



# **SINGLE ELECTRICITY MARKET COMMITTEE**

## **Integrated Single Electricity Market (I-SEM)**

### **Consultation on the Aggregator of Last Resort Framework**

**SEM-14-106**

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# Table of Contents

<b>1</b>	<b>INTRODUCTION.....</b>	<b>3</b>
<b>2</b>	<b>RESPONSES TO THE HLD DRAFT DECISION .....</b>	<b>4</b>
<b>3</b>	<b>PURPOSE OF THIS PAPER .....</b>	<b>5</b>
<b>4</b>	<b>POTENTIAL AGGREGATOR OF LAST RESORT MODELS .....</b>	<b>6</b>
4.1	CONSULTATION QUESTIONS FOR THE AOLR MODELS .....	6
4.2	FUNCTIONS OF THE AGGREGATOR OF LAST RESORT .....	6
4.3	POTENTIAL MODELS .....	7
4.4	OPTION 1 - THE PORTFOLIO SETTLEMENT AGGREGATOR.....	8
4.5	OPTION 2 - INDIVIDUAL SETTLEMENT AGGREGATOR .....	11
4.6	OPTION 3 - PASSIVE AGGREGATOR .....	13
4.7	SUMMARY OF OPTIONS .....	16
<b>5</b>	<b>GOVERNANCE OF THE AGGREGATOR OF LAST RESORT ENTITY .....</b>	<b>17</b>
5.1	CONSULTATION QUESTIONS FOR THE GOVERNANCE OF THE AOLR ENTITY .....	17
5.2	INTRODUCTION .....	17
5.3	POTENTIAL FOR AGGREGATORS IN I-SEM .....	18
5.4	OPTIONS FOR FRAMEWORK ESTABLISHMENT .....	19
5.5	AOLR SERVICE PROVIDER .....	20
5.6	TRANSPARENCY OF AOLR PERFORMANCE .....	23
<b>6</b>	<b>INCENTIVES &amp; COST ALLOCATION .....</b>	<b>24</b>
6.1	CONSULTATION QUESTIONS FOR THE AOLR INCENTIVES & COST ALLOCATION .....	24
6.2	TREATMENT AND INCENTIVISATION OF COSTS .....	24
6.3	PERFORMANCE INCENTIVES ON THE AGGREGATOR OF LAST RESORT .....	26
<b>7</b>	<b>PARTICIPANT ELIGIBILITY .....</b>	<b>28</b>
7.1	CONSULTATION QUESTIONS ON PARTICIPANT ELIGIBILITY .....	28
7.2	INTRODUCTION .....	28
7.3	THRESHOLD LIMITS.....	28
7.4	PARTICIPANT TYPE.....	29
<b>8</b>	<b>NEXT STEPS.....</b>	<b>31</b>
8.1	SUMMARY OF NEXT STEPS .....	31
8.2	CONSULTATION RESPONSES .....	31
8.3	QUESTIONS .....	31

<sup>1</sup>The SEM Committee is established in Ireland and Northern Ireland by virtue of section 8A of the Electricity Regulation Act 1999 and Article 6 (1) of the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007 respectively. The SEM Committee is a Committee of both CER and NIAUR (together the Regulatory Authorities) that, on behalf of the Regulatory Authorities, takes any decision as to the exercise of a relevant function of CER or NIAUR in relation to an SEM matter.<sup>1</sup>

## 1 INTRODUCTION

- 1.1.1 The decision of the SEM Committee on the High Level Design (HLD) of the Integrated Single Electricity Market stipulates that an aggregator of last resort (AOLR) shall be provided for in the new market design. The SEM Committee sees it as important that the I-SEM arrangements provide access to all market places for market participants of all technologies and sizes.
- 1.1.2 The intention of the AOLR is to help mitigate risks for smaller variable generation units in transitioning to a new market design based on their active participation and will act as a backstop route to market for certain variable generation. The existing role of the intermediary, including 'supplier lite', will also continue to be facilitated. It is possible that parties in supplier lite arrangements or acting as intermediaries could use the AOLR service.
- 1.1.3 The intention of any such mechanism is to facilitate participation of smaller variable generation units in the Day Ahead Market (DAM), Intra Day Market (IDM) and possibly the Balancing Market (BM). The route to market for smaller variable generation is not intended to deliver the aggregated volumes for these players directly into the imbalance arrangements, as a short-circuit of the DAM and IDM. This would leave these participants unable to benefit from the option of trading in the DAM and IDM. Instead, the intention is to actually facilitate access to and participation in these ex-ante markets to reduce exposure of these players to the imbalance arrangements.
- 1.1.4 It is intended that the mechanism will be designed to avoid distortion of market outcomes, and minimise the risk of crowding out of alternative commercial solutions for providing aggregation services. This potential issue was raised in the majority of responses in respect of the aggregator entity during the I-SEM consultation process.

## 2 RESPONSES TO THE HLD DRAFT DECISION

- 2.1.1 In general most respondents to the I-SEM HLD Draft Decision welcomed the SEM Committee's decision to facilitate aggregators in the I-SEM as it would reduce the barriers to entry for small market participants. Additionally one respondent also noted that it allows the required flexibility for reporting purposes for those generators under subsidy.
- 2.1.2 Some respondents to the Draft Decision stated that the aggregator function should be carried out by a commercial entity, rather than being a function of the TSO, while others were in favour of the TSO carrying out this function and noted that it should be set up in such a way that it would not economically crowd out the potential for commercial aggregators to enter the market over time.
- 2.1.3 A number of respondents noted that the AOLR should be considered on an enduring basis instead of the transitional basis as outlined in the HLD decision so that certainty could be given to both current and future participants. One respondent noted that a transitional approach would not mitigate the barrier to entry to small market participants in respect of project financeability while another noted that an AOLR may be required on an enduring basis for new wind generators entering the market.
- 2.1.4 One respondent noted that the aggregator should be transparent to allow generators to see the overall performance of the portfolio and hence their own generator's value.
- 2.1.5 Respondents in general were in agreement that aggregation should not be available to conventional generation regardless of size; these generators should be bid on a unit by unit basis.

### 3 PURPOSE OF THIS PAPER

- 3.1.1 This paper forms part of the process for implementing a new High Level Design (HLD) for the Integrated Single Electricity Market (I-SEM) in Ireland and Northern Ireland before the end of 2017. The purpose of this document is to consult with stakeholders on the framework for the AOLR. The AOLR aims to provide a route to market for the smaller participants on a transitional basis; in particular for small wind generators given the potential risks inherent in the new electricity market design.
- 3.1.2 This consultation discusses and sets out a number of issues on:
- The functions of the AOLR;
  - Who could undertake the AOLR role;
  - Procurement of AOLR services;
  - Possible concerns relating to governance and to conflicts of interest;
  - Dissemination of information;
  - The recovery of AOLR costs;
  - Possible incentives on the AOLR to optimise performance; and
  - Criteria for those participants that will be eligible to use the AOLR.
- 3.1.3 The SEM Committee invites consumers of electricity, market participants and other interested parties to respond with their views on the issues raised in the SEM Committee's Consultation Paper. Following a review of the responses the SEM Committee will publish its decision on the proposals set out in this paper.
- 3.1.4 This document consists of the following sections:
- Section 4:** discusses the function of the AOLR in the I-SEM and proposes three options to performing the AOLR function.
- Section 5:** discusses proposals in respect of who is assigned the AOLR function including discussion regarding procurement, governance, conflict of interest issues and dissemination of information.
- Section 6:** discusses possible means for recovery of AOLR costs and incentives for the AOLR.
- Section 7:** sets out the various market participant types and thresholds that might be considered eligible to sign up with the AOLR.

## 4 POTENTIAL AGGREGATOR OF LAST RESORT MODELS

### 4.1 CONSULTATION QUESTIONS FOR THE AOLR MODELS

4.1.1 The following consultation questions relate to the issues discussed in this section:

1. Do you agree with the potential functions of the AOLR as outlined? Are there any additional functions that the AOLR could potentially perform in I-SEM?
2. Which of the three models proposed in this paper do you think should be implemented? If none, are there alternative models to the ones proposed that should be considered?

### 4.2 FUNCTIONS OF THE AGGREGATOR OF LAST RESORT

4.2.1 There are four functions which the AOLR could provide for participants who sign up to their service. These are as follows:

***Undertaking trading in the DAM, IDM and BM on behalf of eligible generators.***

The multiple market timeframes create additional opportunities for market participants. However, for small variable generators the multiple timeframes create an additional overhead in terms of interaction with the market. The continuous nature of the intraday market is especially difficult for small, variable generators as it could entail 24/7 operations.

***Pooling of risks across the portfolio***

Pooling would mean that the forecasting errors for individual (wind) generators would be socialised and each aggregated generator would be subject to the forecasting errors for the aggregated portfolio. Each generator would receive the mix of ex-ante and balancing market prices achieved by the portfolio as a whole. Without pooling, individual generators would be more or less exposed to the balancing market, depending on differences between metered output and ex-ante forecast for each individual generator.

***Assuming market responsibilities (e.g. Signing up to Trading and Settlement Code)***

Small variable generators may not feel they are suitably equipped to participate in the market. In particular, signing up to the various codes brings with it a number of responsibilities such as having credit cover in place and an ability to communicate with central systems. One function of the aggregator could be to allow the small participant to stay out of the market and allow

the aggregator to assume the market responsibilities. This would be similar to the concept of an intermediary<sup>1</sup> which is used in the current market and which will be available in I-SEM.

#### ***Submission of nominations to the TSO***

Another potential function of the aggregator could be to carry out the operational processes required of those variable generators signed up to it. This would include taking results of the DAM and converting into nominations into the TSO at the required granularity.

- 4.2.2 The SEM Committee welcomes comments in relation to the range of functions set out above and whether respondents believe that there are other functions the AOLR could perform or indeed whether all the functions set out should be performed.

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### 4.3 POTENTIAL MODELS

- 4.3.1 The SEM Committee is putting forward three options in respect of how the AOLR could operate in the I-SEM and hence how settlement is achieved for each aggregated generator participant. It may be possible to have more suitable combinations of the AOLR functions than the three outlined and the SEM Committee welcomes comments in this regard.
- 4.3.2 The first option is a portfolio based approach whereby the AOLR takes on responsibility for marketing all the wind in the portfolio in the DAM, IDM and BM. The revenues earned by the AOLR for the wind farms in the portfolio are spread across all the members (i.e. they all receive the same price for their generation).
- 4.3.3 The second option is the individual based approach whereby the AOLR facilitates the mechanics of bidding into the DAM, IDM and BM. The AOLR can provide wind forecast data but each generator in the AOLR's portfolio makes all decisions that have a financial implication (i.e. what volumes to bid into each ex-ante market). This means that the risk associated with balancing their nominated positions at DAM and IDM in the BM is borne individually by each generator. The bid by the AOLR into the ex-ante markets will still be portfolio based however the aggregate volume will depend on each generator's declared position.
- 4.3.4 The third option enshrines the arrangements for the AOLR within the market rules and provides a mechanistic arrangement to provide a route to market.

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<sup>1</sup> The Intermediary arrangements in SEM permit the owner of a generator to appoint an Intermediary to fulfil all of its obligations under the Trading and Settlement Code. This means that the Intermediary takes on all the risks associated with the market on behalf of the generator and posts the required credit cover for participation.

In essence, there would be a pre-defined formula for the levels of wind traded in each timeframe and settlement would be a result of that predefined formula.

- 4.3.5 The SEM Committee welcomes comments on the options put forward below and whether any additional options merit consideration or whether changes should be made to the options proposed.

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#### 4.4 OPTION 1 - THE PORTFOLIO SETTLEMENT AGGREGATOR

- 4.4.1 In this option the AOLR performs all four of the functions outlined above. All generators that sign up to the AOLR will be pooled into a single portfolio. This single portfolio will be bid into the ex-ante markets by the AOLR meaning the AOLR would essentially behave like a single generator in these markets.
- 4.4.2 Under this approach the generators that sign up to the AOLR agree that the AOLR will seek out optimal revenues on their behalf in the DAM and IDM and the participants will then receive the proceeds of the aggregate of all trades by the AOLR.
- 4.4.3 It is reasonable to assume that under this approach the AOLR will be a price taker in the DAM and BM, and therefore generators are primarily concerned with bidding volumes across the markets based on improved wind forecasts as it moves closer to dispatch.
- 4.4.4 However, on the assumption that it will be a continuous trading platform, any trading in the IDM will need to be active, i.e. it will not be possible to simply adjust volumes based on updated forecasts and take a prevailing price. Instead, trading in the IDM is likely to require the AOLR to be active in the market and seek the best prices throughout this timeframe.
- 4.4.5 While this option proposes portfolio bidding in the DAM and IDM, the AOLR will still be responsible for converting the contractual schedule from a gross portfolio into a schedule for units and will nominate these to the TSOs.
- 4.4.6 In the imbalance market, the deviation between the actual metered energy dispatched and the volume sold in the ex-ante market will be settled at the imbalance price.
- 4.4.7 In this model, the AOLR is a signatory to the market documentation (e.g. TSC) in place of the aggregated generators, and hence trades the DAM and IDM quantities and receives (or pays) the imbalance charges on its own account. Revenue is then distributed to the aggregated generators under a separate agreement.



- 4.4.8 The AOLR will pool all revenues received and/or paid in each of the DAM, IDM and BM and pro-rata the revenue amongst all generators based on their ex-post metered quantities i.e., the price paid to each generator participating in the AOLR will be the weighted average of the DAM, IDM and BM prices, weighed by the volumes traded by the AOLR in each market (with the balancing market volumes = difference between aggregate metered generation and the sum of all trades in prior markets).
- 4.4.9 Given that this payment is distributed pro-rata amongst all generators in the portfolio, any risk associated with imbalance is shared on a pro-rata basis amongst all the generators in the portfolio.
- 4.4.10 In order that the AOLR can trade the appropriate volumes in the DAM and IDM, generators need to provide the AOLR with relevant information regarding scheduled and unscheduled outages in a timely manner.

### ***Worked Example***

- 4.4.11 This worked example considers a portfolio based approach with three wind-farms signed up to the AOLR with a combined installed capacity of 260MW (These wind farms have respective capacities of 110MW, 80MW and 70MW). For simplicity it is assumed that:
- a) the AOLR submits bids for sale of generation into the IDM on only three occasions throughout this timeframe,
  - b) an AOLR fee is not taken into account,
  - c) all capacity has firm access,
  - d) each generator is 100% technically available
  - e) one single all-island forecast is used (in practice the AOLR could have a number of regional forecasts)
- 4.4.12 At the day ahead stage, the aggregator expects its portfolio to produce 100MWh in hour X based on the wind forecast. The aggregator decides to offer this 100MWh into the DAM which clears at €60/MWh.
- 4.4.13 At the intra-day stage, the forecast now states that the expected output is 120MWh. The AOLR decides to sell an additional 20MWh in the IDM. This is done by three separate trades with equal volumes for a price of 70, 60 and 55 €/MWh respectively. The AOLR has now entered into trades for 120MWh.
- 4.4.14 At the balancing stage, the AOLR is a price taker and so it takes the imbalance price which is reflective of the marginal costs of energy balancing. In the imbalance market, the AOLR is actually only dispatched for 110MWh meaning that it must buy 10MWh at the imbalance price of €65/MWh. This cost is allocated on a pro rata basis to all generators in the aggregator's portfolio regardless of whether the forecast error or otherwise could be attributed to a single generator.

4.4.15 Therefore, the total revenue that the AOLR has collected is:

$$\begin{aligned}
 & 100\text{MWh} \quad * \quad \text{€60/MWh} \\
 & + 6.67\text{MWh} \quad * \quad \text{€70/MWh} \\
 & + 6.67\text{MWh} \quad * \quad \text{€60/MWh} \\
 & + 6.67\text{MWh} \quad * \quad \text{€55/MWh} \\
 & - 10\text{MWh} \quad * \quad \text{€65/MWh} \\
 = & \quad \quad \quad \mathbf{\text{€6,583.33}}
 \end{aligned}$$

4.4.16 The table below summarises the revenues accruing to each generators in the AOLR's portfolio. The average payment received by each generator is €59.85/MWh. Again, as can be seen if there was a scenario where the imbalance was caused by one generator only, the cost is still distributed to all generators in the portfolio on a pro rata basis (unless caused by a un-notified change to a generator's availability from the default position of 100%).

Portfolio Based Approach					
		WF1	WF2	WF3	Market Price
Quantity (MWh) in each Market	DAM	42.31	30.77	26.92	€ 60/MWh
	IDM	2.82	2.05	1.79	€ 70/MWh
	IDM	2.82	2.05	1.79	€ 60 /MWh
	IDM	2.82	2.05	1.79	€ 55/MWh
	BM	-4.23	-3.08	-2.69	€ 65/MWh
Dispatch Quantity (MWh)		46.54	33.85	29.62	
Total Revenue €		€ 2,785.35	€ 2,025.25	€ 1,771.50	
Average Payment €/MWh		€ 59.85	€ 59.85	€ 59.85	

4.4.17 In summary of this option the revenue accruing to each generator can be equated as follows:

$$C_{ij} = \sum_{ki} (PDA_{kij} * QDA_{kij}) * \frac{QM_{ij}}{\sum_i QM_{ij}} + PBM_j \left[ \sum_i QM_{ij} - \sum_{ki} (QDA_{kij}) * \frac{QM_{ij}}{\sum_i QM_{ij}} \right]$$

where

- $C_{ij}$  is the revenue for generator i in period j;
- $PDA_{kij}$  is the price for the  $k^{th}$  trade in the DAM or IDM for generator i in period j;
- $QDA_{kij}$  is the quantity of the  $k^{th}$  trade in the DAM or IDM for generator i in period j;
- $QM_{ij}$  is the metered quantity for generator i in period j;
- $PBM_j$  is the balancing market price in period j;

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## 4.5 OPTION 2 - INDIVIDUAL SETTLEMENT AGGREGATOR

- 4.5.1 In this option the AOLR carries out all of the functions discussed at the outset except that of pooling the risk across the portfolio. However generators are pooled into a single portfolio and this single portfolio will be bid into the ex-ante markets by the AOLR based on the combination of each generator's instructions.
- 4.5.2 Under this approach, each individual generator in the AOLR is financially responsible for the revenue accruing for their unit. The AOLR could provide a wind forecast and each generator could then specify to the AOLR the volume it wished the AOLR to bid into the each of the DAM and IDM. This instruction could, in principle, comprise specific MWh quantities, albeit this would likely require the generator to provide such instructions on an on-going basis.
- 4.5.3 Alternatively, it might be possible for generators to provide instructions by way of a "trading strategy", which might consist of, say, a certain percentage of a forecast quantity to be bid into each of the DAM and IDM. It is for consideration whether the AOLR would provide a certain number of alternative strategies, from which individual aggregated generators would be able to select.
- 4.5.4 Again, it is reasonable to assume that under this approach it would be possible for the AOLR to be a price taker in the DAM and BM, and generators would be primarily concerned with bidding volumes across the markets based on improved wind forecasts as it moves closer to dispatch.
- 4.5.5 However, on the assumption that it will be a continuous trading platform, any trading in the IDM will need to be active, i.e. it will not be possible to simply adjust volumes based on updated forecasts and take the prevailing price. Instead, trading in the IDM is likely to require the AOLR to gauge the market and seek the best prices throughout the intraday market timeframe.
- 4.5.6 In the imbalance market, the AOLR will pay or receive payment for the deviation between the actual metered energy dispatched and the ex-ante market position. This imbalance price is applied to each generator unit individually, depending on its particular deviation from its ex-ante position.
- 4.5.7 Again in this model, the AOLR is a signatory to the TSC in place of the aggregated generators, and hence trades the DAM and IDM quantities and receives (or pays) the imbalance charges on its own account. It then distributes the revenues to the aggregated generators under a separate agreement.
- 4.5.8 As this payment is distributed individually to each generator in the portfolio any risk associated with imbalance or otherwise is taken individually by each generator depending on their actual metered output.

4.5.9 As with the portfolio option, it is proposed that there will be a requirement on generators in the AOLR's portfolio to submit information regarding scheduled outages and unscheduled outages as soon as possible so as to avoid unnecessary imbalance costs. However, under this approach the risk remains entirely with the generator should this information be inaccurate.

### ***Worked Example***

4.5.10 This section takes the previous example used in Section 4.3.11 and considers the revenues under the individual based approach.

4.5.11 At the day-ahead stage, the AOLR all-island wind forecast expects each of the three generator units to produce a combined output of 100MWh in hour X. Based on this information, each generator informs the AOLR the volume to sell into the DAM. In this option each generator takes its own view on the AOLR's forecast and declares their volumes for bidding into DAM. For the purposes of illustration we shall assume that each wind farm is taking a different view than that of the AOLR, except in the case of WF1. Hence, WF1 specifies 42MWh (38% of output which is what was forecasted by the AOLR), WF2 specifies 40MWh (50% of its available output) and WF3 allocates 70MWh (100% of its available output). The DAM price clears at €60/MWh.

4.5.12 At the intra-day stage, the AOLR forecast expects the aggregate output of the portfolio to be 120MWh in hour X. Based on this information, each generator informs the AOLR the volume to sell intra-day. WF1 declares an additional 6MWh and both WF2 and WF3 do not participate in the IDM.

4.5.13 However, the intraday price will vary throughout the day. The AOLR will bid into this timeframe with the average weighted volume that each generator has allocated to the IDM. Here the AOLR sells generation on three occasions at €70, €60 and €55/MWh respectively. The AOLR has now entered into trades for a total of 158MWh.

4.5.14 At the balancing stage, the AOLR is a price taker and so it simply takes the imbalance price. In the imbalance market, the AOLR is actually dispatched for 110MWh. This equates to 42% of the rated capacities of the generators. WF1 therefore is required to purchase 1.46MWh, WF2 purchases 6.15MWh and WF3 purchases 40.38MWh. The imbalance price clears at €65/MWh.

4.5.15 The revenues accruing to each individual generator are shown in the table below. As can be seen the revenues accruing to each generator is different on a per MWh basis due to the strategy of each generator in the DAM & IDM (€60.02/MWh for WF1, €59.09/MWh for WF2 and €53.18/MWh for WF3).

Individual Based Approach					
		WF1	WF2	WF3	Market Price
Quantity (MWh) in each Market	DAM	42	40	70	€ 60/MWh
	IDM	2.00	0.00	0.00	€ 70 /MWh
	IDM	2.00	0.00	0.00	€ 60 /MWh
	IDM	2.00	0.00	0.00	€ 55 /MWh
	BM	-1.46	-6.15	-40.38	€ 65 /MWh
Dispatch Quantity (MWh)		46.54	33.85	29.62	
Total Revenue €		€ 2,795	€ 2,000.00	€ 1,575.00	
Average Payment €/MWh		€ 60.06	€ 59.09	€ 53.18	

4.5.16 In summary of this option the revenue accruing to each generator can be equated as follows:

$$C_{ij} = \sum_k (PDA_{kij} * QDA_{kij}) + PBM_j * (QM_{ij} - \sum_k QDA_{kij})$$

where

$C_{ij}$	is the revenue for generator i in period j;
$PDA_{kij}$	is the price for the $k^{th}$ trade in the DAM or IDM for generator i in period j;
$QDA_{kij}$	is the quantity of the $k^{th}$ trade in the DAM or IDM for generator i in period j;
$QM_{ij}$	is the metered quantity for generator i in period j;
$PBM_j$	is the balancing market price in period j;

#### 4.6 OPTION 3 - PASSIVE AGGREGATOR

4.6.1 Under this approach, the AOLR would perform two or possibly three of the functions outlined at the outset. The AOLR would:

- undertake trading in the DAM, IDM and BM on behalf of the parties signed up to them,
- submit nominations to the TSO, and possibly
- pool the risk across the portfolio.

4.6.2 The AOLR in this model would essentially be a mechanistic function and could be implemented as part of the market systems implementation. Despite being aggregated, the aggregated generators assume the market responsibilities (signatories to the TSC or equivalent) in their own right; the AOLR would merely be a function that executes DAM trades on their behalf and nominates the ex-ante quantities, with the aggregated generators receiving revenues under the TSC.

- 4.6.3 The basis on which the AOLR executes trades would be “passive”, whereby a formula is agreed between all generators to the volume bid into each timeframe based on the wind forecast for that period. At its simplest, the AOLR could bid the output expected at the DAM stage, and would obtain the clearing price in this market. However, it is not clear how this would work in the IDM given that it does not have a clearing price.
- 4.6.4 In terms of settlement, it would be possible that each generator could be settled on an individual basis or alternatively the pooling of risk could be achieved by aggregating all the AOLR generators in market settlement.
- 4.6.5 Where the AOLR pooled risks, it would be possible still for aggregated generators to receive ex-ante market and balancing market revenues directly from settlements, and for the pooling of risk to be achieved by a set of side payments between the aggregated generators. The advantage of using a system of side payments is that it might make it much simpler for generators that were eligible for aggregation to opt in and out of aggregation agreements, whether with the AOLR or with some other aggregator.
- 4.6.6 Consistent with the I-SEM HLD Decision, either the AOLR would submit nominations to the TSO on behalf of aggregated generators or the aggregated generators would have to do it for themselves.

#### ***Worked Example***

- 4.6.7 The example uses the same inputs as used previously. Note for this example the pooling of risk function is not being undertaken by the AOLR.
- 4.6.8 The AOLR has agreed with generators that, based on the wind forecast, it will sell all of the expected output into the DAM. The difference between this contracted position and actual metered generation is cashed out at the BM price. At the day-ahead stage, the AOLR forecast expects each of the three generator units to produce a combined output of 100MWh in hour X. Based on this information, the AOLR bids 100MWh into the DAM price which clears at €60/MWh. On a pro-rata basis, this equates to 42.31MWh for WF1, 30.77MWh for WF2 and 26.92MWh for WF3.
- 4.6.9 The AOLR does not participate in the IDM until such time as there is a mechanism such as an auction in place to achieve a clearing price.
- 4.6.10 At the balancing stage, the AOLR is a price taker and so it simply takes the imbalance price. In the imbalance market, the AOLR is actually dispatched for 90MWh but the outturn is different for each generator depending on the actual wind speed at each location.

4.6.11 In this example, each site was short in the BM to varying degrees due to changes in wind speed at each site. WF1's actual metered output is 39.31MWh meaning 3MWh is purchased in the BM. WF2's metered output is 24.77MWh meaning 6MWh is purchased in the BM and WF3's metered output is 25.92MWh meaning 1MWh is purchased in the BM. The imbalance price clears at €65/MWh.

4.6.12 The revenues accruing to each individual generator are shown in the table below. As can be seen the revenues accruing to each generator varies.

Passive Approach					
		WF1	WF2	WF3	Market Price
Quantity (MWh) in each Market	DAM	42.31	30.77	26.92	€60 /MWh
	IDM	0.00	0.00	0.00	€70/MWh
	IDM	0.00	0.00	0.00	€60 /MWh
	IDM	0.00	0.00	0.00	€55 /MWh
	BAL	-3.00	-6.00	-1.00	€65 /MWh
Dispatch Quantity (MWh)		39.31	24.77	25.92	
Total Revenue €		€ 2,343.60	€ 1,456.20	€ 1,550.20	
Average Payment €/MWh		€ 59.62	€ 58.79	€ 59.81	

4.6.13 In summary of this option the revenue accruing to each generator can be equated as follows:

$$C_{ij} = (PDA_j * QDA_{ij}) + (PBM_j * (QM_{ij} - QDA_{ij}))$$

where

- $C_{ij}$  is the revenue for generator i in period j;
- $PDA_j$  is the price in the DAM in period j;
- $QDA_{ij}$  is the quantity in the DAM for generator i in period j;
- $PBM_j$  is the balancing market price in period j;
- $QM_{ij}$  is the metered quantity for generator i in period j;

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## 4.7 SUMMARY OF OPTIONS

- 4.7.1 The SEM Committee has put forward three distinct options for the functioning of the AOLR.
- 4.7.2 The portfolio based approach, Option 1 carries out all of the functions set out at the beginning of this section
- 4.7.3 The individual based approach, Option 2, adds a layer of complexity in that each generator is required to actively engage with the AOLR on a continuous basis to bid volumes into the ex-ante markets to achieve optimal revenues.
- 4.7.4 The benefit of the passive approach, Option 3, is that it simplifies the process for the AOLR to the point that it would not require the appointment of an agent to undertake it, and could be performed as part of the market systems. A disadvantage of a passive approach is that would not allow the choice of trading strategies of the individual approach. Also, it would not be compatible with trading in a continuous IDM that does not have a clearing price, and thus could result in significant volumes bypassing the IDM and being traded through imbalance settlement. Finally, it is likely that eligible generators using the service would still need to sign up to the TSC.
- 4.7.5 The SEM Committee welcomes comments on the three options and the initial assessment of each one.



## 5 GOVERNANCE OF THE AGGREGATOR OF LAST RESORT ENTITY

### 5.1 CONSULTATION QUESTIONS FOR THE GOVERNANCE OF THE AOLR ENTITY

5.1.1 The following consultation questions relate to the issues discussed in this section:

3. Would you consider providing aggregation services in the new market? If so, would you consider being the AOLR service provider?
4. Should the RAs, or alternatively the TSOs, be responsible for establishing the AOLR framework and the subsequent procurement of the AOLR service provider? Outline reasons for your preferred option and if there are any further issues that merit consideration.
5. If the TSOs are selected as the preferred agent for establishing the AOLR framework, should the TSOs carry out the function in house or outsource it to a third party through a competitive tendering process? Outline reasons for your preferred option and if there are any further issues that merit consideration.
6. Do you believe the options for the AOLR proposed in this paper present a potential cross subsidisation of AOLR costs by others not involved with the AOLR?
7. Do you agree with the transparency measures proposed and if there is other information that should be disseminated to participants?

### 5.2 INTRODUCTION

5.2.1 It is important to put in place a governance structure which effectively underpins the regime in place.

5.2.2 An effective governance regime for the AOLR is important because there must be confidence that there will be an AOLR in place at market go-live and there must be confidence that the cost of that service is not unduly prohibitive.

5.2.3 As discussed previously, commercial aggregators will be able to enter the market and compete for customers; however, their arrival cannot be guaranteed by the time the market goes live. Equally it must be ensured that any arrangements put in place to ensure this objective is met does not prevent or unduly inhibit entry/further entry by commercial aggregators.

- 5.2.4 The last resort nature of this entity suggests more than just being in the market on commercial terms. There must also be confidence that the AOLR will not be in a position to delay or hinder commercial offerings and will perform its functions independently of any other interests in the market including potential conflicts of interest that could potentially represent distortions in the market.
- 5.2.5 In addition, market participants will want assurance that the functions of the AOLR, if carried out by the TSOs, would not be cross-subsidised by other activities and/or regulated funding of the TSOs as this would mean the AOLR effectively 'out-competes' other independent commercial offerings. Similarly participants will want assurance that the AOLR would not provide cross-subsidies to other arms of the TSOs.
- 5.2.6 Provision for an AOLR is needed to ensure that there remains at least one aggregator in the market that will not leave at short notice and leave small generators exposed. As well as general comments, the SEM Committee would welcome comments in particular on:
- The potential level of commercial aggregators entering the market including initial expression of interest where applicable;
  - Whether the RAs or the TSOs should be responsible for the AOLR framework establishment;
  - If the AOLR provision is assigned to the TSOs, whether this function should be carried out in house or outsourced to a third party through a competitive tendering process;
  - Whether there are other options that should be considered.

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### 5.3 POTENTIAL FOR AGGREGATORS IN I-SEM

- 5.3.1 As stated above, the SEM Committee is of the view that the AOLR should not crowd out the potential for commercial aggregator services. To this end the SEM Committee welcomes views from respondents as to the potential level of commercial aggregator offerings in the I-SEM. This includes initial expressions of interest from potential commercial offerings.
- 5.3.2 In particular, the SEM Committee welcomes specific insights from companies considering providing aggregation services in relation to the AOLR framework and whether there are actions that can be taken to ensure a more efficient approach to this framework.

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## 5.4 OPTIONS FOR FRAMEWORK ESTABLISHMENT

- 5.4.1 It would appear that there are two viable options for the establishment of the AOLR regime in the context of Option 1 and 2 outlined in the previous section. Option 3, the Passive Approach, does not require consideration in this regard given that it is likely to be an embedded mechanistic feature of the new market design.
- 5.4.2 The first option is where the RAs not only put the regulatory framework in place, but also run a competition or process to procure the AOLR.
- 5.4.3 Procurement by the RAs may mean that legislative changes are needed in both jurisdictions to give the RAs the power to jointly procure and regulate the AOLR. This would be determined by the view taken on the need to regulate the entity, as opposed to some contractual obligation to provide services which deal with any requirements considered necessary. Direct RA procurement may raise the need for legislation not only to procure but also to subsequently regulate the AOLR.
- 5.4.4 Further, should the RAs take responsibility for the process, the ability to licence an AOLR may need to be written into legislation to allow the RAs to regulate this entity, to ensure:
- a) that it provides the functions for the market participants, and
  - b) costs incurred and fees charged are efficiency incurred.
- 5.4.5 The enactment of new legislation is not within the powers of the RAs and therefore departmental involvement and support would be required. Also, the new legislation would require the RAs to consult on and establish an AOLR licensing regime for this new entity in Ireland and Northern Ireland.
- 5.4.6 The second option would be to appoint the TSOs as the delivery agent of the AOLR framework. Here, the TSOs would be required to run a competition or similar establishment process.
- 5.4.7 Under this approach, if the AOLR role was assigned to the TSOs, this may allow regulation through the existing regulatory framework, by expanding the scope of the existing TSO licences, if required, to cover this additional set of responsibilities. Note, the outsourcing of this function is separate to the decision whether to include this responsibility in the TSOs licences (as discussed in the next section).
- 5.4.8 The SEM Committee welcomes comment on the procurement process for the establishment of the AOLR that should be followed, who the delivery agent should be and the issues that arise from each approach. In particular comments are welcomed as to whether there are other options available to the SEM Committee and the issues that arise from such options.

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## 5.5 AOLR SERVICE PROVIDER

- 5.5.1 As discussed in the previous section the options available in relation to who acts as the delivery agent for the AOLR service (the RAs or the TSOs) give rise to a number of issues. However, the delivery agent is a different function to the actual service provision, which also gives rise to questions that should be considered.
- 5.5.2 This section refers to the service provision where it is deemed that the TSOs should establish the framework for procuring the AOLR. Depending on the precise range of functions performed and respective responsibilities this section may not be relevant to Option 3, the 'Passive Model' given that under Option 3 the entity may be simply a mechanistic function of the market which is enshrined in systems and processes. The AOLR in this case might not assume market responsibilities.
- 5.5.3 There would appear to be two options for the provision of the AOLR service within this framework.
- The TSO could perform the function in house and set up the required systems and processes.
  - The TSO could run a competition to appoint an AOLR. The AOLR in such an instance would be a commercial entity that is interested in taking on the AOLR portfolio. The TSO would remain responsible for its performance and any regulatory requirements attached to it.

### ***TSO In House Function***

- 5.5.4 As discussed above this option involves the TSO setting up the systems and processes to trade in the market and to market all the output of the AOLR portfolio in the DAM, IDM and BM.
- 5.5.5 This option would give confidence to the industry that an AOLR function will be in place for market go-live and will allow for adequate regulatory oversight of the establishment and implementation process assuming no legislative obstacles are required to effect such regulation. The process could likely fit in with the overall I-SEM implementation project within the TSOs.
- 5.5.6 However, the provision of an AOLR service by the TSOs in the market would be a significant departure from the range of services provided by the TSOs now. The AOLR function is a commercial one and will require the provider to actively trade in the ex-ante markets to achieve the best outcome for the portfolio. This would also likely require a new capability to be established within the TSOs.
- 5.5.7 In addition, it may be difficult to incentivise the AOLR function if the TSOs are carrying out the function in-house. In comparison to commercial aggregators

who already operate in other markets and have experience of trading etc, the TSOs may not be equipped to achieve the same outcomes from day one. The TSOs would likely not be set up to take risks in terms of incentivisation that other commercial aggregators would.

- 5.5.8 Some respondents to the HLD draft decision expressed concern that the TSOs were not best positioned to carry out the aggregator function given the potential impact on competition and conflict of interest arising from an AOLR requirement to seek commercial outcomes to the advantage of aggregated generation and the TSOs licence requirements for non-discrimination.
- 5.5.9 Recently Ofgem consulted on the synergies and conflicts of interest arising from the Great Britain System Operator (National Grid) delivering Electricity Market Reform (EMR) which proposed a number of mitigation measures including: proportionate ring-fencing of some of the EMR functions within National Grid and transparency.
- 5.5.10 Conflicts of interest arise from the TSOs' duty of non-discrimination (condition 17 of EirGrid licence and condition 15 of SONI licence) and it simultaneously operating as a commercial entity required to trade to achieve the best outcome for its aggregated portfolio. It might therefore be the case that the TSO carrying out the role would require significantly more regulation than provision by a commercial entity – to mediate the conflicts of interest that would arise.
- 5.5.11 Specifically, the TSOs' primary function relates to the safe, secure and economic operation of the transmission network, whereas the aggregator is responsible for achieving optimal revenues for its portfolio. Therefore the questions arises as to whether the TSOs should be taking on functions that might be construed as outside those of a TSO and involve some of those of generation. For example the AOLR would be taking a position in the ex-ante markets to the benefit of wind and ultimately customers through a more efficient dispatch at the behest of thermal generation that benefit where wind does not participate in the ex-ante markets.
- 5.5.12 Conversely, if the AOLR is incentivised to actively trade in the DAM and IDM arguably it could be regarded that the AOLR has access to inside information which potentially could be used to the detriment of the other market participants.
- 5.5.13 Moreover, as per EU legislation, the performance of TSO functions should be separate from the functions of supply and generation. It would therefore need to be determined to what extent any the performance of the functions of AOLR is in breach of such requirements and whether additional ringfencing would be required.

5.5.14 Performance of generation functions may put the TSOs in default of unbundling requirements under Article 9 of Directive 2009/72/EC which states that:

‘the same person or persons are not entitled to appoint members of the supervisory board, the administrative board or bodies legally representing the undertaking, of a transmission system operator or a transmission system, and directly or indirectly to exercise control or exercise any right over an undertaking performing any of the functions of generation or supply; and  
(d) the same person is not entitled to be a member of the supervisory board, the administrative board or bodies legally representing the undertaking, of both an undertaking performing any of the functions of generation or supply and a transmission system operator or a transmission system.’

Also that:

‘The persons responsible for the management and/or members of the administrative bodies, and employees of the transmission system operator shall hold no interest in or receive any financial benefit, directly or indirectly, from any part of the vertically integrated undertaking other than the transmission system operator. Their remuneration shall not depend on activities or results of the vertically integrated undertaking other than those of the transmission system operator.’

5.5.15 In light of the above, the TSOs establishing an aggregator function in house is likely not the most appropriate solution for the AOLR. However it may be the case that the TSOs might have to develop an in-house capability if a competitive solution cannot be found although this may be seen as a second best solution.

### ***TSO Run Competition***

5.5.16 This second option would involve the TSOs running a competition to appoint an AOLR (this could involve a back-up AOLR also). A contractual arrangement would need to be put in place between the TSOs and the AOLR and commercial arrangements would be put in place between the users of the service and the AOLR.

5.5.17 The key advantage to this approach is that the most economic entity is sought out that is best positioned to carry out the AOLR role. This would help ensure that the transactions costs and ultimately the AOLR service fees are not prohibitive to small generators.

- 5.5.18 There is precedence for such an approach in that TSOs already contract for wind forecasting in the SEM and for counter trading<sup>2</sup> on the East West Interconnector.
- 5.5.19 In addition, outsourcing the AOLR would be more in keeping with the transitional approach as the SEM Committee could decide on the expiry of the service level agreement by which the market is served best by only having commercial entities perform this function. If carried out in house the TSOs could potentially be left with a stranded asset.
- 5.5.20 The TSOs would remain responsible for the performance of the AOLR function and would be required to ensure compliance with all regulatory requirements. Regulation might be more difficult because of the indirect performance of the tasks so that obligations placed on the TSOs would have to be enforced through contract rather than through direct regulation. The issues thrown up by performance on non-TSO tasks and potential conflicts of interest may be largely mitigated but would not be removed as the TSOs would retain licence responsibility.
- 5.5.21 Comments from respondents are welcomed on these alternative approaches and the issues that are raised by TSO performance or subcontracting of the AOLR function.

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## 5.6 TRANSPARENCY OF AOLR PERFORMANCE

- 5.6.1 Information from the AOLR could be published for market participants in respect of how the aggregator operates and performs in the I-SEM. This information should allow commercial aggregators to gauge the market potential and encourage their entry. Further it should encourage generators to seek out the best available option, be it through the AOLR, a commercial aggregator or independently.
- 5.6.2 The AOLR could also publish an annual report outlining the average €/MWh payment made to clients. This will include a breakdown of the fee associated with the operational costs and recovery of the capex (if applicable). This information will give the generators in the portfolio an indication of their individual performance.

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<sup>2</sup> Counter trading is carried out after final gate closure by the TSO in certain instances to reduce the curtailment of priority dispatch wind generation and assist in the management of dispatch balancing costs.

## 6 INCENTIVES & COST ALLOCATION

### 6.1 CONSULTATION QUESTIONS FOR THE AOLR INCENTIVES & COST ALLOCATION

6.1.1 The following consultation questions relate to the issues discussed in this section:

8. Do you agree that incentives are important for the AOLR? Are there other incentives that should be considered by the RAs?
9. Do you agree with the issues raised surrounding cost allocation and the potential stranding of assets? Are there other issues that merit consideration?

### 6.2 TREATMENT AND INCENTIVISATION OF COSTS

6.2.1 The success of the AOLR in the I-SEM may be contingent on appropriate incentives being allocated to its performance as the AOLR. This is particularly important in the early days of I-SEM if there are no commercial aggregators at day one to whom generators could switch in the event that the performance of the AOLR was unsatisfactory.

6.2.2 To sign up to an AOLR, both current generators and potential new entrants would need confidence that the best price for their energy is being obtained. Further, the costs associated with setting up an AOLR require consideration such that they do not provide a barrier to entry for small scale generators.

6.2.3 The incentivisation of costs will vary depending on the procurement approach taken – by RA led competitive procurement for a commercial offering, direct TSO provision or TSO subcontracting. It may also vary by option as set out in section 4. The discussion in this section is primarily relevant to TSO delivery of the service.

6.2.4 In general, costs associated with the AOLR can be considered in two categories.

- Once off establishment costs
- Ongoing transactions costs

6.2.5 There will be costs associated with the establishment of systems and processes by the AOLR. In reality, these could vary between the different options and could depend on whether the AOLR has existing capabilities. In addition there will be ongoing costs associated with trading in the market and maintaining the systems being used. It should be the case that the length of



time for which the AOLR “contract” is awarded will have a bearing on the recovery of once off fixed costs. If the AOLR is given the role for one year they will need to recover a higher per unit cost than if, for example, it acquired a two or three year term.

- 6.2.6 For either of the Portfolio Settlement or the Individual Settlement Aggregator Options, (Option 1 or 2 in section 4) it should be possible to structure a competition in a way that requires bidders to compete on overall costs of the service over the course of the “contract”. A Passive Aggregator would be different in that it would be developed as part of the overall market systems development. Therefore it would require a disaggregation of the costs associated with the AOLR in order to pass them on to the users of the service and a time period specified for the recovery of these costs.
- 6.2.7 Within options it may be possible to have a breakdown of costs between those that are ongoing and those that are establishment costs. However, depending on the overall level of costs involved this may not be needed.
- 6.2.8 In summary, where TSO procurement and/or operation is in place, it would appear possible to provide incentives on costs of the service for Option 1 and Option 2 while the incentives in Option 3 would be linked to general incentives on the Market Operator.
- 6.2.9 Within this TSO framework, consideration would need to be given to risks associated with a stranding of AOLR assets. This would occur where very few participants sign up to the service or where a large number leave the service before the end of the “contract”.
- 6.2.10 For Option 3, this may not be an issue as the Option might be an enduring part of the market and costs might be recovered over time through the balancing market operator tariff. Users that subsequently move to the service could then start to make a contribution through a dedicated fee.
- 6.2.11 For Option 1 and Option 2, the issue may be more difficult. The options available here are again dependent on the procurement approach but are likely to either require a bidding AOLR take all the risks of low numbers of users or to require the TSOs to underwrite some of the costs.
- 6.2.12 The SEM Committee welcomes comments from respondents on the appropriate treatment of costs for the AOLR function. In particular, comments are welcomed on whether the options put forward are appropriate or whether other options should be considered.

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## 6.3 PERFORMANCE INCENTIVES ON THE AGGREGATOR OF LAST RESORT

- 6.3.1 Where the AOLR is performing functions on behalf of generators it is important that there is a mechanism in place that incentivises the AOLR to achieve the best outcomes with the resources at its disposal. Such incentives will be partly dependent on the model of service delivery, whether it is a commercial offering, carried out directly by the TSOs or subcontracted by the TSOs.
- 6.3.2 In relation to the options proposed in section 4, performance incentives in relation to revenue earned in the market are most important for Option 1. This is because Option 2 places much of the responsibility on when to trade on the generator and Option 3 may be an entirely mechanistic approach defined ex-ante.
- 6.3.3 The remainder of this section focuses on the performance incentives that could be put in place under Option 1 to achieve the best possible outcome for the users of the service.

### ***Best Endeavours***

- 6.3.4 The introduction of a best endeavours approach might be considered as the most basic of incentives. Under this approach, there is no regulatory impetus to mandate performance requirements on the aggregator; the aggregator obtains revenues from the DAM and IDM on a best endeavours basis.
- 6.3.5 The performance level of the AOLR in this approach would be grounded in the fact that a competition was held to appoint the most suitable provider of the service (the competition might, in such a case need to be structured in a way that does more than appoint the least cost provider).
- 6.3.6 The result of the competition would be the appointment of a competent provider as AOLR, a provider that is in the business of aggregating wind and marketing it. This in itself could give comfort that the best outcome can be achieved. However, it provides no specific metric for providing such comfort.
- 6.3.7 It is not clear that the best endeavours approach would provide the best outcome for users of the AOLR service or that it would provide sufficient security to participants.

### ***Benchmark Against the Market Price***

- 6.3.8 Under this approach, potential AOLR candidates would take part in a competitive tender in Option 1. If they are the service facilitator this competition would be run by the TSOs. Competitive offerings would be submitted as a discount to a certain reference price. For example the

tenderer could offer to pay the AOLR generators the DAM price discounted by a percentage or fixed amount for all generation.

- 6.3.9 This percentage or fixed fee value would account for the costs associated with balancing primarily arising from wind forecast errors plus the AOLR's cost of operation. The AOLR role would be awarded to the tenderer offering the lowest discount (or even, in the event that a tenderer believed it could realise higher prices in the IDM and balancing market, greatest premium).
- 6.3.10 The DAM is a likely candidate for the reference price in the tendering exercise. It could be possible also to use as a reference the BM or a basket of the DAM and BM.
- 6.3.11 An extension of this approach might be to institute a profit sharing mechanism such that the AOLR would share revenues above a target (defined, as above, as a discount to the day-ahead price) with the aggregated generators in some ratio. This ratio could be predetermined by the RAs or under the auspices of the TSC or where applicable the tenderer offering the lowest discount could be selected.
- 6.3.12 Consider an example where the AOLR was selected on the basis that gave the lowest discount to the DAM price; specifically the AOLR is contracted to achieve 95% of the DAM price. Profit share from revenues accruing above this value is set at 10% and the average day ahead price is €50/MWh. This means that the AOLR will receive a 10% share of the revenue above €47.50/MWh in hour X.
- 6.3.13 Taking the example set out for the Portfolio AOLR option in section 4, the average revenue obtained by the AOLR in hour X is €59.85/MWh. The dispatch quantity for hour X by the AOLR is 110MWh giving a total revenue of €6,583.33 for that period.
- 6.3.14 Therefore in this example the AOLR is entitled to €135.85 for hour X [ $10\% \times (59.85 - 47.50 \text{ €/MWh}) \times 110\text{MWh}$ ] and the AOLR participants then receive €6,447.48.
- 6.3.15 Key benefits to this option relates to incentivising the AOLR to enter the day-ahead market and transparency of pricing. By defining this performance parameter, renewable generators participating with the AOLR would be able to estimate relatively accurately the expected revenues from the I-SEM once the day-ahead price is established, stable and predictable.
- 6.3.16 If such an approach is very successful, it may be that the AOLR's performance discourages competition for (perhaps other) commercial aggregators to enter the market. In other words, if Option 1 was preferred it is likely that its performance will achieve maximum revenues for generators. This may deter

competitors entering the market although competition on cost would still be relevant.

6.3.17 Given that this is a transitional approach, if competition concerns arise this may be revisited in the future, once the market is established and generators are familiar with its operation.

6.3.18 The SEM Committee welcomes comments from respondents on the appropriate incentive for the AOLR function. In particular, comments are welcomed on whether the options put forward are appropriate or whether other options should be considered.

## 7 PARTICIPANT ELIGIBILITY

### 7.1 CONSULTATION QUESTIONS ON PARTICIPANT ELIGIBILITY

7.1.1 The following consultation questions relate to the issues discussed in this section:

10. Do you agree that no upper threshold limit for wind participation in the AOLR should apply? If not, please propose a limit and provide reasons for this position.
11. Should smaller participants, other than wind, be considered eligible for participation to the AOLR? If you agree please outline the participants that merit consideration or if you don't agree please provide reasons.
12. If participants other than wind should be included in the AOLR, should these be grouped for the purposes of bidding into the ex-ante markets and settlement given their respective risks in the new market design?

### 7.2 INTRODUCTION

7.2.1 This section sets out the proposals in respect of market participants that might be considered eligible to contract with the AOLR.

### 7.3 THRESHOLD LIMITS

7.3.1 The de-minimis threshold for participation in the current SEM is 10MW. This threshold will be consulted on in the I-SEM Energy Trading Arrangements 'Building Blocks' Consultation in February 2015.

- 7.3.2 It is proposed that there is no upper limit to wind generation that is eligible to sign up to an aggregator. The reasons for this position are twofold.
- 7.3.3 Firstly, the greater the participation in the AOLR by generators would help spread the fixed costs of aggregation over a greater base of aggregated generators and aggregated output.
- 7.3.4 Secondly, there may be a natural tipping point at which the larger generators would see greater benefits to bidding independently into the markets to give them greater control over their portfolio of generation and not be exposed to the risks of a third party performing this function on their behalf.
- 7.3.5 Regarding a lower eligibility limit, it is proposed that there is no such lower limit, and that all wind generators under the de-minimis threshold would also be eligible to avail of the AOLR.
- 7.3.6 This would give de-minimis wind generators an alternative route to market which could provide such generators with a backstop position when negotiating power purchase agreements with suppliers.

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## 7.4 PARTICIPANT TYPE

- 7.4.1 This paper is written in the context of wind generation being the only participant in the AOLR's portfolio. However, there may be merit in considering whether the AOLR should also be available for other specific participant groups.

### ***Generator Types***

- 7.4.2 There is merit in considering whether all generation technologies under the de-minimis threshold could avail of the AOLR services. In particular, de-minimis generators may seek to avail of the opportunities relating to bidding into the ex-ante timeframes that may otherwise be too commercially onerous for participants of this scale.
- 7.4.3 Further, as stated previously this would also give all de-minimis generation an alternative route to market which would provide such generators with a backstop position when negotiating power purchase agreements with suppliers.
- 7.4.4 However, more predictable output technologies do not face the same risk as wind with respect to predicting their output at the day-ahead or intra-day stage. If these generators were permitted access to the aggregator then there may also be merit in considering whether they should be included in the same portfolio or grouped according to their technology. Allowing grouping would ensure that the risk associated with predicting wind would not be

shared by those generators with alternative fuel sources (e.g. natural gas, biomass, hydro, anaerobic digestion).

### ***Small Demand Participants***

- 7.4.5 In the current SEM, forecasting demand is the responsibility of the TSOs. Under the new market rules however, suppliers will be become balance responsible meaning they will need to participate in the DAM and IDM similar to generator participants and therefore will be required to forecast their expected demand quantity positions.
- 7.4.6 Similar to the small variable generator units, these new requirements will pose a risk to the smaller suppliers that may not be in a position to predictably forecast their customers' demand.
- 7.4.7 However, there are a number of smaller suppliers operating in the current market, with domestic and/or commercial customers who face new risks in respect of forecasting their respective demands in the DAM and IDM.
- 7.4.8 In theory, predicting demand for non-interval meter customers should be relatively achievable using the standard load profiles provided by the meter data providers.
- 7.4.9 Arguably the greater risk for these small suppliers relate to predicting the demand of their larger customers. The new arrangements will now place the onus on these suppliers to obtain forecasts from these customers to allow them to predictably bid in the various market timeframes.
- 7.4.10 However, placing this risk with an AOLR raises the issue of how the AOLR would elicit accurate forecast information from each large energy user (LEU). In other words the AOLR in most cases will be unable to predict the LEU's demand and will rely solely on the LEU providing this information.
- 7.4.11 While there may be merit in allowing these smaller suppliers avail of aggregator services, it is not clear if it should fall into the remit of the AOLR.
- 7.4.12 The SEM Committee welcomes comments from respondents and in particular whether participants other than wind generation should be considered eligible to avail of the AOLR.

## 8 NEXT STEPS

### 8.1 SUMMARY OF NEXT STEPS

- 8.1.1 This Consultation Paper forms part of the process for implementing a new High Level Design (HLD) for the Integrated Single Electricity Market (I-SEM) in Ireland and Northern Ireland as set out in the Project Plan.
- 8.1.2 Depending on the level of interest from industry the RAs propose to hold a workshop on the contents of this paper with interested parties. This workshop will be held on the 16<sup>th</sup> December 2014. Parties are requested to confirm their attendance to both Warren Deacon and Kenny Dane below by 17:00 on 12<sup>th</sup> December. A venue will be confirmed once the number of participants is known.
- 8.1.3 It is intended that an AOLR Operation Consultation Paper will be published in April 2015 followed by a decision paper to both of these consultations in August 2015.

### 8.2 CONSULTATION RESPONSES

- 8.2.1 Responses to this paper are requested by 17:00 on 23 January 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 August 2015.
- 8.2.2 Responses should be sent to Warren Deacon ([wdeacon@cer.ie](mailto:wdeacon@cer.ie)) and Kenny Dane ([kenny.dane@uregni.gov.uk](mailto:kenny.dane@uregni.gov.uk)). Please note that the SEM Committee intends to publish all responses unless marked confidential<sup>3</sup>.

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### 8.3 QUESTIONS

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<sup>3</sup> 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.

8.3.1 All consultation responses should address the consultation questions in the following order:

#### POTENTIAL AGGREGATOR OF LAST RESORT MODELS (SECTION 4)

1. Do you agree with the potential functions of the AOLR as outlined? Are there any additional functions that the AOLR could potentially perform in I-SEM?
2. Which of the three models proposed in this paper do you think should be implemented? If none, are there alternative models to the ones proposed that should be considered?

#### GOVERNANCE OF THE AGGREGATOR OF LAST RESORT ENTITY (SECTION 5)

3. Would you consider providing aggregation services in the new market? If so, would you consider being the AOLR service provider?
4. Should the RAs, or alternatively the TSOs, be responsible for establishing the AOLR framework and the subsequent procurement of the AOLR service provider? Outline reasons for your preferred option and if there are any further issues that merit consideration.
5. If the TSOs are selected as the preferred agent for establishing the AOLR framework, should the TSOs carry out the function in house or outsource it to a third party through a competitive tendering process? Outline reasons for your preferred option and if there are any further issues that merit consideration.
6. Do you believe the options for the AOLR proposed in this paper present a potential cross subsidisation of AOLR costs by others not involved with the AOLR?
7. Do you agree with the transparency measures proposed and if there is other information that should be disseminated to participants?



#### INCENTIVES & COST ALLOCATION (SECTION 6)

8. Do you agree that incentives are important for the AOLR? Are there other incentives that should be considered by the RAs?
9. Do you agree with the issues raised surrounding cost allocation and the potential stranding of assets? Are there other issues that merit consideration?

#### PARTICIPANT ELIGIBILITY (SECTION 7)

10. Do you agree that no upper threshold limit for wind participation in the AOLR should apply? If not, please propose a limit and provide reasons for this position.
11. Should smaller participants, other than wind, be considered eligible for participation to the AOLR? If you agree please outline the participants that merit consideration or if you don't agree please provide reasons.
12. If participants other than wind should be included in the AOLR, should these be grouped for the purposes of bidding into the ex-ante markets and settlement given their respective risks in the new market design?