Integrated Single Electricity Market (I-SEM)

Energy Trading Arrangements (ETA) Markets Consultation Paper

Consultation Response Template

SEM-15-038

22 May 2015

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PURPOSE OF THIS DOCUMENT

1.1 PURPOSE AND STRUCTURE OF THIS DOCUMENT

1.1.1 This supplementary document provides a template for responses to the ETA Markets Consultation Paper (SEM-15-026). We request all responses to the consultation are submitted in this template, and in **Microsoft Word** format.

1.1.2 This template contains the questions presented in the consultation document.

1.1.3 Responses to the Consultation Paper are requested by 17:00 on 5 June 2015. Following a review of the responses to this paper the SEM Committee will publish its decision on the proposals set out in this paper in September 2015.

1.1.4 Responses should be sent to Kenny Dane (kenny.dane@uregni.gov.uk) and Kevin Hagan (khagan@cer.ie). Please note that the SEM Committee intends to publish all responses unless marked confidential[1].

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[1] While the SEM Committee does not intend to publish responses marked confidential please note that both Regulatory Authorities are subject to Freedom of Information legislation.

2 CONSULTATION QUESTIONS

2.1 RESPONDENT DETAILS

COMPANY	Mitsubishi Corporation
CONTACT DETAILS	Chiharu SHIRAI Marunouchi Park Bldg., 6-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8086, Japan
MAIN INTEREST IN CONSULTATION	Feasibility of introduction of innovative technologies, including batteries, for safer operation of the grid

2.2 GENERAL COMMENTS

Thank you for the opportunity to respond to the consultation on Energy Trading Arrangements. The Power Transmission Business team of Mitsubishi Corporation is willing to join the ancillary business as an innovative service provider. We have already found products and services for up-to-date applications on power networks and in Japan are currently collaborating with NGK Insulators Ltd, GS Yuasa Corporation and Fuji Electric. Our project is supported by Depart of the Department of Communications, Energy and Natural Resources in Ireland and the Ministry of Economy, Trade and Industry in Japan.

NGK manufactures products for many industries, and a major business line is the NAS Battery, which is designed for large scale application on a power network. GS Yuasa manufactures and supplies Lithium-ion batteries for many applications like rail vehicle, diesel hybrid systems, EV, HEV, PHEV, aerospace, energy storage systems and etc. Fuji Electric has developed high efficient power conditioning systems using various type large scale batteries. Fuji Electric also has some experience to solute power network problem using batteries such as wind generation output fluctuation mitigation. NGK has supplied more than 300MW/2,000Mwh of NAS batteries and GS Yuasa has supplied significant MW of Lithium-ion batteries to customers in a number of markets, and the companies continues to seek opportunities to develop its business globally. Mitsubishi is actively considering investment in the island of Ireland using a hybrid battery system combining both a NAS and a lithium battery and welcome this opportunity to comment on your proposals.

We would welcome the opportunity to explain any of the answers below in a direct meeting, and we would also be prepared to provide further information on the role of battery systems used as operational plant on power networks.

2.3 SYSTEM OPERATION IN THE I-SEM (CHAPTER 2)

Question	Answer
1. What are the impacts of early action by the TSOs on the Intraday Market?	We believe Early action taken by TSOs will be fair enough to all participants. One concern is that If TSOs take actions prior to IDM gate closure, it may reduce the number of participants in IDM who can contribute to maintain system Operational Security.
2. What measures can be taken to minimise early actions by the TSOs?	One measure would be to give incentives which take short time to start power generation such as batteries, pump-up hydro and CAES in DS3. There are RM1,3 and 8, but you may be able to facilitate RM0.5, for example, to match the difference which is outside of a tolerance.

2.4 EX-ANTE MARKETS (SECTION 3)

Question	Answer
1. Which of the three options put forward for interim IDM arrangements is most appropriate?	We prefer an interim arrangement, in which the I-SEM IDM is coupled with the GB IDM. The aim of IDM is the adjustment of DAM positions. The participants can sell more once the markets are integrated and also TSOs will be able to secure the balance of the system from more participants.
2. Should intraday auctions be implemented in I-SEM? Are there any advantages to those auctions not described in this paper?	We believe that intraday auctions should be implemented in I-SEM, as this would allow the TSOs to adjust DAM positions in a more transparent and efficient manner. For example, implementation of auctions could assist batteries, because they have the capability to provide power in a very short time and help the TSO efficiently ensure the secure and stable operation of the electricity system. Also, we believe that intraday auction will lead to use the curtailed energy more efficiently within the day. We understand there is a lot of curtailment of wind power in Ireland. Our idea is to charge the curtailment by NAS (sodium sulfur) battery especially during the night time and discharge the power whenever there is a market demand.

2.5 PHYSICAL NOTIFICATIONS (SECTION 4)

Question	Answer
1. What are your views on the timing of PN submissions to the TSO	N/A
2. What are your views on the removal of the requirement on wind generation and non-dispatchable demand to submit PNs	N/A
3. What are your views on how PNs from participants should be linked to their ex-ante trades and what are your opinions on which of the three options outlined in this chapter is optimal for I-SEM.	N/A
4. What are your views on the potential for the inclusion of an information imbalance charge. In addition, comment is sought as to whether this issue is best addressed under the generator performance incentives.	We are content with the idea to introduce information imbalance charge, since inaccurate PNs cause the imbalance critically. It is IDM participants' responsibility to provide the PNs as accurately as possible.

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2.6 FORM OF OFFERS, BIDS AND ACCEPTANCES (SECTION 5)

Question	Answer
1. Which of the proposed formats should be used for bids and offers for deviating from PNs? • Simple MWh • Relative MWh • Absolute MWh	N/A
2. How should fixed costs be represented within bids and offers? • Explicit start up contracts • Block bids • Explicit start-up (and no load) costs	We prefer Block bids, as we believe that it is the most transparent. Also, it is not clear how TSOs make sure that the start-up costs are actually "explicit" under the Explicit start costs option.
3. Should it be possible to rebid offer and bid prices following an acceptance? Three options are proposed: • Fixing prices of accepted bids and offers • Undo prices • Freezing all prices	N/A
4. Should open or closed instructions be used to move participants away from their PN?	We prefer I-SEM to use closed instructions, as this would help market participants operate their generators more systematically and efficiently, leading to a more efficient market. We understand that there is a question whether closed instructions provide much greater clarity that open instructions in reality, but closed instructions are preferred nevertheless.

2.7 INTERACTIONS BETWEEN THE BALANCING MARKET AND INTRADAY MARKET (SECTION 6)

Question	Answer
1. Which of the options put forward should apply to participation in the IDM in the event that the TSOs take a balancing action pre-gate closure: • Freeze PNs • Additive PN Changes • Substitutive PN Changes	N/A
2. If the substitutive PN Changes option is taken, there are two further options for swapping out or netting IDM trades against bid-offer acceptances: • If the participant wishes to trade in the IDM and substitute the bid-offer acceptance they will need to achieve a more advantageous price in the IDM than the bid-offer acceptance price • Implement a methodology which sees the unit lock in the premium above or below the imbalance price through the bid-offer acceptance	N/A
3. Which of the three options put forward for dealing	N/A

with “Trading in the Opposite Direction” should be implemented: • No specific consideration of this would be reflected in the market design • Implementing a rule that would prohibit PN changes that increase the quantity of any offer or bid acceptances • Permit PN changes in either direction but, in the settlement of the offer or bid acceptances, to limit the quantity on which the premium is payable, such that a change in PN cannot increase this quantity	

2.8 TREATMENT OF SYSTEM SERVICES (SECTION 7)

Question	Answer
1. What are your views on the proposal whereby a unit that is deployed for reserves should be constrained to the minimum extent possible in the IDM	We are content with the proposal whereby a unit that is deployed for reserves should be constrained to the minimum extent possible in the IDM, as this would allow market participants maximise their revenues. This could also help innovative technologies, such as batteries, to enter the market. For example, our hybrid battery system could provide energy in IDM, while providing reserves, as the battery system is capable of providing power in a very short time and suitable as a system service resource.
2. Are there any market power issues that need to be specifically addressed in relation to System Services?	N/A
3. Which of the two approaches should be utilised where the TSOs have to schedule a plant before the opening of the Balancing Market: • A system services framework would be used to contract with those generators that need to be scheduled prior to the BM opening. • The TSOs would use incremental offers and decremental bids from previous trading day to call a plant pre-BM.	N/A

2.9 IMBALANCE PRICING (SECTION 8)

Question	Answer
1. What are your views on the Tagging and Flagging Approach. A "cause" based method for identifying energy and non-energy actions with the imbalance price being set only on energy actions.	N/A
2. What are your views on the Simple Stack? With this approach there would be a simple stack of the available bids and offers and the price would be set based on the net imbalance volume.	N/A
3. What are your views on the unconstrained stack with plant dynamics included. These are two additions that this option would have over the simple stack: • Plant Dynamics • An optimisation time horizon	N/A
4. What are your views on the price based method – unconstrained unit from actual dispatch?	N/A
5. What are your views on the sharpness of the marginal imbalance price? Do any concerns relate to the transition	N/A

	between SEM and I-SEM or are there other broader concerns?	

2.10 IMBALANCE SETTLEMENT (SECTION 9)

Question	Answer
1. What are your views on the issues set out in the imbalance settlement section?	N/A
2. What are your views on the refined proposal whereby the payment rule applies only to incremental offer acceptance volumes above the PN and to decremental bid acceptance volumes below the PN?	N/A
3. What are your views on the possible consequences of ex-ante trades based on trading periods of different duration to the Imbalance Settlement Period (ISP) and what are your views on the options put forward in the paper.	N/A

2.11 OTHER ISSUES (SECTION 10)

Question	Answer
1. Global Aggregation – what are your views on the current policy and the three alternative options put forward in the paper for dealing with global aggregation	N/A
2. Local Market Power – What are your views on whether there are any specific issues in relation to local market power which need to be considered at this stage.	N/A
3. Metering – What are your views on the proposal for metering put forward in the Consultation Paper.	N/A
4. Instruction Profiling – What are your views on the instruction profiling section. In particular, is it feasible to more accurately model the precise loading of units and whether more technical characteristics need to be accommodated in the technical offer data.	N/A
5. Units Under Test –	N/A

	What are your views on the two options put forward for units under test in I-SEM.	