

# Grange Backup Power Ltd

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## **Re: Response to SEMC Consultation Paper (SEM/13/060)**

Dear Sirs,

Grange Backup Power is very pleased to have the opportunity of responding to the SEM Committee's Consultation Paper "Single Electricity Market DS3 System Services – SEM 13/060" as per 3rd Sept 2013.

While the Paper '*invites comments on the Committee's initial conclusions on the technical aspects of the recommendations and, more specifically, on the services to be included in the project*' we have included (i) a number of brief comments on the overall thrust of the paper and (ii) comments on the technical aspects of the 14 system services proposed.

### **'1. Brief comments on the overall thrust of the consultation paper**

#### **'1.1 Overall View**

Grange would like to take this opportunity to acknowledge the significant work by the TSOs in bringing the DS3 process so far. It is recognised that a substantial piece of work has been carried out particularly in relation to the technical analysis and development of the new system services.

However, we have vigorously disagreed with and opposed the approach adopted in relation to the whole economic rationale and contractual arrangements – and have put these reservations on record in earlier DS3 submissions. We therefore welcome the SEMC's decision to conduct

further economic analysis involving a “*detailed Cost Benefit Analysis on System Services*”. The consultation paper is clearcut in stating that “*The SEM Committee has reservations on the proposed economic rationale and commercial arrangements*”. In making this decision the SEMC has done the Irish electricity industry a tremendous service; there is now a real opportunity to make significant progress over the coming months.

While Grange is broadly in agreement with the SEMC when it states that “*The SEM Committee is minded to agree with the technical aspects of the proposals in system services review*”, we are minded to make the following points:

## **‘1.2 Need to Publish Poyry Review**

Following on from the Consultation Paper’s statement “*At the June meeting of the SEM Committee the TSOs presented their recommendations to the Committee. The Regulatory Authorities’ advisors, Poyry, also presented their review of the Recommendations Paper*” we urge that the SEMC publish the Poyry Review. This can only be helpful in achieving the best possible outcome for the provision of system services and the longer term prices for electricity users on the island of Ireland.

## **‘1.3 Understanding the Investment Environment for Providing System Services**

In the DS3 process to date there has been a lack of understanding of the link between investment and the provision of system services for the future. This paper has shed a welcome light on this issue when it states “*In reviewing the TSOs’ recommendations and in moving the System Services Review forward, the SEM Committee understands the importance of regulatory clarity for investors and developers in order to enable the required level of service provision in the appropriate timeframe.*” It is most welcome to see this matter being raised in this paper; it seems clear the SEMC recognises that if the investment environment is not right then investors – both incumbent and potential new players - will stand back and will not deliver the required services in the appropriate timeframe.

## **‘1.4 Poyry’s Further Work**

Because of the SEMC’s reservations in relation to the economic rationale and commercial arrangements it is contracting Poyry to conduct further economic analysis involving a “*detailed Cost Benefit Analysis on System Services*”. The feasibility of procuring these services from the market – from both existing and new plant/equipment - is a critical issue and must be addressed with a degree of practicality. Recent statements have been made from within the industry that some existing plants will not be committing any significant investment to upgrading their plant but will focus only on opportunistic revenues at the margin, due to the level of uncertainty in the DS3 payments and contractual arrangements. It is imperative for the success of DS3 and the achievement of 2020 renewable targets that Poyry’s further work for the SEMC addresses all of the key economic and contractual areas including:

- (i) the overall annual savings arising,
- (ii) the distribution of these savings between electricity users and system service providers (the SS pot),
- (iii) the financial coupling between the capacity payments pot and the SS pot,
- (iv) the appropriate deployment of capability-based versus dispatch-based arrangements for payment purposes,

- (v) the allocation of the SS pot across the 14 proposed services and the individual payments relating to each service,
- (vi) the contractual regime and the spread of contract durations/terms pertinent to old, middle-aged and new plant/equipment and
- (vii) the procurement of services in a fair, equitable and economic manner.

## **‘2. Comments on the technical aspects of the 14 system services**

### **‘2.1 Overall View**

Grange welcomes the development of the published system services and the broad scope of support they provide to system safety and security as SNSP ramps up to 75% by 2020. We agree that the enhanced services are required and broadly agree with the service definitions. However, we have concerns in a number of areas and outline these below.

### **‘2.2 Synchronous Inertial Response**

It is not clear how a response, other than synchronous inertial response, in the 0 – 2 seconds timeframe is to be dealt with or is to be rewarded – if at all. This is a crucial window following a frequency disturbance or a major system fault. Wind generators are capable of delivering emulated inertial response and other technologies (such as non-synchronous flywheels) may have the capability of delivering active power responses within the 0 – 2 seconds window. Rather than ignoring early responses during this window – other than synchronised generators/loads - these should be incentivised so that emerging technologies and innovative mechanisms are developed to complement existing responses in this space. In particular we suggest that this issue be considered in the context of FFR (fast frequency response) – the first 2 seconds following any system disturbance is a crucial period and its treatment in these new system services should be thoroughly scrutinised before being approved by the SEMC.

#### **Recommendation**

Poyry experts on behalf of the SEMC to scrutinise how the initial 2 seconds following a system disturbance or major system fault can be best utilised and that the relevant system services include the appropriate incentives, to the benefit of both system and electricity users. The results of this work should be included in the SEMC’s approved system services

### **‘2.3 Risks from basing system services on conventional generators**

There are emerging technologies and innovative mechanisms that do not follow the normal rules of conventional plant when considered from a system services perspective. For example, the steady state reactive power service (SRP) is defined for conventional generators as the dispatchable reactive power range in Mvar (Qrange) that can be provided across the full range of active power output (i.e. from minimum generation to maximum generation). Some emerging technologies possess the capability of moving almost instantaneously from

zero to full output for both active and reactive power – but it is difficult to see how these new developments can be introduced into the SEM, even if they prove beneficial. The published system services are largely structured around conventional generators and therefore seem to squeeze out new developments for the provision of system services in the future.

#### **Recommendation**

Poyry experts on behalf of the SEMC to build in a degree of flexibility in the definition and structure of the proposed system services so that new and emerging technologies can be commercially accommodated in the SEM to the benefit of the system and electricity users on the island of Ireland.

#### **‘2.4 Need for Competitive Provision of System Services**

It is crucial that, in the interest of electricity users, system services are provided in a competitive market from a broad range of plant, equipment and providers. This is consistent with the SEMC statement that “*the SEM Committee’s principal objective is to protect the interests of consumers of electricity in Ireland and Northern Ireland by promoting effective competition wherever appropriate.*”

The provision of system services in a competitive market requires that the proposed services can be delivered by a wide range of service providers, e.g. pumped storage, wind, OCGT, CCGT, conventional thermals, interconnection, DSM, network devices and other technologies. The new services must be defined or structured in a fashion that enables the widest possible range of service providers to offer these services to the TSOs.

#### **Recommendation**

Poyry on behalf of the SEMC to consult with OEMs to establish that several plants/OEMs (e.g. GE, P&W, RR, ABB, EWIC) can provide the different system services that are proposed in the consultation paper. If this is not done then some particular OEM or technology could be handed a significant competitive advantage from the outset; this would be entirely wrong and would be seriously detrimental to Irish electricity users in the future.

#### **‘2.5 Need for Greater Clarity**

There are some very fundamental issues that are unclear to many in the industry. For example in the case of RM1, RM3 and RM8 it is not clear to many in the industry if a generator unit is confined to just one of these payments, or can (for example) an OCGT capable of going

from cold to full load in 15 minutes capture all three payments? Similarly if a mid-merit plant can go from cold to full load in two hours does this mean it can capture RM3 and RM8 payments, or is each plant confined to one RM?

**Recommendation**

The SEMC should include an Appendix of worked examples for typical plants for the different services. These will give greater clarity and lead to a better understanding of how the different services can be provided by different plants/providers.

**‘2.6 Need to Quantify System Services Shortfall**

There is one more general aspect in the technical area that requires attention, namely to determine the system services shortfall out in the future. This could be addressed by compiling a ‘system services adequacy’ table showing the expected shortfall for say 2014, 2016, 2018, 2020 etc across the whole range of system services. This is broadly the approach adopted in forecasting capacity adequacy. With the increasing emphasis on system services the time is now appropriate to quantify the forecasted shortfalls by implementing a similar approach for ‘system services adequacy’. We urge the SEMC to have this work carried out – even on a ‘first shot’ basis.

**Recommendation**

The SEMC to commission a ‘system services adequacy’ table showing the expected shortfall for say 2014, 2016, 2018, 2020 etc across the whole range of system services. This approach would be broadly in line with employed in forecasting capacity adequacy. We believe this would be of immense value to the TSOs, windfarms looking at potential curtailment and to system service providers.

In conclusion, we would be happy to elaborate on these points above, if asked to do so. In the meantime if there are any queries or clarifications relating to any of the points above don’t hesitate to contact us.

Sincerely Yours

Richard Walshe      Peter Duffy

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Grange Backup Power Limited

Date: 11 October 2013

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