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## Agenda Item 5: Work Package 2- Valuing the Capacity of Intermittent Generation in the SWIS

### 1. BACKGROUND

As part of the work program initiated under the Renewable Energy Generation Working Group (REGWG), MMA has been engaged to provide an evaluation of renewable energy contribution to the Reserve Capacity Mechanism, and in particular, the level of Capacity Credits that should be assigned to individual facilities.

MMA analysed the available data and developed a number of measures to be used to assess Capacity Credit assignment for generation facilities. The precision of this analysis was impaired by the amount of generation output data available for peak load days.

The initial report (attached) found that a similar level of Capacity Credits to that resulting from the current methodology should be assigned for wind farms. Given this unexpected outcome the IMO distributed the initial report (attached) to the Office of Energy, System Management, the Oates Committee and to Verve Energy for comment and feedback.

As a result of the comments and feedback received, subsequent analysis and evaluation were conducted, the outcome of which is captured in a supplementary report (attached).

The initial report and the supplementary report are provided to the REGWG for its evaluation and consideration.

### 2. REPORT RECOMMENDATIONS

From the supplementary analysis MMA finds that:

- Having assessed a number of techniques to value Capacity Credits assignment and given the limited amount of data available, an interval averaging technique using the top 750 trading intervals is recommended at this stage;
- A proposal has been put forward to include a distribution based allowance to account for uncertainty. While a simple technique could be developed to account for the lack of available data, such a technique may not be completely robust. It could be implemented if there is general agreement that this is an acceptable way forward;
- An assessment of the single interval loss of load probability indicates that between 1200 MW and 1500 MW of wind could be tolerated on the system before reliability standards are compromised; and
- While analysing this matter a number of issues were raised with the current structure of the WEM reliability criterion. This criterion is required to be

reviewed every 5 years under the Market Rules. These matters will be considered during this review.