Power NI Energy Limited
Power Procurement Business (PPB)

I-SEM

Euphemia Trial
Commercial Phase

Comments by Power NI Energy (PPB)

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Comments

EUPHEMIA is a scheduling tool which uses a series of bids and offers to calculate energy allocations and prices in the day-ahead market across Europe. It was created by a group of Power Exchanges in the Price Coupling of Regions (PCR) of Europe.

The Euphemia Trial was established with a goal that SEMO and market participants would gain an understanding of how the algorithm works and to test the use of each of the order types and reach a conclusion on their use in the I-SEM. While SEMO and market participants have gained some insight into the impact of using different order types and the report concludes that a mixture of order types would work for the I-SEM, the trial has been limited by resources, time and the inability to test the dynamics and hence there has been frustration at the limited experience gained. The final decision on which order types I-SEM can use will be made by the PCR after they hold their own testing to establish what impact I-SEM order types have on the performance of the Algorithm.

Limitations of the Scripted and Unscripted Trials

The commercial scripted phase of the trial consisted of four batch runs, the first containing 50 scenarios (10 days repeated) and the last three 100 scenarios each (5 days repeated). Due to time constraints, Exclusive Group order types where discarded after batch 1 as the results were volatile. Had more time been available this order type could have been more extensively explored. Unfortunately, no further exploration of exclusive groups can occur until mid 2017 as no further testing will occur until market trials in the run up to I-SEM go live date. This is a concern as the market trials will need to test the end to end functionality and there may be limited scope to complete any meaningful testing of exclusive group order types.

A further frustration from the trials was the number of data errors that occurred, including for example, the failure to convert sterling based bids for NI generators into Euros in the first 3 batches before submitting to APX. This led to abnormal running for NI generators and therefore was a barrier to getting a better understanding of how NI generating units will be scheduled in the I-SEM or what order types would be most suitable for the load factors that such generators are likely to experience. Scheduling is paramount given that the SEMC decided that Euphemia algorithm will be the sole route to market in the day-ahead timeframe and hence is the starting position for dispatch.

One scheduling risk that participants will face is that Euphemia can deliver a sub-optimal solution. During the trials we observed occasions were the dearer unit of two identical units was scheduled instead of the cheaper unit. This is referred to as a paradoxically rejected order. We understand concerns are now being raised by other European regions regarding these paradoxically rejected orders.

The commercial unscripted phase consisted of two batch runs each of 14 scenarios (7 days repeated). This limited number of scenarios was enforced by the contract with APX, a PCR member. The seven days were chosen to give some seasonality to the trial results however we consider this to be inadequate and we note the PCR require SEMO to provide three full years of data for PCR's own testing. Given the amount of manual tasks involved in producing

data for the scripted trials, for what was a limited number of days, care must be taken to prevent any errors in the data provided to PCR. This process re-iterates concerns we previously raised over the governance of, and reliance on, the Euphemia algorithm as the primary scheduling tool for I-SEM which may not determine feasible or efficient outcomes in the I-SEM DAM, particularly given that the dynamics of the interactions of the trading strategies of different participant categories (e.g Wind, Demand, etc) remains untested and also requires consideration of the pricing in the BM and on the liquidity in the IDM.

Commercial Risks for participants are high

As we noted above, the reliance on Euphemia creates substantial commercial risks for generators as was highlighted from the trials as a consequence of the infeasible schedules that were produced. This increases the burden on the IDM to provide the scope for such issues to be traded out but this market does not yet exist and in other larger markets intraday liquidity is generally low.

These issues with the DAM and IDM will be further compounded by market power and information asymmetry issues given ESB's large generation portfolio and large supply business, the trading strategies of which will have a major impact on the risks of smaller participants and the opportunities that are available to manage those risks.

Such issues have not been addressed by the trialling concluded to date which, even with the benefit of perfect foresight, highlighted the complexity and uncertain outcomes that will arise and also highlighted the new commercial risks that will exist in the I-SEM. Such concerns are not going to be alleviated by a relatively short market trial phase during which the main priority is likely to be on functional operations rather than on trialling the risk management capability across inter-related markets that require dynamic responses to manage the commercial risks. A more extensive trialling period is therefore required, operating across all the market timeframes, to enable full commercial and risk management testing to be conducted. These energy market positions also affect the DS3 revenues and also intertwine with scarcity pricing and on the Reliability Options. Hence it requires substantive testing to give assurance to participants and customers that the overall I-SEM market will operate in a coherent manner and that risks can be managed such that customers prices are not inflated as a result of unmanageable risks.