

## Re:- Endeco Technologies response to Eirgrid/Soni Consultation on DS3 System Service Enduring Scalar Design

August 10, 2017

### Overview

Endeco Technologies Ltd, a Demand Side Unit (DSU) provider through sub-site aggregation (demand and embedded generation) welcomes the opportunity to respond to the DS3 System Services Enduring Scalar Design Consultation. We believe that the DSU industry can contribute significantly to System Service provision across a range of the required services, to assist the electricity system in its goal of operating securely at higher levels of non-synchronous renewable generation. The benefits of the provision of System Services through Demand Side Aggregation are many; with little or no carbon impact (where provision through demand is concerned), a distributed service response across the system jurisdiction, with no single point of unit delivery failure, and it gives the opportunity to the end consumer to benefit directly as well as the Grid System as a whole. It is important that accurate and clear service information (particularly around pricing and technical requirements) is available for Individual Demand Sites (IDS) hoping to deliver services as part of an aggregated Demand Side Unit well in advance of the commencement of arrangements to ensure stable trusted relationships with the industry can be generated and maintained into the future. The response to the consultation follows the consultation document queries as numbered where relevant.

**Question 1:** *Do you agree with our proposal to include in the performance assessment methodology to determine the value of the Performance Scalar an additional measure to incentivise a unit to supply to the TSOs an accurate forecast of its availability to provide Reserve and Ramping Margin Services? If not, please specify why or identify what element of the proposal you believe requires amendment?*

**Response 1:** We support the proposal to introduce an incentive for a unit to provide an accurate forecast of its availability. We believe that the closer to real time that this can be adjusted the more accurate it will be. Our preference would be for real time feeds to the TSO of actual availability at any given time. We believe that the current proposal to require forecasts of demand for 6 hour (12 settlement periods), 6 hours ahead of time, biases towards conventional generation over new technologies like Wind & Demand Side Management as they are less variable.

**Question 2:** *Do you agree with our proposal to implement a Product Scalar for the Faster Response of FFR? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 2:** We are supportive of the proposal to increase the product scalar for FFR provision with faster response times and believe the proposed method of doing so is reasonable.

**Question 3:** *Do you agree with our proposal to implement a Product Scalar for the Enhanced Delivery of FFR, POR, SOR and TOR1? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 3:** It would continue to be our view that the proposed type scalars do not sufficiently support the technical complexity and capital investment required to deliver a dynamic response as opposed to a static response. The same sentiment would also be true of the trigger scalar with the ability to respond at the higher frequencies in particular requiring greater investment. We believe lower frequency trigger and static response type products have already been sufficiently discounted therefore in order to properly differentiate between these and the more valuable dynamic, high frequency trigger service, we believe the range should include a positive scalar, perhaps up to 1.5 both in terms of type i.e. 1.5 for

dynamic and in terms of frequency trigger i.e. 1.5 at 49.985hz.

**Question 4:** *Do you agree with our proposal to implement a Product Scalar for the Continuous Provision of Reserve from FFR to TOR1? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 4:** We believe the continuous provision of reserves from FFR to TOR1 is desirable from a system security perspective and it therefore sensible to reward that behavior in the scalar design. We would caution from a demand side perspective as we have commented on in more detail in the other comments section, many of our assets can provide these types of continuous service but not all can. Demand side as a technology type requires greater flexibility in contracting its assets capability than on a providing unit basis as there are too many permutations in its assets capabilities to do this optimally from both the TSO's perspective and also from that of the individual demand sites.

**Question 5:** *Do you agree with our proposal to implement a Product Scalar for Enhanced Delivery of SSRP with an AVR? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 5:** No Comment.

**Question 6:** *Do you agree with our proposal to implement a Product Scalar for SSRP with Watt-less VARs? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 6:** No Comment.

**Question 7:** *Do you agree with our proposal to implement a Temporal Scarcity Scalar for DRR and FPFAPR? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 7:** No Comment.

**Question 8:** *Do you agree with our proposal to implement a Temporal Scarcity Scalar for FFR? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 8:** We would agree with the proposal to implement a temporal scarcity scalar in principle as we support the rationale of TSO incentivising behavior and availability of service that have greater value to the system. We would strongly disagree with the intention to set a scalar at 0 for FFR up to 60% SNSP. We believe this would send a very negative message to the market in terms of one of the fundamental objectives you are trying to achieve in broadening DS3 service provision i.e. Investment certainty. Industry is used to taking calculated risks, we do it every day but in such instances, we are in control of the key drivers of those risks. We are not in control of the level of SNSP on the system at any time, it is therefore unreasonable to expect us to make an investment where we are not in control of one of the key drivers of a return if any.

From a demand side perspective particularly, the value required for the vast majority of sites to consider DS3 service provision is the revenue associated with continuous service of all DS3 services from FFR through Tor 2 at a minimum. At current tariff rates, FFR makes up a very significant proportion of the potential revenue driving that investment decision. The greater the uncertainty around the level of payment for this service, the more confusion in the marketplace and the more trust is diminished with the end consumer whom we all serve. This will reduce the level of adoption of DS3 services through demand side.

We believe a preferable solution would be to apply a Scalar of 1 from 0-60% SNSP and increase on a stepped basis thereafter. If this means to ensure you are within your expenditure objectives you need to reduce the incremental scalars at the 60% & 70% SNSP levels so be it, we view some level of certainty on base level availability fees for FFR to be preferable and a better solution all round.

Furthermore, we believe that one of the fundamental principles of the service provision is availability, if a service provider is available to provide service, the availability fee should be payable. Equally as important from demand side perspective is the end consumers expectations, the end consumer is not overly concerned with the level of SNSP on the system. They do need to know when they can be called for service and what service they can be called for. Again this Scalar being at 0 from 0-60% adds another layer of unnecessary complexity as to when they should be available or not and therefore confusion in the marketplace.

We would agree the stepped approach in terms of scalar design is preferable to the linear approach

**Question 9:** *Do you agree with our proposal to implement a Temporal Scarcity Scalar for 11 Existing System Services? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 9:** We would agree with the proposal to implement a temporal scarcity scalar in principle as we support the rationale of TSO incentivising behavior and availability of service that have greater value to the system.

**Question 10:** *Do you agree with our proposal to implement a Locational Scarcity Scalar for All System Services? If not, please specify why or identify what element of the scalar design you believe requires amendment?*

**Response 10:** We would agree with the proposal to introduce location scalar's as part of enduring regulated arrangements but would add two notes of caution in this respect that are particularly pertinent from a demand side perspective:-

1. Greater thought will need to be given to the rigidity of procuring DS3 services from a demand side perspective at a providing unit level. Providing units may have 100's of sites with varying degrees of locational value to the TSO. Separating these sites into different providing units based on their geographical location may not be commercially viable from a compliance / cost perspective under current structures. This point is commented on further under other comments below.
2. Further engagement will also be required with the DNO to ensure particularly valuable demand side DS3 service provision from a locational perspective is not constrained unnecessarily by instruction sets. Demand side flexibility in most instances can contribute to solving the concerns that the instruction sets are grounded upon.

**Question 11:** *Do you agree with our proposal NOT to implement a Product Scalar for Enhanced Delivery of DRR with more reactive current? If not, can you provide rationale to support your views?*

**Response 11:** No Comment.

**Question 12:** *Do you agree with our proposal NOT to implement a Product Scalar for Enhanced Delivery of SSRP with a PSS? If not, can you provide rationale to support your views?*

**Response 12:** No Comment.

**Question 13:** *Do you agree with our proposal NOT to implement a Product Scalar for SIR with Reserve? If not, can you provide rationale to support your views?*

**Response 13:** No Comment.

**Question 14:** *Do you agree with our proposal NOT to implement a Product Scalar for Faster Response of FPFAPR? If not, can you provide rationale to support your views?*

**Response 14:** No Comment.

**Question 15:** *Do you agree with our proposal NOT to implement a specific Temporal Scarcity Scalar for Reserve Products? If not, can you provide rationale to support your views?*

**Response 15:** We would agree the TSO's proposal in this respect.

**Question 16:** *Do you agree with our proposal NOT to implement a specific Temporal Scarcity Scalar for SIR? If not, can you provide rationale to support your views?*

**Response 16:** No Comment.

**Question 17:** *Do you agree with our proposal NOT to implement a specific Volume Scalar for Regulated Arrangements? If not, can you provide rationale to support your views?*

**Response 17:** We would agree with the proposal not to implement a volume scalar for regulated arrangements as it has the potential to increase uncertainty on anticipated revenue for service provision and diminish investment. The DSU industry being relatively new has a significant challenge to educate the end consumer as to the merits of demand side management and the opportunities therein to reduce the consumers energy cost and contribute to the decarbonisation of the grid. We have made great strides in that regard in recent years in building trust with end consumers on the merit and longevity of demand side technologies. Uncertainty in the price diminishes that trust and makes it difficult to engage with and attract IDS's to provide System Services as part of a DSU.

**Question 18:** *Do you agree with our proposal to implement Frequency Response Curves to define the provision of the FFR Service? If not, please specify why or identify what element of the curve design you believe requires amendment?*

**Response 18:**

A frequency response curve requiring specified start and recovery triggers is agreeable. A TSO pre-defined response curve is also agreeable. For demand side assets delivering a static response through demand reduction, more flexibility is required on the recovery response curve. In response events where a large amount of capacity is delivered, certain IDS assets would require some recovery time to be available for response again (which may not be possible immediately at a recovery frequency setpoint). Following the exact curve shape in recovery (as in response) is also challenging for assets delivering response through demand reduction, as assets generally follow their own energy curves when returning to steady state. To promote participation from these asset types (which have a high suitability for FFR), it is important to enable a certain amount of flexibility.

#### **Other Comments**

We believe that providing system service capabilities at a providing unit level is inflexible and discriminates against demand side as a technology type. For conventional generators or even some newer technologies, typically they will have a providing unit with a predictable and large number of MW's that can be tendered in for DS3 service under the current structures envisaged.

For demand side however, our providing units can be made up of 100's of sites with the sites themselves generally containing several intensive energy using assets. For a demand side aggregator trying to contract these sites (and their assets) for service provision, there are several factors that we need to consider such as:-

- Capability of service provision for each service
- Capability of static v's dynamic response for frequency triggered services
- Price requirements to justify investment
- Location - in time

It is not possible to tender for these services at a providing unit level and optimise the service provision that can be provided. Demand side needs the ability for more granular sub units with varying capabilities for contracting purposes. In GB as an example, for Dynamic Firm Frequency Response, a service provider has one framework agreement and can have many sub units sitting off that which can tender separately with different characteristics for service provision.

Without such contracting flexibility, we believe many demand side providers would need to increase the number of providing units they have by a factor of 10 to cover the varying permutations of their 100's of sites (1000's of assets) which would be cumbersome, cost prohibitive and could be unnecessary with greater flexibility in the tendering process.