

From: Esave Corporation Ltd, 110 Amien Street, Dublin 1, Ireland

To: Messrs Robert O'Rourke and Andrew McCorriston, SEM

Subject: Response to SEM Committee Consultation, SEM-14-059

Date: 5 September 2014

Subject: Request for Comments SEM-14-059

Our comments are as follows:

It is requested that the respondents provide a summary of their position and any general comments on the system services review and the economic analysis

ESAVE Corporation is a company focused on the development and supply of energy storage solutions for renewable energy enterprise.

ESAVE solutions currently involve hybrid (combined flywheel and battery) storage systems that can deliver stored energy at full rated output for up to 20 minutes (to be extended as battery prices reduce) and with a response time from initiating signal to full output within 20 millisecond. They can also provide reactive power to full rated output on a continuous basis while in standby mode and, with the same response time.

The solution is fully developed and a demonstration project (named MeRIT) in partnership with Mainstream Renewable Power and, Active Power Inc of USA, is under discussion with Eirgrid.

The purpose of this project is to demonstrate the ability of MeRIT to provide (1) a range of system services and, (2) bulk energy time shift.

The range of system services to be offered will include, FFR, POR, SOP, TOR1, TOR2, FPFAPR and DRR.

By the nature of the technology these system services will be offered on a continuously available basis and will not be dispatch dependent.

It is intended that units will be housed in 20' and 40' containers, that can be located on and, connected in parallel with, existing or future windfarms.

2. Demand and Supply Side analysis

Respondents are asked to provide views on the approach to the demand and supply analysis, the results and the interpretation of those results

As stated in the document it is important that the approach allows for developing technologies, in this case in particular energy storage.

3. Procurement Designs

Do you agree with the criteria and analysis used by the SEM Committee to evaluate the options?

In the case of FPFAPR the assumption that the unit must be exporting does not fit with this technology. With the ESAVE systems it would be possible for the system operator to signal the storage units to provide their full output for 20 minutes in the event of a fault, without prior dispatch. We refer to comments on 6.8 and 6.10 on this matter. Dispatch dependence is not a feature or requirement of the system.

FFR will similarly be available from this system without dispatch.

4. Procurement Options

- a. Do you agree with the design of the procurement options? Are there any different design elements or procurement options that the SEM Committee should consider?
- b. Do you agree with the SEM Committee's analysis of the procurement options?
- c. Which option do you prefer?

We agree with the design of the procurement options and our preference, due to investment requirements, is for Option 1 with Option 5 being the second preference

5. Option 5: Multiple Bid Auctions

- a. Do you agree which the SEM Committee's proposal to adopt this option and only to fall back on Option 1 (Regulated Tariffs) where the auction fails to deliver the required volume of services?

See 4

- b. Are there any specific issues the SEM Committee should consider regarding the auction design?

The SEM

- c. Do you agree that market power mitigation measures are required?

Yes

- d. Are the SEM Committee's proposals regarding market power sufficient? Should alternative or additional measures be considered?

- e. Are there any specific requirements that the SEM Committee should include in the bidding rules?

The bidding process needs to allow for the benefits of new and future technology developments. In particular (in this case storage based) the flexibility of specific solutions to offer a suite of system services which can be remotely prioritised by the system operator at any time.

6. Payment basis for the services

Do you agree with the proposed payment basis for each service/option?

7. Interaction with I-SEM

- a. Do you agree with the SEM Committee's views on the interaction with the energy market?
- b. Do you have any views on the potential interactions and the appropriate measures to address these interactions?

8. Other Issues

Are there any other issues not raised in this paper the SEM Committee should consider?

In general the options discussed are comprehensive but in our opinion they also need to allow for remuneration of the benefits offered by energy storage and the controllability, flexibility and fast response times offered by these solutions.

Signed

Hugh O'Kelly, CTO, ESAVE Corporation