with our proposed approach to determining the Capability Volume Requirements for the System Services?</p> <p>If not, please specify what alternative method you believe to be more appropriate.</p>	<p>In general, we support the proposed methodology for calculating the Capability Volume Requirements for the DS3 System Services, subject to the comments below:</p> <ul style="list-style-type: none"> <li>• It would be helpful to see the required volumes confirmed early in 2016, thus providing visibility of the market opportunity for these services, and allowing the development of investment proposals in advance of the qualification process.</li> <li>• The Capability Volume Requirements have limited value to participants in developing investment options, given that payments for many of the services will be on an 'availability' rather than 'capability' basis. To address this concern, the Real Time Volume requirements (Determined in Steps 12, 18,...,72 in Figure 3) and the underlying principles that determine these requirements should be published.</li> <li>• In the spirit of transparency, we also encourage the TSOs to share the refined volume models with the industry, which participants could then use to justify investments to their Boards. If the detailed Plexos models cannot be made available, the assumptions and constraints used in the modelling should be published to enable service providers to undertake their own analysis.</li> <li>• We assume that the analysis will be updated ahead of each annual qualification process, thus providing clarity on the volumes required for the delivery year targeted in that auction. It would be useful to establish when / how often the analysis would be updated.</li> <li>• We do not believe that long-term contracts are necessary to attract investment in these services – clear volume and investment signals coupled with an open and transparent procurement process would be sufficient to bring forward the required service volumes in what we expect to be a competitive market. This would avoid</li> </ul>

locking consumers into potentially expensive long-term contracts, and would promote ongoing innovation and new entry into the provision of these services without the introduction of current-technology bias. This aligns to our response to the consultation on competition metrics, suggesting that an ongoing and dynamic pricing signal is necessary for an effective and competitive market to develop. Long term contracts would also run counter to the EU Balancing Code on Electricity Balancing if adopted in its current form, Article 34 requires that contracts should be no more than a year long, with contracts established no more than a year in advance.

- However, if long-term contracts are adopted for these services, we propose that the methodology adjusts the Capability Volume Requirements to account for any volumes provided under such long-term contracts, thus reflecting the residual volume available to the market through the procurement process.
- We believe that system services provided via the interconnectors should be subject to the same competitive procurement processes as all other providers. However, if these are to be awarded favourable contracts at the market rate outside of a competitive process, acting as a guaranteed price taker, then these service volumes should be removed from the Capability Volume Requirements in order to reflect the residual volumes available to the market. The indicative volumes published in the consultation would otherwise be misleading, overstating the volume available to the market.
- We ask that the assumptions underlying the provision of system services by the interconnectors be published given their operation under I-SEM will be determined by the Euphemia algorithm as part of the Day-Ahead market coupling.
- Mandated Grid Code service volumes should be either be price takers in line with the proposed treatment of the interconnectors, or the Grid Code obligations removed and the associated volumes released to the competitive market. We would favour a transitional approach to progressively relax the Grid Code

obligations in tranches and release the associated volumes to the competitive market. Whichever approach is adopted, the Capability Volume Requirements should reflect the volumes available to the competitive market and exclude those service volumes that are mandated.

- We support the proposal to set the Capability Volume Requirement for each service to be the maximum required across the portfolio scenarios studied in order to cover the range of plausible scenarios and to avoid any risk of a physical shortcoming leading to a higher degree of curtailment.
- The methodology states that the portfolio scenarios should be capable of meeting the full range of real time requirements (e.g. full imports to full exports). We propose that this is achieved by establishing a range of sensitivities around each portfolio scenario, and assessing each sensitivity individually. These sensitivities might cover:
  - Demand: High/Low Growth, Very Cold Winter Peak, Very Low Summer Min
  - Interconnectors: Full import to full export
  - Wind : High/Low load factors
  - Conventional Plant Availability : High/Low
- It is not clear how the methodology will take account of plant maintenance and forced outage rates. These should be factored into the methodology, either explicitly in the model, or by increasing the volume procured to cater for plant unavailability.
- The Volume Capability Requirements could be validated by identifying the most extreme operational conditions the TSOs are likely to encounter during periods of high renewable output. This might be when summer overnight demand is at a minimum, with full imports and limited availability of conventional flexible plant. Full network models with technical analysis/control room planning tools could then be used to determine the Real Time Volume Requirements necessary to minimise

wind curtailment under these conditions. The Volume Capability Requirement contracted should exceed this real time requirement with an adequate margin to cater for unavailability.

- We are concerned that the refinement process could lead to under-procurement, with the TSOs subsequently relying on uncontracted services that are mandated under the Grid Code and paying below the market rate for using these services. To ensure this perverse incentive does not arise, we propose that if uncontracted services are used, they are paid a premium over the market rate rather than at the market price or lower. This would provide an incentive for the TSOs to procure the optimal volume of services. In addition, the use of uncontracted services could be used as a trigger for revisiting the volume requirements.
- Significantly, the consultation did not address substitutability between individual DS3 System Services. It would be helpful for the level of substitutability be calculated as part of the methodology and published with the results. Participants could then see how firm the volume requirements are, and the extent to which these could be substituted by other services. For example, the portfolios suggest a 2019/20 Fast Frequency Response (FFR) requirement of around 2GW. However, this might reduce if there is an abundance of Synchronous Inertial Response (SIR) available at a competitive price, or may increase if the required volume of SIR cannot be procured economically. Where there is substitutability, it would be useful to show how the relative volume requirements for these services would vary with price.
- The December 2014 CER decision paper indicated that a glide path for the €235m budget cap would be developed. We do not believe that a glide path will provide an effective price signal. Given the need for investment to come forward quickly and the lead time required for new service provision, there is merit in making the full 2019/20 Capability Volume Requirement and associated budget available from 2017. Also, if the cap is to be applied in the auctions, it must be high enough to incentivise the development of new entry, otherwise the required growth in service

	volume may not materialise.
<b>Plant Portfolio Scenario</b>	
<p>Do you agree with the 2017/18 and 2019/20 plant portfolio scenarios and underlying assumptions presented as the starting point for carrying out the analysis of System Services Capability Volume Requirements?</p> <p>If not, please specify what alternative scenarios you believe to be more appropriate, and why.</p>	<p>In general, we support the proposed portfolio scenarios to be used as a starting point for establishing the Capability Volume Requirements for DS3 System Services, subject to the comments below:</p> <ul style="list-style-type: none"> <li>• Additional scenarios could be added to cover the range of uncertainty when procuring several years in advance. The scenarios could include a range of high impact low probability events and a wider range of technology solutions in order to capture the full range of possible outcomes.</li> <li>• One such scenario could be a hybrid of Enhanced Capability and New Service Provider scenarios, provided by a mixture of enhancements and new technology. It may also be prudent to include a portfolio scenario where the RoCoF standards cannot be fully achieved by all plant. Another scenario could reflect a higher volume of new entry, with Grid Code mandated service volumes and interconnector volumes released to the competitive market.</li> <li>• The consultation assumes that the current available volume of FFR is 50% of the available volume of POR. Analysis of ESB's plant capabilities suggests that the current available volumes of FFR is much lower than this figure.</li> <li>• The portfolio scenarios suggest large volumes of service provision from the interconnectors. It is not clear whether this is technically feasible (i.e. due to ramping constraints and the impact on connected systems), or commercially feasible under I-SEM when interconnector capability is fully utilised by the market. It may be clearer for the Capability Volumes Requirement to be defined as that available to the competitive market, excluding mandated Grid Code services and interconnector volumes.</li> <li>• Both 2019/20 scenarios suggest a proportion of the total wind farm population will</li> </ul>

be capable of providing the Fast-Post Fault Active Power Recovery and Dynamic Reactive Response (41% and 61%). To the extent that this will require modification to existing wind turbines, this may be optimistic and we recommend that the feasibility of achieving this outcome is investigated before the scenarios are finalised.

- Using costs from the DMV Kema study, our analysis suggests that the New Entry Scenario cannot be achieved without breaching the €235m expenditure cap. This highlighting the potential difficulty for the TSO of contracting the required volumes of services while an expenditure cap is in place, we suggest that the expenditure cap be relaxed to allow the required service volume be contracted and to support required investment from current providers and new entrants.