



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

**Energy Trading Arrangements  
Detailed Design**

**Building Blocks Decision Paper**

**SEM-15-064**

**11 September 2015**

## EXECUTIVE SUMMARY

The European Union (EU) is building an internal market for electricity and gas, to help deliver energy supplies that are affordable, secure and sustainable. This is underpinned by the implementation of the European Electricity Target Model (EU Target Model) arising from the EU's Third Energy Package. Specifically, the EU Target Model is a set of harmonised arrangements for the cross-border trading of wholesale energy and balancing services across Europe. In this context, the SEM Committee committed to implementing the Integrated Single Electricity Market (I-SEM) that will go-live in Q4 2017, replacing the current Single Electricity Market (SEM) arrangements.

The CACM Regulation came into force on 14 August and Article 83 imposes obligations on Northern Ireland and Ireland in the period from now until December 2017 to implement preparatory transitional arrangements leading to full implementation and full compliance by 2017. Both DETI and DCENR have now consulted on their proposals with respect to updating/amending national legislation to permit the replacement of the SEM in line with this commitment.

Following extensive consultation over 2014, the SEM Committee published the Decision Paper on the High Level Design (HLD) for the I-SEM in keeping with its statutory objectives. Subsequently, the Detailed Design Phase of the I-SEM commenced and a number of workstreams were established including the Energy Trading Arrangements (ETA) workstream which includes both "Markets" and the "Building Blocks" workstream. The Building Blocks Consultation Paper was published on 11 February 2015 following three Rules Liaison Group (RLG) meetings with representatives from the industry. Twenty four responses were received to the Building Blocks Consultation Paper. These responses were published on 27 May 2015.

This Decision Paper summarises the responses to the Building Blocks Consultation Paper, sets out the SEM Committee's response to issues raised in comments received, and presents the SEM Committee's decision on the issues consulted on. The proposals as set out aim to be in keeping with the EU Target Model, associated network codes and the HLD, and are complimentary to the decisions on the market arrangements set out in the Energy Trading Arrangements Detailed Design Markets Decision Paper.

The SEM Committee considers that it is appropriate to move directly to a Decision Paper on the main aspects of the ETA detailed design at this stage as the matters consulted on have been widely discussed with participants at RLG meetings and bilaterally since Autumn 2014. Additionally, the intention of considering the ETA detailed design in two Consultation Papers was to separate out areas where major changes would be required to the trading arrangements, i.e. the ETA markets issues, from areas of the I-SEM arrangements where the existing SEM policy could be largely maintained. Consequently, the Building Blocks issues do not represent major areas of policy change. Further, the decisions set out in this paper represent one stage in the decision making process for detailed design. Publication of this Decision Paper allows the detailed rules drafting and implementation for the I-SEM to commence. Appendix A of this Decision Paper contains a list of issues to be addressed in the implementation phase arising from this paper. The implementation of this detailed design will then be the subject of decisions to be taken in line with the amending legislation proposed in each SEM jurisdiction.

### **Treatment of Transmission Losses**

Notwithstanding the position set out by the SEM Committee in the Consultation Paper that the I-SEM does not, of itself, require a change in the existing TLAF policy that operates in the SEM, there were responses that argued for a change in the TLAF regime, including moving to uniform TLAFs, citing the volatility of the existing arrangements, alignment with GB, and the ineffectiveness of the existing TLAF arrangements in providing locational signals. Other respondents supported the SEM Committee position. The SEM Committee has considered these responses and remains of the view that there is no need to review the existing TLAF approach as a consequence of the move to the I-SEM and that the existing approach to locational TLAFs should be retained.

Regarding the treatment of generator losses, most respondents felt that loss factors should be applied at the trading boundary, while some respondents believed that balancing actions should be priced at the station gate. The SEM Committee has decided that for the DAM and IDM, trades should be at the trading boundary, and that market participants will then need to account for losses when submitting offers into these markets. For the Balancing Market, commercial data will be submitted at the station gate, and not adjusted for losses.

Two approaches were considered for the treatment of interconnector losses: utilising a single loss factor, i.e. the loss factor would be a weighted average of EWIC and Moyle loss factors; or, utilising a separate loss factor for each interconnector. There was strong support expressed in the responses for modelling interconnector losses separately. The SEM Committee concurs with this view and has decided that this approach will be adopted, subject to its feasibility in EUPHEMIA being confirmed.

### **Treatment of Constraints**

The Consultation Paper noted the HLD decision that the I-SEM did not require a change to constraints policy. This principle is reflected insofar as if a generator has an ex-ante position it may be compensated, based on its bids and offers, if it is dispatched away from this position in the BM. Respondents noted concerns regarding the impact of TSO early actions on the Balancing Market, a matter that the SEM Committee subsequently addresses in the ETA Markets Consultation Paper. A number of respondents also raised concerns regarding the requirement to have an ex-ante position to receive a constraint payment in the Balancing Market. The SEM Committee has considered these concerns, and has concluded that, in order to receive compensation payment if they are unable to generate due to a constraint, a generator must have an ex-ante market position. This is in line with the SEM Committee decision on the HLD. Consequently, a generator that has an ex-ante position, or is dispatched up will receive at least its offer price, and a generator that is constrained down from its ex-ante position will, providing it has firm access, retain its infra-marginal rent.

### **Treatment of Firm Access**

The Consultation Paper discussed whether non-firm generation should be allowed to participate in the ex-ante markets. It also set out options for dealing with the settlement of a generator's non-firm access quantities, outlining options under which a generator would buy back its non-firm volumes at the imbalance price or could buy back non-firm volumes at the ex-ante market price. An option that could operate in conjunction with either of these options, under which a generator would have to trade out its trades for non-firm volumes in the IDM if notified in time by the TSOs that it would not be dispatched to its firm access quantities, was also presented.

Having considered these issues, the SEM Committee believes that generators with non-firm access should be allowed to trade in the ex-ante markets above their firm access levels. There are liquidity benefits associated with such an approach but the risks of such trades must lie with the participants undertaking them.

With regard to the question about how constrained down ex-ante trades should be treated, the SEM Committee considers that overall market efficiency is best served by requiring that a generator is balance responsible for all ex-ante trades undertaken, including those in its non-firm region. Therefore, the SEM Committee's decision is a generator which is constrained down, in its non-firm region, relative to its ex-ante position should be cashed out in the same way as any other generator deviations from ex-ante trades.

The issue of whether the TSOs should notify participants of whether constraints were likely to bind on their non-firm quantities was also discussed. The TSOs argued that there would be no certainty associated with the provision of such information. The SEM Committee considers that as the TSOs do not consider firmness on a real time, or economic basis, then it would not be realistic to require the TSOs to make binding commitments to participants on their Firm Access Quantities. However, it does see merit in the TSOs issuing non-binding qualitative information on the likelihood on binding constraints arising for volumes where participants do not have firm volumes.

### **Treatment of Priority Dispatch**

The Consultation Paper stated that there were no particular features of the I-SEM that would require a change to the existing Priority Dispatch policy. The “revised approach” proposed that under I-SEM priority dispatch generation would:

- I. observe prices in the day-ahead and subsequent intraday markets, trading in them as it sees fit;
- II. on the basis of observing prices and possibly trading in the ex-ante markets, decide on the physical notification reflecting the output at which it wishes to run given the prevailing market conditions;
- III. submit any incremental offers and decremental bids reflecting the prices at which it is willing to deviate from its physical notification.

Lastly, the paper posed the question as to whether an ‘absolute’ interpretation of priority dispatch should be adhered to.

There was general support for the “revised approach” and a consensus that Priority Dispatch was relevant only to the balancing market. A number of respondents also noted that Priority Dispatch should not be able to set the imbalance price given that it is price-taking generation. A number of respondents stated that Priority Dispatch units should not be exposed to negative imbalance prices, although one respondent disagreed arguing that this would be contrary to its status as a price taker. There were only limited responses on Absolute Priority Dispatch, although those who addressed the issue outlined that a strict interpretation should be maintained.

Having considered the responses, the SEM Committee confirms that the current policy for Priority Dispatch will remain in I-SEM. The implementation will be only relevant in the BM, where the concept of price-making and price-taking generation shall be maintained whereby Priority Dispatch generation will be price-taker. This means that a price taker will:

- (a) be run at its FPN (for wind, to its maximum availability insofar as the safe secure operation of the system allows),
- (b) be settled at the imbalance price for any volumes not sold ex-ante and,
- (c) not be able to set the imbalance price with its priority dispatch volume.

The approach to implementing Priority Dispatch in I-SEM will be as outlined in the revised proposal. Further, the SEM Committee also considers that:

- For non-dispatchable generation, the final physical notification will be the availability of the generation unit. This price taking volume will not set the price.
- The incremental volume submitted by dispatchable generators will not have priority dispatch status and will be treated like any other volume in the BM.
- The decremental price from priority dispatch generators will be used for settlement purposes only. This will not be price setting.
- The decremental price for zero marginal cost generation should be zero; this is consistent with the current market. The decremental price for priority dispatch generation with non-zero production costs should be consistent with the current SEM and should be the avoided fuel cost only.

### **Treatment of Curtailment**

The Consultation Paper sought views on how the decision on compensation for curtailment should be implemented in I-SEM from 2018 onwards. It set out two options. First, “mandated bidding behaviour” under which wind and other potentially curtailed generators would be required to submit decremental bids based on their ex-ante revenues into the BM and, if curtailed, would be settled at this decremental price. Second, “cash out and post-processing”, under which curtailed generation would be cashed out in the same manner as other generation, and post-processing would recoup any extra revenues earned by the generator if ex-ante prices were higher than Balancing Market prices.

A majority of respondents on this issue considered that the curtailment decision should be re-opened given the change to the I-SEM, arguing that the approach would be discriminatory to wind generators, remove incentives to be flexible, and that the original decision was made in the context of a centrally dispatched market, and in advance of the Network Code on Electricity Balancing. There were responses in support of both the mandated bidding and post-processing approaches.

The SEM Committee has considered responses arguing that the compensation for curtailment decision that the curtailment approach for 2018 should re-opened. It remains of the view that the decision on compensation followed extensive consultation, and that there are no particular features of I-SEM that warrant the re-opening of this decision. The SEM Committee considers that the cash out and post-processing is the preferable implementation approach, as mandating bidding would be difficult to implement, monitor and enforce. The SEM Committee has decided that the most suitable approach is to set a reference price or prices to feed into the post-processing. This reference price could be the day ahead price or it could be a basket of the day ahead price and the intraday reference price (average price of all intraday prices). The detail of the post processing approach needs to be finalised during the implementation phase. However, in developing the market systems the TSOs should allow for the reference price used being either one based on actual ex-ante trades, or one that utilises prices based on the day ahead price or a basket of prices.

### **De-Minimis Level**

The Consultation Paper examined the issue of the de-minimis level for mandatory participation in the I-SEM. Responses on this issue were generally in favour of maintaining the existing 10MW Maximum Export Capacity threshold. It also considered the route to market for smaller generators with a maximum export capacity of under 100kW.

Some respondents argued for a lower level on the basis that this would increase liquidity in the ex-ante markets, and the removal of the de minimis exemptions would ensure that all demand faces capacity and imperfections charges. The SEM Committee does not see a requirement to change the de-minimis level at this stage, as it considers that effective AOLR and independent aggregation services will allow smaller units to participate in the central I-SEM markets while maintaining the commercial freedom to trade outside the central arrangements. Consequently, the de-minimis limit should remain at 10MW Maximum Export Capacity or greater under a single connection agreement.

### **Treatment of Currency**

The Consultation Paper set out an approach for the treatment of currency in the I-SEM to include two main elements. First, the current arrangements under which a dual currency arrangement operates. Second, that currency costs would be projected ex-ante and charged to suppliers as a tariff with any differences between this projection and out-turn exchange rates being treated as a correction factor.

A majority of respondents favoured the proposed approach to projecting currency costs and treating differences with out-turn costs as a correction factor. Respondents also commented that the existing regime could be made simpler. The SEM Committee agrees, and considers that insofar as possible there is merit in charging currency costs to suppliers. It was also suggested that the operation of the projected cost element may be difficult, and the treatment required for DAM and IDM trades may need to differ. The SEM Committee notes these concerns and, while its preference is for the currency costs of imbalance settlement to be charged to suppliers, considers that it would not be a significant policy issue if the TSOs implemented the intent of this in a different manner.

The SEM Committee thus considers that the I-SEM will operate on the basis of dual currency as the SEM does at present. Currency costs should be projected ex-ante and charged to suppliers as a tariff. Any difference between the projected and actual should be treated as a correction factor. The TSOs will develop a

methodology for the implementation of this policy which will be charged on suppliers through the imbalance settlement, unless an alternative implementation of the policy is agreed by the RAs.

### **Market Information**

The Consultation Paper set out the SEM Committee view that it would be prudent for the market systems to be able to publish as much information as possible. It suggested that the I-SEM would potentially publish information not currently made available in SEM in order to support the operation of the Balancing Market and facilitate balance responsibility. Responses were generally supportive of the SEM Committee approach, and suggestions were made regarding specific market information that may be made available in I-SEM.

The SEM Committee considers it prudent that the market systems are developed so that as much information as possible can be published. Once the systems are developed, the timing of the publication of information can be considered, including an assessment of whether there is any information which must remain confidential for commercial reasons or for the mitigation of market power.

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## 1 INTRODUCTION

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### 1.1 THE ETA DETAILED DESIGN PHASE

The Energy Trading Arrangements (ETA) Detailed Design Phase is the first stage of Phase 3, the ‘Detailed Design and Implementation Phase’, of the I-SEM project. The objective of the ETA Detailed Design Phase is to develop a set of detailed energy trading market rules that are consistent with the High Level Design of the I-SEM.

Within the ETA Detailed Design there is a requirement first to establish the workings of the Energy Trading Arrangements at a high level to enable procurement of the market systems. Following on from this, the very detailed legal drafting of the market rules must be completed. These detailed legal rules in the current SEM take the form of the Trading and Settlement Code.

The overall I-SEM ETA Detailed Design Phase has been split into two distinct parts namely the Building Blocks and Markets. The Building Blocks part looks at a number of key high level policy issues and how they can be accommodated in the I-SEM design. These policy issues are being dealt with early in the detailed design in order to ensure that the markets work is as focused as possible on the detailed design issues.

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### 1.2 I-SEM BUILDING BLOCKS

The SEM Committee published a Consultation Paper on I-SEM Building Blocks on 11 February 2015. The consultation period ended on 25 March 2015. Non-confidential responses were received from the following interested parties. Two confidential responses were received.

- AES
- Aughinish Alumina
- BG Energy
- Bord na Mona
- Brookfield Renewables
- Electricity Association of Ireland
- EirGrid

- Electric Ireland
- Energia
- ESB Generation and Wholesale Markets
- ESB Networks
- Gaelectric
- Grange Back Up Power
- Irish Wind Energy Association
- Irish Wind Farmers Association
- Moyle Interconnector Limited
- Power NI
- Power Procurement Business
- Pre Pay Power
- RES Ltd
- SSE
- Tynagh Energy

The purpose of this Decision Paper is to set out at a high level the issues under consideration, a summary of the comments from respondents, the SEM Committee views on these issues and the SEM Committee decision.

The key building topics addressed in this paper are as follows:

- Treatment of Transmission Losses
- Treatment of Constraints
- Treatment of Firm Access
- Treatment of Priority Dispatch
- Treatment of Curtailment
- I-SEM De Minimis Level
- Policy for Currency in I-SEM
- Market Information in I-SEM

### **Building Blocks Process**

The Regulatory Authorities (RAs) published three briefing papers on the I-SEM ETA Building Blocks and held three industry workshops in Quarter 4 2014. Following the workshops, the RAs sought comment from interested parties on the detail of the briefing papers and workshops and observations on the overall process. Fifteen non-confidential responses were received from interested parties and these were published on 9 January 2015. All information presented at the RLGs and all responses received are available on the All-Island project website here [http://www.allislandproject.org/en/wholesale\\_overview.aspx?page=2&article=fa63b4b9-60f1-494e-a28e-fb70b295140c](http://www.allislandproject.org/en/wholesale_overview.aspx?page=2&article=fa63b4b9-60f1-494e-a28e-fb70b295140c)

## 2 TREATMENT OF TRANSMISSION LOSSES

### 2.1 INTRODUCTION

At a high level, transmission system losses refer to the difference between the amount of electricity injected into the transmission system and the amount of electricity taken off the transmission system.

In this chapter, the treatment of transmission losses in the current SEM is described for consideration in the I-SEM and potential implementation options are discussed.

### 2.2 I-SEM LOSSES POLICY

In SEM, Transmission Loss Adjustment Factors (TLAFs) determine the MWh that generators are deemed to have supplied at the 'Trading Boundary' given the metered MWh quantities supplied at the station gate. TLAFs are determined on a locational basis, and are calculated ex-ante and applied to the output of each generator. This approach was confirmed most recently by the SEM Committee in June 2012<sup>1</sup>. All transmission losses are accounted for by generators and interconnector users through an adjustment to their Commercial Offer Data. No losses are allocated to suppliers.

Within the Consultation Paper, the SEM Committee re-iterated its view that the implementation of I-SEM does not, of itself, necessitate a change in transmission losses policy.

#### 2.2.1 SUMMARY OF RESPONSES RECEIVED

It was felt by some respondents that the current TLAF methodology lacks transparency. These respondents argued that a uniform TLAF would help create a level playing field with Europe (especially GB), and that the volatile nature of the current TLAFs greatly erodes its effectiveness in providing a locational incentive for

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<sup>1</sup> [SEM-12-049](#)

generation. Some of these respondents supported a uniform TLAF for each jurisdiction. Other respondents stated that TLAFs are ineffective as locational signals. In particular, the siting of renewable generation sites is dictated by the quality of the renewable resource, while for all generation the construction of new plant typically changes the TLAFs for existing generators in that location.

However, other respondents stated that there is no justifiable argument supporting a change to the transmission losses policy triggered by I-SEM. These respondents argued that, at this point in time, a workstream to review the treatment of losses would be unlikely to receive the attention it requires to deliver robust decisions that would not be open to challenge. Other participants acknowledged the complexity associated with any review of the losses policy and stated that, while they are not particularly satisfied with the current regime, they could understand why the RAs did not wish re- open the policy as part of I-SEM implementation.

A number of respondents questioned whether the losses policy is consistent with other markets. In particular it was suggested that this could affect cross border trade and disadvantage I-SEM compared to other markets.

One respondent suggested that the move to I-SEM will make the ex-ante calculation of TLAFs much more difficult than in SEM, as the requirement for short run marginal cost bidding in SEM provided certainty which is necessary for the calculation of ex-ante TLAFs, but which is unlikely to exist in I-SEM. The respondent cited this as a reason to move towards a uniform TLAF.

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### 2.2.2 SEM COMMITTEE RESPONSE

The SEM Committee notes the comments received on losses policy. It is cognisant of the impact that transmission losses have on generators and their position in the merit order.

As stated in the consultation, the I-SEM High Level Design did not explicitly signal any changes to the current policy on losses. The focus has therefore been to examine solutions to make the current policy work within I-SEM.

The SEM Committee does not consider that there are any issues in the implementation of I-SEM that would require a change to the losses policy. On the cross border issues, it is already the case that different markets adopt different

losses methodologies. This has been documented in the past by CEER through ERGEG<sup>2</sup> and there isn't a harmonised European policy that sets out how losses must be implemented. The SEM Committee believes that SEM will not be disadvantaged compared to other markets by virtue of the SEM losses policy, and that it is not aware of any reason why the accounting for losses *within* I-SEM should disadvantage generators in I-SEM as a whole with respect to other markets.

In relation to the derivation of TLAFs and any difficulties that might arise, this is an implementation issue and the models used by the TSOs will need to be updated to reflect any changes required by virtue of I-SEM if indeed there are any such changes required.

The SEM Committee has reviewed the responses received on this issue, and considered the points raised by respondents. It has not identified a need to review the underlying losses policy for the implementation of I-SEM. Notwithstanding this, the SEM Committee is mindful that the current losses policy should not be hardwired into market systems in order to allow for other implementation options should they be required at some future point.

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### 2.2.3 SEM COMMITTEE DECISION

Having considered the matter the SEM Committee decision is that the implementation of the I-SEM, does not require any changes to the existing losses policy and that Transmission Loss Adjustment Factors (TLAFs) will continue to be set on a locational basis. These will continue to be calculated ex-ante and to be applied to the output of each generator. I-SEM systems should, however, maintain the flexibility for alternative treatments of losses in the future, should it be required.

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## 2.3 TREATMENT OF GENERATOR LOSSES

The Consultation Paper, proposed the following approach, which is consistent with the current TLAF policy in the SEM.

### **Day Ahead and Intraday Markets**

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<sup>2</sup> E08-PC-29: Treatment of Electricity Losses by Network Operators. Available on the CEER website.

The traded volumes in the Day Ahead Market and the Intraday Market will be at the **Trading Boundary** i.e. net of transmission losses. Market participants would have to account for their losses in the price of their offers/bids in these markets.

The Physical Notifications by units to the TSOs would be at the **Station Gate** i.e. gross of transmission losses. Market participants would be responsible for converting traded volumes to physical quantities at the station gate; units would have to produce the correct gross volume at the station gate to be in balance. The metered generation volumes of generators would then be adjusted by their individual TLAF in imbalance settlement.

For example, a generator with a TLAF of 0.98 which sold 98MWh in the DAM would have to generate 100MWh in order to avoid an imbalance, and hence might wish to take transmission losses into account in determining the price at which it is willing to sell and to generate.

### **Balancing Market**

Within the Consultation Paper, two options were presented as to how to price actions in the balancing market. Actions could be priced at either:

- (a) The Trading Boundary; or
- (b) The Station Gate.

A possible advantage of referring to balancing actions at the station gate is that offers and bids could be expressed in terms of the actual cost of the participant, rather than having to adjust these costs to take into account the applicable TLAF.

Under Option (a) a generator with an incremental cost of €50.00/MWh and a TLAF of 0.98 would have to submit an offer of €51.02/MWh in the Balancing Market (€50/MWh divided by 0.98).

Under Option (b), the generator could submit an offer reflecting its true cost of €50/MWh and would be guaranteed to cover its costs.

The only difference between the two options is that in option (a) the generator submits a price knowing that the price will be applied to the loss-adjusted metered quantity, whereas in option (b), the price is applied to the metered quantity directly.

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### 2.3.1 SUMMARY OF RESPONSES RECEIVED

Most respondents felt that loss factors should be applied at the trading boundary in all timeframes. In particular, many participants stated that this would avoid the unnecessary complexity for participants of having to loss adjust their offers in some timeframes but not in others. However, a small number of respondents, notably the TSOs were in favour of pricing balancing actions at the station gate.

In particular, the TSOs stated that pricing balancing bids and offers at the station gate will maintain a consistency between the physical notifications and the balancing bids and offers which will remove the need for post processing of submissions before use in real time scheduling.

Some respondents suggested that not only should all trading volumes apply at the same notional point, i.e. the Trading Point, but, that physical notifications should apply at this point too. Conversely another respondent suggested that all loss adjustments should be applied within central market systems. This would appear to suggest that quantities offered and bid into the DAM and IDM, as well as the BM, would have TLAFs applied, allowing participants to submit station gate based data in all timeframes with the loss adjustment applied centrally.

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### 2.3.2 SEM COMMITTEE RESPONSE

The SEM Committee notes the comments received and the majority support for a consistent treatment of losses.

The SEM Committee does see merit in the potential administrative ease for participants in pricing all offers at the trading boundary. As stated by some respondents there is a value in this approach when participants are bidding the same unit into the balancing market and intraday market at the same time. However, the SEM Committee observes that the benefit of this consistency might be diminished, or even lost, if the underlying fundamentals of the commercial offer data is different

between the balancing market and the ex-ante markets, as indeed will almost inevitably be the case as between the balancing market (which will be pay as cleared for energy actions) and the IDM (which will be pay-as-bid).

The SEM Committee notes the suggestion from one respondent that central market systems should deal with all loss adjustment (or application). This would appear to require a pre-processing phase in all the timeframes to apply loss factors to feeds from participants. The SEM Committee is of the view that this level of complexity is not a feature of the DAM and IDM offerings in EU markets and is not needed in I-SEM market systems. To require this losses treatment as part of the systems procurement for I-SEM could preclude the more off the shelf solutions and the synergies that might bring.

The SEM Committee considers that it would be appropriate that participants will submit their PNs and FPNs at the station gate. While some respondents suggested it should be at the trading boundary (consistent with the commercial offers) it is unclear how this is beneficial. Metered quantities are measured at the station gate and thus there will be a discrepancy, accounted for by the TLAF, at some point, whether this is between the ex-ante traded positions/imbances and the Physical Notifications/TSO instructions, or between the Physical Notifications/TSO instructions and the metered quantities. The SEM Committee considers that the most appropriate convention would be that Physical Notifications and TSO instructions should correspond with what generator is actually expected to do.

The SEM Committee notes that the provisions in the Grid Code covering instructions require instructions to refer to what the generator is expected physically to do, i.e. as measured at the station gate rather by reference to the deemed effect at some notional point on the system. It would be confusing to have two simultaneous conventions for TSO-instructions: a Grid code convention, measured by reference to the station gate, and a second, different convention measured at the Trading Boundary for settlements purposes.

The SEM Committee is of the view that there are sound reasons for accounting for losses in the DAM and IDM at the trading boundary i.e. such that the generator has its generation adjusted by the TLAF in settlement. The main reason for this is the configuration of the DAM and IDM offerings available. In particular, the ex-ante

market power exchanges operating in Europe don't account for losses in settlement but rather this is done in imbalance settlement.

The question is therefore whether there is logic in treating the BM differently to the DAM and IDM.

Having PNs/FPNs at the station gate reflects the fact that for PNs, the relationship will be between the power station operator and the TSOs as opposed to the trader and the TSOs.

The main area for consideration thus comes down to the application of losses to commercial offer data. Specifically:

- If BM commercial offer data is submitted at the trading boundary, the participant needs to adjust their station gate cost using the ex-ante TLAFs, which, of course, change twice a day. Moreover, the TSOs need to know the costs of balancing actions as measured at the station gate. Thus the first thing that the TSO will have to do on receipt of a offer price that has been adjusted by an ex-ante TLAF will be to undo the application of the ex-ante TLAF.
- If BM commercial offer data is submitted at the station gate, then no adjustment needs to be made by participants or the TSOs.

While noting the preference of participants to submit offers at the trading boundary, it appears a more straightforward approach to submit the data at the station gate. Whether this holds true will depend on the costs of participant systems to loss adjust in some timeframe but not in the Balancing Market but it should not be a significant issue for participants. The SEM Committee are therefore of the view that bids and offers into the Balancing Market should submitted at the station gate i.e. with no adjustment for loses. The TSOs will account for losses in setting the imbalance price in the central systems.

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### 2.3.3 SEM COMMITTEE DECISION

Consistent with the Consultation Paper, the SEM Committee has decided that traded volumes in the Day Ahead Market (DAM) and Intra Day Market (IDM) will be at the Trading Boundary, i.e. net of transmission losses. Market Participants will thus have to account for their losses in the pricing of their offers to these markets.

For the Balancing Market, commercial offer data will be submitted at the station gate without any loss adjustment. Consequently, the TSOs will account for losses in setting the imbalance price in the central systems.

The SEM Committee has decided that Physical Notifications will be submitted at the station gate, gross of losses.

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## 2.4 INTERCONNECTOR LOSS FACTORS

The two interconnectors between I-SEM and GB (Moyle and East-West) have different loss factors. Within the consultation, two potential methods for dealing with interconnector losses were proposed:

- (a) Utilise a single loss factor – the links between GB and I-SEM would be represented in EUPHEMIA with a single loss factor equal to the weighted average of the loss factors on Moyle and East West.
- (b) Utilise more than one loss factor – Moyle and East West would each have its own individual loss factor in the market.

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### 2.4.1 SUMMARY OF RESPONSES RECEIVED

The majority of respondents stated that interconnectors should be modelled separately. It was felt that a single loss factor would represent a significant change in losses policy.

However, some respondents argued that the lack of detailed modelling, taking account of physical constraints in GB, may risk some unintended consequences. These respondents questioned what would happen if EUPHEMIA developers could not incorporate the virtual splitting into the coupling engine.

Moyle, in their response, suggested that to do anything other than two loss factors would represent a significant change to the current losses policy given that the two interconnectors are not treated as one in the current SEM. Moyle also suggested that by representing them as one there would be a loss to consumers due to uneconomic flows.

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#### 2.4.2 SEM COMMITTEE RESPONSE

The SEM Committee notes the majority of responses in favour of modelling interconnector losses separately.

In the Consultation Paper, the SEM Committee expressed a preference for representing the two interconnectors separately and set out reasons for this. Responses to the consultation paper supported this.

While initial discussion with the EUPHEMIA algorithm developers on this matter have been positive, no definitive view has been received on the implementation of two loss factors. This will be discussed further with the algorithm developers as part of the implementation of I-SEM. It is not expected that this will be an issue and were it to be an issue; the relevant parties will work with EUPHEMIA to implement the two loss factors.

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#### 2.4.3 SEM COMMITTEE DECISION

It is the SEM Committee's decision that interconnector losses on Moyle and East-West should be represented separately in the ex-ante markets. This will be from Go-Live in the DAM and whenever losses can be accommodated in intraday. This will be subject to the expected confirmation that these decisions can be implemented in the ex-ante market systems.

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#### 2.5 SUMMARY

Following the receipt of responses, the SEM Committee has made the following decisions in relation to losses:

- The current policy of calculating ex-ante locational TLAFs will continue.
- All losses in the Day Ahead Market and Intraday Market will be accounted for at the Trading Boundary. Balancing Market bids and offers will be made to the TSOs at the station gate.

- Physical Notifications will be submitted at the station gate, gross of losses.
- Losses will be modelled separately on the Moyle and East-West Interconnectors subject to this being confirmed as possible by the EUPHEMIA developers.

### 3 TREATMENT OF CONSTRAINTS

#### 3.1 INTRODUCTION

Constraints arise when the transmission network cannot accept all the generation in a given area because the proposed flow along a transmission line resulting from an economic schedule or dispatch exceeds either the thermal or voltage limits. The TSOs may also need to dispatch generation away from the economic dispatch in order to provide sufficient generation in the right locations to supply ancillary services. The TSOs resolves constraints on a least cost basis, by dispatching those generation plants that can best resolve the constraint. Hence, when constraints arise, some economic units may be turned off or down ('constrained down') and other units, that are un-economic or out of merit, may be turned on or up ('constrained up').

#### 3.2 IMPLEMENTATION OF CONSTRAINTS POLICY IN I-SEM

The Consultation Paper stated that the I-SEM HLD Decision did not signal that any changes to the current policy on constraint payments would be required as a consequence of the change from the SEM to the I-SEM.

Having considered this issue, the SEM Committee in the Building Blocks consultation stated its initial position that the treatment of constraints should remain the same in I-SEM as in the current SEM within the context of changing from an ex-post to an ex-ante market. The principle to be maintained is that a generator is entitled to receive the Day Ahead (or Intraday) price or be compensated for lost profits, as revealed through their offer prices, if they obtain a matched trade in these markets and are dispatched away from this contract position by the TSOs in the Balancing Market. This means that:

- a unit that obtains an ex-ante market position or that is dispatched up will receive at least its offer price, and
- a unit that is constrained down from its ex-ante market position (and which has firm access) will retain its inframarginal rent.

### 3.2.1 SUMMARY OF RESPONSES RECEIVED

The majority of responses made references to the issue of constraints in I-SEM. The majority of respondents that responded on this issue were broadly supportive of the proposals put forward by the SEM Committee.

There were some high level comments in relation to increased transparency in constraint payments. In particular some supplier respondents made reference to the magnitude of these costs for them and the need to have as much transparency as possible.

One supplier respondent sought clarity in relation to the recovery of constraint costs and whether the existing mechanism (imperfections charges) would continue under I-SEM.

A number of respondents raised the importance of the identification of energy and non-energy actions in the context of constraints and, more broadly, the potential wider impacts on the efficient running of the market. In particular, some respondents raised concerns around the potential for TSO early actions to affect the efficient running of the intraday market.

A number of respondents raised concerns with the treatment of constraints in relation to the balancing market. In particular, these concerns related to implication that constraint payments are limited to those participants that are moved away from an ex-ante contract position. Specifically, these (mainly renewable) respondents stated that the balancing market should be unconstrained and should give volumes/positions to all in merit generators regardless of whether they run or not.

Related to this, one respondent questioned the implication that compensation would be paid based on a participant's ex-ante position only. In particular, they referred to the scenario where a participant submits an FPN which is different than its ex-ante position.

Respondents have put forward different measures to address their concerns. One respondent suggested that the TSOs should activate an energy bid/offer acceptance from an in merit generator and subsequently activate another non-energy bid offer acceptance. Others have suggested that for renewable generation that is

constrained/curtailed down they should receive the imbalance price for the difference between their availability and actual output.

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### 3.2.2 SEM COMMITTEE RESPONSE

The SEM Committee welcomes the broad support from respondents in relation to the proposals in the Consultation Paper.

The requirement for transparency in constraint costs is noted. Imperfection charges form a significant pot in the current market and their magnitude is likely to remain significant. The SEM Committee has sought to address this issue in the Markets Consultation Paper and included a dedicated section in that paper on system operation in I-SEM. That section sought views from respondents in relation to proposals for early energy and non-energy actions.

At this stage, the SEM Committee is minded not to change the charging mechanism for non-energy actions and that the framework in place for imperfections charges can be used in I-SEM. The SEM Committee will consult on the actual metrics for the imperfections charge prior to I-SEM Go-Live.

The SEM Committee notes the concerns of participants regarding the potential for non-energy actions to affect the intraday market. This issue is dealt with in significant detail in a section in the Markets Consultation Paper and the SEM Committee response is included in the responses section on that topic.

One of the most significant issues raised in the consultation responses on constraints relates to the potential for compensating units that do not have an ex-ante position if they are in merit in the BM.

While the SEM Committee notes the concerns of participants and in particular wind generators, this issue was dealt with in the High Level Design Phase of the I-SEM. In particular, the SEM Committee put forward four options for consultation as part of the HLD. Two of the options had an ex-post unconstrained schedule while two of the options did not. The final I-SEM HLD decision does not include an ex-post unconstrained market. The proposals put forward by respondents to the Building Blocks Consultation Paper appear to amount to a form of unconstrained market schedule in the Balancing Market.

In the impact assessment for the I-SEM HLD, the SEM Committee considered in significant detail the potential effects of having an ex-post unconstrained schedule. One of the key issues was the potential for splitting liquidity between the two market places. Given that ex-ante trading dictates cross border flows the ex-post unconstrained market was seen as a risk to the efficient functioning of the overall market.

It is important to note that this issue relates to the window after the IDM closes. Participants will have until gate closure to get a position in the ex-ante markets. This will be sufficient to address issues such as wind forecasts etc. In addition, for renewables, given their priority dispatch, this is only an issue where their output is constrained down.

The SEM Committee is of the view that the issues raised by respondents have been addressed previously as part of the process to establish the HLD. Therefore, the SEM Committee's views on this matter remain as set out in the Consultation Paper.

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### 3.2.3 SEM COMMITTEE DECISION

The SEM Committee decision is that the I-SEM will maintain the SEM principle that a generator shall be entitled to receive the Day Ahead (or Intraday) price or be compensated for lost profits, as revealed through their offer prices, if they obtain a matched trade in these markets and are unable to generate to meet that trade due to a constraint. For clarity, this means that:

- a unit that obtains an ex-ante market position or that is dispatched up will receive at least its offer price, and
- a unit that is constrained down from its ex-ante market position (and which has firm access) will retain its inframarginal rent.

## 4 TREATMENT OF FIRM ACCESS

### 4.1 ISSUES CONSULTED UPON

The Building Blocks Consultation Paper asked respondents for their views on whether a generator with non-firm access should be allowed to participate in the Day Ahead and Intraday Markets at a level above its firm access quantity or whether a generator's participation in these ex-ante markets should be limited to its firm access quantity.

Additionally, the consultation paper sought views on how constraints should be treated under the circumstances where generators were constrained down in their non-firm region by the TSOs, if indeed generators with non-firm access were permitted to participate in the ex-ante markets above their firm access quantity.

Two main options were put forward for dealing with the settlement of constraints occurring in a generator's non-firm region. These were:

- a) The generator must buy back any non-firm volumes at the imbalance price. In such a scenario, its own decremental bid price would be ignored in the setting of the Imbalance price in this instance.
- b) The generator must bid to buy back any non-firm volumes in the Balancing Market at the day ahead price, or some price related to its actual trades (including trades in the Intraday Market).

A third proposal, option c), was also put forward for discussion although it was recognised that this was not a standalone option but rather could occur where feasible under either option a) or option b). This option was:

- The generator must trade itself out of its trades for any non-firm volumes in the Intraday Market if notified in time by the TSOs that it will not be dispatched above its firm access level.

The SEM Committee’s initial view on these issues, outlined in the consultation paper, was that participation in the Day Ahead and Intraday Markets should not be restricted solely to firm access quantities but the risk of access to meet those trades should be borne by the generator, and that where a generator trades in these ex-ante markets for its non-firm access quantity, and subsequently has its output constrained down by the TSOs, then it should be cashed out at the imbalance price. The SEM Committee also outlined that the TSOs, to the extent possible, should notify a generator ahead of time if its non-firm access quantity cannot be facilitated thereby affording the generator the option to trade out in the Intraday Market any position it might have in respect of its non-firm access quantity.

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## 4.2 SUMMARY OF RESPONSES

### ***Participation of non-firm access quantities in the ex-ante markets***

The majority of respondents agreed with the SEM Committee’s initial view to permit generators with non-firm access to trade in the ex-ante markets to levels above their firm access quantity. They stated that to do otherwise, i.e. to limit ex-ante participation to firm access quantities only, would reduce liquidity in these markets and increase prices for consumers. One respondent also stated that new generators should not be forced into a priority order that denies them access to ex-ante markets as this would be a departure from standard European market design and could have a number of negative consequences in terms of incentives to participate and incentives to deliver transmission infrastructure.

Other respondents disagreed with the SEM Committee’s initial view. Grange Back-up Power stated that as non-firm volumes are effectively a temporary connection to the transmission or distribution grid these volumes should not avail of the same access to market schedule quantities and prices as firm volumes and therefore participation in the ex-ante markets should be limited to firm access quantities only. AES and Electric Ireland suggested respectively that non-firm access capacity should only be allowed to enter the ex-ante markets when system conditions allow or when given notification of firmness by the TSO in advance of the market timeframe. Energia agreed with the SEM Committee’s initial view but noted that trading in ex-ante markets should not confer advantageous dispatch on units with non-firm access.

### ***Constraining down non-firm quantities***

There was a divergence of views among respondents as to how constrained down non-firm quantities should be treated.

Some respondents were in agreement with the SEM Committee's initial view that where a generator trades in the ex-ante markets for its non-firm access quantity, and subsequently has its output constrained down, then it should be cashed out at the imbalance price. They argued that it is important to maintain a differential between firm and non-firm access in the I-SEM and to ensure that there are appropriate incentives on participants with non-firm access when trading in ex-ante timeframes. They also argued that this option is less complex and has the potential to strengthen balance responsibility incentives and to provide generator locational signals.

These respondents argued that option b) would increase complexity by placing requirements on generators to develop bid prices based on their contracted ex-ante positions and would likely be difficult to monitor and enforce. It was also argued that option b) could distort ex-ante market schedules and prices, because it undermines the incentive created by the risk of imbalance exposure that should be associated with trading on the basis of non-firm access in ex-ante timeframes, and that it could distort balancing market schedules and prices, because non-firm generators with ex-ante positions could submit prices to the Balancing Market that do not reflect changes to commodity pricing between the different market timeframes. Finally, those respondents against option b) argued that it would treat non-firm volumes as having a form of firm access by effectively providing constraint compensation for non-firm volumes, and that this would be contrary to the firm access and constraints policy and would undermine the value of firm access.

On the other hand, many respondents disagreed with the SEM Committee's initial view and instead favoured option b), under which the generator would bid to buy back any non-firm volumes in the Balancing Market at the day ahead price, or some price related to its actual ex-ante trades. These respondents raised a number of arguments against option a). Firstly, it was argued that option a) would disincentivise ex-ante trading and decrease liquidity in the ex-ante markets. Secondly, it was argued that it is not an accurate reflection of SEM policy in I-SEM, that it would change the value of non-firm access, and that it would change the meaning of non-firm access into something which can erode the value of firm trades. Thirdly, it was

argued that it was a reallocation of system operation costs to non-firm generators, that this would not be a cost-reflective reallocation, and that it would also be particularly biased against new entry and plant refurbishment for DS3. It was also argued that it would prevent reasonable access of wind generators to the Reliability Options market where the reference price is not the balancing market and that it would have unintended consequences in regard to contracts for N.I. CfDs.

The Building Blocks Consultation Paper solicited opinions on the view that option b) would give the opportunity to a generator to trade any volumes above its firm access quantity in the ex-ante market while having no exposure to the balancing market. Several respondents who favoured option b) argued that it would not lead to exaggerated ex-ante trading positions. They argued that generators with non-firm access cannot reliably predict whether a constraint will be binding or not and therefore cannot act in a cavalier fashion with their ex-ante trades, and that exaggerated ex-ante trading would be typically caught by imbalance risk when not constrained, which would be the majority of the time. They also argued that if there were situations where non-firm generators had predictable long-term constraints, that would allow dubious trading strategies, then these would be best dealt with through local market power mitigation measures.

Several of the respondents who favoured option b) felt that it would work optimally when combined with a central processing solution, which would calculate an ex-ante trade price for each relevant unit based on their actual day ahead market and intraday market trades, as this would remove the need for an extensive monitoring and governance regime.

One respondent stated that it can often be the case that actual and forecast constraints are much lower than the non-firm capacities of generators.

### ***TSO notification***

The majority of respondents who commented on this issue were of the opinion that the TSOs should notify generators ahead of time if the TSOs considered that constraints in the generator's non-firm region were likely to be binding. It was also proposed that this information should be made available to all generators and not just those directly affected.

However, the TSOs stated in their response that it would not be possible to provide such notifications with certainty, as the decisions taken to manage constraints are normally in a much shorter timescale than can be accommodated in the intraday market. Firm access is not allocated in a dynamic way and the TSOs do not currently consider firmness on a real-time basis or for economic scheduling purposes. The TSOs did state that the provision of more general, qualitative information about constraints could be explored, but that the ability participants to change their market positions right up until an hour ahead of real time in I-SEM would make constraint forecasting potentially unreliable.

### ***Other issues***

A number of other issues were raised by participants in their responses.

The IWFA argued that fossil plant should not be allowed onto the connection queue before renewables on the grounds of maintaining ‘security of supply’, as this is not a qualification provided for in Article 16.2(b) of EU Directive 2009/28/EC.

Energia and PPB argued that generators with firm access should not be exposed to commercial risk due to network outages.

Energia further suggested that generators that participate in the I-SEM, that are connected to the distribution system, and that have firm access, should receive compensation for constraints.

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## **4.3 SEM COMMITTEE RESPONSE**

### ***Participation of non-firm access quantities in the ex-ante markets***

The SEM Committee has decided to permit generators with non-firm access to trade in the ex-ante markets to levels above their firm access quantity.

The SEM Committee considers that this will increase liquidity in the ex-ante markets and help deliver efficient ex-ante prices compared to the option where trading in the ex-ante markets was restricted to firm access quantities only. To the extent that there is a risk associated with participation in the ex-ante markets, this risk best sits with the participant involved rather than centrally prohibiting participation. Generation with non-firm capacity will still have the option of avoiding the ex-ante

markets for that non-firm capacity should they deem the risks of participation to be too high.

A significant amount of the non-firm access on the system is held by wind generation which has priority dispatch, and therefore has access to the grid when available to generate and when such generation can be accommodated by the grid. Therefore allowing only firm access quantities to participate in the ex-ante markets could bias the prices in these markets upwards due to the exclusion of this wind generation capacity from the ex-ante markets, lead to a higher level of non-energy actions by the TSOs to accommodate priority dispatch generation, lead to non-efficient flows on the interconnectors at the ex-ante stage, and increase costs for consumers.

The SEM Committee considers that it would not be realistic to only allow non-firm access capacity to enter the ex-ante markets when system conditions allow or when given notification of firmness by the TSOs in advance of the market timeframe, given that these facts would rarely be known in time to allow a unit to trade ex-ante. The TSOs usually take decisions to manage constraints in a much shorter timescale than could be accommodated in the intraday market, e.g. in the scale of minutes rather than hours. Also, the TSOs do not currently allocate firm access in a dynamic way and does not currently consider firmness on a real-time basis or for economic scheduling purposes.

### ***Constraining down non-firm quantities***

Having considered all of the responses, and having given further consideration to the issues involved, the SEM Committee's decision is a generator which is constrained down, in its non-firm region, relative to its ex-ante position should be cashed out in the same way as any other generator deviations from ex-ante trades. This position is in line with the minded to position in the Consultation Paper.

At the outset, the SEM Committee notes the significant comments from a number of respondents that non-firm generators should not be cashed out at the imbalance price and that some form of post processing would be most in line with current SEM policy. Under current SEM policy, due to the ex-post nature of the market, any generator with non-firm access does not face any risk with regard to output in its non-firm region. However, the SEM Committee is not persuaded by this argument and is of the view that this is an issue, unlike many other issues discussed in the

Building Blocks Consultation Paper, where the current treatment of generation output in a plant's non-firm region cannot be replicated in the I-SEM.

A key difference between the SEM and I-SEM are the firm ex-ante positions that will be taken in I-SEM through the DAM and IDM that are not available in SEM. The ex-post nature of the SEM means that the ex-post market quantities always reflect the actual dispatch of generation, irrespective of whether it was in its non-firm region or not. The market timeframe which closest reflects the SEM in I-SEM will be in the balancing market where the balancing market quantities will be derived from the actual dispatch of generation (minus ex-ante trades).

As the ex-ante markets involve firm financial commitments, the I-SEM needs to address how deviations from ex-ante trades are priced, an issue that did not need to be addressed in the SEM. Hence, there is no direct analogy to current policy that can be carried forward to I-SEM. If a generator sells more in the ex-ante markets than is ultimately generated, the ex-ante price will be lower than it would otherwise have been had the non-firm volume not been sold. Option b) ex-post processing would remove the risk from the generator of having traded but not being able to deliver, but does not address the distortion in price formation.

The SEM Committee has thus decided that settling deviations from ex-ante trades in the non-firm region in the imbalance market is the solution that provides the best overall market signal. In particular, it ensures that the DAM and IDM price reflects the generators' assessment of their ability to deliver to meet their ex-ante traded obligations, including their assessment of the availability of transmission. This ensures consistency between the underlying fundamentals affecting the DAM/IDM and BM price, which will be constrained by available transmission capacity. This supports more efficient pricing in the different timeframes.

The SEM Committee notes the concerns of participants regarding liquidity in the DAM, specifically that cashing out at the imbalance price could affect this. The SEM Committee is of the view that liquidity in the ex-ante markets should reflect the ability to deliver to meet any ex-ante trades, and may be increased as opposed to reduced due to this decision. It may be that generators give greater consideration as to which timeframe they trade; for example, generators who have confidence in their likely running would still trade day ahead while those with less certainty may wait until intraday, or offer output from their non-firm regions in the balancing

market. In addition, participants will be able to use the IDM to trade out of DAM positions if expectations change.

As has been discussed previously, non-firm access is of a different status to firm access and can have a different value in the market. The SEM Committee notes the views from respondents that cashing out at the imbalance price will erode the value of non-firm access; however, it is not clear that this is the case other than in the general context of moving from an ex-post market to one with firm ex-ante markets. A generator with non-firm access will not have its access to be dispatched limited to a greater extent by this decision and nor will it have its ability to trade restricted. This decision simply places the risk of availability of transmission in the non-firm region and associated trading decisions on the generator.

The SEM Committee decision considers that it is appropriate for an individual generator to carry the risk of being able to deliver to meet any obligations arising out of ex-ante transactions in its non-firm region. Its decision that a generator which is constrained down, in its non-firm region, relative to its ex-ante position should be cashed out in the same way as any other generator deviations from ex-ante trades captures this principle.

### ***TSO notification***

The TSOs usually take decisions to manage constraints in a much shorter timescale than could be accommodated in the intraday market, e.g. in the scale of minutes rather than hours. Also, the TSOs do not currently allocate firm access in a dynamic way and does not currently consider firmness on a real-time basis or for economic scheduling purposes. As participants' market positions will be changing right up until an hour ahead of real time in I-SEM, constraint forecasting in the future may be even more difficult.

Therefore the SEM Committee has decided that it is not realistic to place a binding commitment on the TSOs to notify participants ahead of time when they will not be dispatched above their firm access quantity. The SEM Committee does, however, consider that more general, qualitative information about the likelihood of constraints should be published in order to allow participants to best manage potential imbalance exposures arising from the potential trading of non-firm volumes ex-ante. The precise nature and timing of this information will be determined in the implementation phase.

### ***Other issues***

The SEM Committee notes the comments from the IWFA on the implementation of Article 16 of EU Directive 2009/28/EC. The majority of IWFA response is outside the scope of this consultation and in many places outside the remit of the SEM Committee. To the extent that any parts of the IWFA response related to the issues in the Consultation Paper, the SEM Committee has sought to address them in the sections to which they pertain.

Regarding the questions on availability, there is a separate ongoing consultation on the process for the calculation of outturn availability.

The concept of a constraint on the distribution system, resulting in a constraint payment, does not currently exist in the SEM. The SEM Committee is not proposing any change to this policy as part of this decision.

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## **4.4 SEM COMMITTEE DECISION**

The SEM Committee decision is:

- Generators with non-firm access can trade in the ex-ante markets to levels above their firm access quantity.
- A generator which is constrained down, in its non-firm region, relative to its ex-ante position should be cashed out in the same way as any other generator deviations from ex-ante trades (Option (a) in the Consultation Paper)
- Qualitative information about the likelihood of constraints should be published in order to allow participants to best manage potential imbalance exposures arising from the potential trading of non-firm volumes ex-ante.

## 5 TREATMENT OF PRIORITY DISPATCH

### 5.1 INTRODUCTION

Priority Dispatch can be described as the obligation on TSOs to dispatch energy from certain generators ahead of other generators as far as secure operation of the electricity system permits. In SEM, priority dispatch is afforded to renewable generators as well as other plants such as high efficiency CHP, peat and waste-to-energy. Priority Dispatch is afforded to specific plant or types of plant through legislation.

### 5.2 ISSUES CONSULTED UPON

The Building Blocks Consultation Paper stated that the I-SEM HLD Decision has not signalled any changes to the current policy on Priority Dispatch (PD) and therefore the issues consulted upon with regard to Priority Dispatch are in respect of how it should be implemented in the I-SEM.

The paper also stated that the Balancing Market and Imbalance Settlement are the timeframes where the implementation of Priority Dispatch will be important. This is because market participants have control of their positions prior to the balancing market in the DAM and IDM.

In the early stages of the development of the Consultation Paper, through the RLG meetings and briefing papers the RAs had put forward different approaches for how priority dispatch generation could operate in the market. These mainly involved priority dispatch generation participating in the balancing market through bids and offers.

However, the Consultation Paper put forward what was referred to as a “revised approach”. The RAs stated that this may be a more straightforward approach that will be simpler to implement, place less administrative restrictions on PD generators and yet better respect the rights of PD generation than the approach discussed previously.

The proposed option for implementing priority dispatch under I-SEM was that priority dispatch generation:

- I. observe prices in the day-ahead and subsequent intraday markets, trading in them as it sees fit;

- II. on the basis of observing prices and possibly trading in the ex-ante markets, decide on the physical notification reflecting the output at which it wishes to run given the prevailing market conditions;
- III. submit any incremental offers and decremental bids reflecting the prices at which it is willing to deviate from its physical notification.

Lastly, the paper posed the question as to whether an ‘absolute’ interpretation of priority dispatch should be adhered to and an example was given whereby the TSOs could be obliged to accept any bid from a balancing service provider irrespective of price, that would facilitate an increase in the Priority Dispatch generation on the system.

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### 5.2.1 SUMMARY OF RESPONSES RECEIVED

#### ***Implementation of Priority Dispatch in I-SEM***

In general, respondents were in agreement that Priority Dispatch should be maintained in the I-SEM given that it is enshrined in Irish and European legislation with one respondent noting that Priority Dispatch should not be afforded to peat given that a) in the context of security of supply considerations it should be preserved rather than having an incentive to be consumed as quickly as possible and b) given the transition to a low carbon economy, a fossil fuel such as peat should not be prioritised.

There was also agreement in general that Priority Dispatch is relevant only in the BM given that by its very definition Priority Dispatch relates to the obligation for the TSOs to dispatch renewable generation on the electricity system rather than being an obligation on the Market Operator to give priority in the ex-ante markets.

#### ***Priority Dispatch in the Balancing Market***

A majority of respondents noted that Priority Dispatch generation should not be required to submit PNs or FPNs to the TSOs. Instead these units should only be required to submit their availability meaning that the TSOs would instead construct the PNs based on the availability of each unit as provided through the SCADA feeds. This means that the TSOs will run these participants to their maximum available output to the extent that a safe, secure and reliable electricity system is maintained.

There was a mixed response to the ‘revised approach’ in the Building Blocks consultation between those in favour and those who felt that Priority Dispatch participants should not be able to elect to be price making and price taking simultaneously.

### ***Other Issues***

A number of respondents also noted that Priority Dispatch should not be able to set the imbalance price given that it is price taking generation. This is currently the arrangement in the SEM.

A number of respondents stated that Priority Dispatch units should not be exposed to negative imbalance prices. One respondent in particular noted that the Northern Ireland Feed in Tariff Contract for Difference being introduced will disincentivise generators in negative pricing events while also stating that the State Aid Guidelines require measures to be put in place to ensure that generators have no incentive to generate electricity under negative prices. One respondent noted however that Priority Dispatch generation should be fully exposed to the imbalance price as otherwise they are no longer price taking.

In addition a respondent stated that Priority Dispatch units should be able to submit a negative decremental bid price that is reflective of their lost opportunity from renewable subsidies when being constrained down by the TSOs.

There was a concern raised by a number of respondents that they could not comment on any of the proposals until further details are available, particularly in relation to the BM design. These respondents did note however that any proposals in relation to Priority Dispatch need to consider the impact the proposals may have on participation in the ex-ante markets and as a result liquidity in these timeframes.

Lastly, a number of respondents sought clarification as to how these proposals would interact with the renewable support schemes.

### ***Absolute Priority Dispatch***

Responses to this section of the Building Blocks paper were limited. Those who addressed the issue outlined that a strict interpretation should be maintained. However some stated that the example outlined in the paper should be subject to local market power / market monitoring rules similar to generation units so that it does not lead to perverse situations where the TSOs are incurring significant costs to accommodate the last MWh of Priority Dispatch generation available.

One respondent noted that a price floor should be implemented such that an artificial un-verifiable demand is not incentivised to reduce curtailment.

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### 5.2.2 SEM COMMITTEE RESPONSE

#### ***Implementation of Priority Dispatch in I-SEM***

EU and Irish legislation affords Priority Dispatch status to renewable generation while peat was a discretionary decision taken on a Member State basis given that it is an indigenous fuel<sup>3</sup>.

Notwithstanding that a decision in this regard is ultimately for the government in Ireland to make, the SEM Committee is proposing not to re-open the Priority Dispatch decision in general but rather address the implementation issues for I-SEM. Hence the question of whether or not peat should be afforded Priority Dispatch status is not for consideration under this decision or indeed within the scope of the SEM Committee's powers.

#### ***Priority Dispatch in the Balancing Market***

The SEM Committee agrees that obligating variable Priority Dispatch generation to submit PNs to the TSOs should not be required at market start unless the participant wished to be price making for part or all of its available volume or where the generator wishes to submit the data.

Regarding the revised approach, the SEM Committee is not of the opinion that this allows for Priority Dispatch to be both price making and price taking simultaneously as raised by some respondents. The FPN will represent the volume of generation that will be price taking. The incremental offers will be for a volume that will not be price taking and will be utilised based on its place in the merit order. While the decremental bid price is related to the price taking volume, it will not be considered by the TSOs in dispatch and therefore this volume shall remain price taking. Rather, this decremental bid offer is used in settlement such that if the participant is dispatched down for part of its Priority Dispatch volume it will pay back its avoided costs (assuming that this decremental price for priority dispatch generation must be cost reflective).

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<sup>3</sup> <http://www.irishstatutebook.ie/2002/en/si/0217.html>

It is likely that only dispatchable plants with non-zero marginal costs would wish to avail of the provision to submit an FPN lower than its maximum available output. For a generator to submit an FPN, the generator will need to have the same systems in place as any other dispatchable plant. In the case of a wind generator, they would need to have the systems in place to submit an FPN to the TSOs and the ability to accept and follow a dispatch instruction based on the FPN.

### ***Other Issues***

Lastly, the SEM Committee agrees that Priority Dispatch generation should not be able to set the imbalance price. However, it notes that Priority Dispatch generation will influence the price through the calculation of the net imbalance volume in imbalance pricing as is the case in the current arrangements as price taking generation is netted against demand.

### ***Bid Offer Prices in Settlement***

Regarding the setting of the deemed decremental bid offer price that should be used for wind generation (or indeed any zero marginal cost) Priority Dispatch participants in settlement, the SEM Committee is of the view that this value should be set to zero. This decremental bid price will be parameterised in the market systems. There are a number of reasons for setting this deemed decremental bid to zero.

Firstly, in a competitive market, participants would be incentivised to submit decremental bid offers that reflect their marginal costs for the volume of energy to which the bid relates. The demographic of generation in the SEM today suggests that the majority of generation with Priority Dispatch status has a marginal operating cost of zero. Hence having a deemed decremental bid offer for settlement of zero is appropriate as it closely reflects the marginal cost of production for these generators. Further, those participants that have non-zero marginal costs are likely to avail of the revised approach (e.g. CHP, peat).

Secondly, there was a suggestion that the decremental bid price should reflect the opportunity costs arising from renewable support schemes (e.g. circa -€80 or -€90/MWh to reflect revenues from REFIT or ROCs for wind). Setting a deemed decremental bid price under this arrangement is not a straightforward matter however. While most of these generators will, for the most part, have zero marginal costs regardless of technology type, the suite of rates with support

schemes and the types of support schemes vary significantly<sup>4</sup>. Also, there are a growing proportion of participants that are leaving support schemes. This means that there would be a need different deemed decremental bid prices used in settlement for groups of Priority Dispatch generation depending on the type of support scheme and whether they are in or out of support.

Lastly, in the current arrangements if Priority Dispatch generation is constrained it pays back zero for the constrained volume i.e. it will receive the SMP for the volume constrained. Allowing the participant to have a deemed decremental bid offer other than zero would be a departure from this (assuming the priority dispatch plant had an ex-ante trade).

### ***Imbalance Prices***

As stated previously, Priority Dispatch generation will not be able to set the imbalance price. However, all Priority Dispatch participants will be cashed out at the imbalance price for all price taking volumes net of volumes sold in the ex-ante markets and any TSO actions. The SEM Committee is of the view that there should be no specific treatment for Priority Dispatch participants regarding negative imbalance prices for a number of reasons.

Firstly, not exposing Priority Dispatch generation fully to the imbalance price means that these generators are no longer price taking. Allowing priority dispatch generation to choose the price that they are dispatched down but still maintain priority dispatch is a departure from the current policy.

Secondly, introducing a price floor that shields certain types of participants from negative pricing could be seen as discriminatory. In other words, if a price floor of zero was introduced it should apply to all participants.

Thirdly, there is an argument that priority dispatch generation has a greater risk exposure to the imbalance price due to the forecast error associated with the intermittent fuel source of these participants. However, removing exposure to negative pricing to these participants would likely decrease significantly the signal to trade in the ex-ante markets and would have negative impacts on the overall I-SEM design e.g. potentially higher DAM prices which would result in inefficient interconnector scheduling.

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<sup>4</sup> [ROCs and future FiT CfDs](#) in Northern Ireland, AER I-VI and [REFIT I, II & III](#) in Ireland.

### ***Absolute Priority Dispatch***

The SEM Committee is of the opinion that this issue extends beyond being a market power issue as noted by a number of respondents. Demand sites that are currently in the SEM choose not to partake as DSUs primarily for two reasons; electricity trading is not their core business and the potential revenues from the electricity market are not sufficient for them to consider reducing/increasing demand at unforeseen times as needed by the TSOs. However, if the price to increase demand in a curtailment event is only bound by the PFLOOR of the BM then demand sites could have justifiably high costs to increase demand and in that case the TSOs would be obliged to take this, given the definition of absolute priority dispatch. The SEM Committee does not consider it prudent to have no floor price in place in terms of the price they will pay to increase demand.

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### **5.2.3 SEM COMMITTEE DECISION**

#### ***Implementation of Priority Dispatch in I-SEM***

The SEM Committee's decision is that the current policy for Priority Dispatch will remain in I-SEM. Priority Dispatch will specifically relate to the Balancing Market as participants have control of their positions in the ex-ante markets. In the Balancing Market, the concept of price making and price taking generation shall be maintained i.e. Priority Dispatch generation will be price taking. This means that a price taker will a) be run at its FPN (for wind, to their maximum availability so far as the safe secure operation of the system allows), b) be settled at the imbalance price for any volumes not sold ex-ante and, c) not be able to set the imbalance price with its priority dispatch volume.

#### ***Priority Dispatch in the Balancing Market***

The SEM Committee has decided that approach to implementing priority dispatch under I-SEM is that priority dispatch generation can:

- I. observe prices in the day-ahead and subsequent intraday markets, trading in them as it sees fit;

- II. on the basis of observing prices and possibly trading in the ex-ante markets, decide on the physical notification reflecting the output at which it wishes to run given the prevailing market conditions;
- III. submit any incremental offers and decremental bids reflecting the price at which it is willing to deviate from its physical notification.

The SEM Committee has decided that, for non-dispatchable generation, the final physical notification will be the availability of the generation unit. The final physical notification volume will be a price taking volume in the balancing market and will not set the price.

Further, the incremental volume submitted by dispatchable generators will not have priority dispatch status and will be treated like any other volume in the BM.

Under the approach set out above, the decremental price from priority dispatch generators will be used for settlement purposes only. This decremental price will represent the price that the unit will buy back power in the event that they must be turned down. This will not be price setting.

The SEM Committee view is that the decremental price for zero marginal cost generation should be zero; this is consistent with the current market. The decremental price for priority dispatch generation with non-zero production costs should be consistent with the current SEM and should be the avoided fuel cost only. This may need to be included as a licence conditions in priority dispatch generator licences and will be further considered within the review of generation licences for I-SEM.

### ***Absolute Priority Dispatch***

The SEM Committee is clear that the concept of absolute priority dispatch will be maintained in the I-SEM. This means that the TSOs will consider accepting bids from Balancing Service Providers to increase demand and hence reduce the levels of curtailment. While it is expected to be unlikely, there may be demand sites that have a significant high cost to increase demand that is cost reflective and justifiable. Hence the SEM Committee considers that a price floor should be introduced, below which the TSOs would not be obligated to take decremental bids from demand side units to increase demand during a curtailment event. The level of this price floor should be considered during the implementation phase. This value may be a parameter in the market systems and be will subject to consultation by the RAs.

## 6 TREATMENT OF CURTAILMENT

### 6.1 ISSUES CONSULTED UPON

The Building Blocks Consultation Paper asked respondents for their views on how the SEM Committee decision on compensation for curtailment should be implemented in I-SEM from 2018 onwards. Two options were put forward for discussion, namely ‘Mandated Bidding Behaviour’ and ‘Cash Out and Post Processing’.

#### ‘Mandated Bidding Behaviour’

Under this option relevant generators (and also intermittent solar generators, etc.) would be required to bid a decremental price into the balancing market based on its revenues from the ex-ante markets. All curtailment would be treated as an out of merit dispatch instruction by the TSOs, and hence settled at the decremental price submitted.

#### ‘Cash Out and Post Processing’

Under this option a generator in a curtailment event would be cashed out in the same way as any other generator deviations are cashed out. Then a post processing stage would recoup any extra revenues earned by the generator where the prices in the ex-ante markets were higher than the balancing market prices, and would “make whole” any financial losses made by the generator where prices in the ex-ante markets were lower than the balancing market prices.

The Building Blocks Consultation Paper also requested respondents’ views on whether the SEM Committee decision on the treatment of curtailment post 2018 should apply differently to ex-ante market trades than to the Balancing Market and imbalance settlement output. If they were to be treated differently then ex-ante market trades would be cashed out at the imbalance price in a curtailment event and any upside or downside would be retained or borne by the generator.

## 6.2 SUMMARY OF RESPONSES

### ***Re-opening the SEM Committee decision on compensation for curtailment***

The majority of respondents stated that the SEM Committee decision on compensation for curtailment should be re-opened. It was argued that this decision is discriminatory against wind generators, removes the incentives for the flexible solutions needed to facilitate the requirements of a system with high levels of variable generation, and removes the commercial incentive for the TSOs to deliver mitigating measures such as the delayed DS3 Programme. It was also argued that the decision should be re-opened presently given that it was made in the different context of the centrally dispatched gross mandatory pool SEM, and given that it was made in advance of the implementation of the European Network Code on Electricity Balancing.

### ***Implementing the SEM Committee decision on compensation for curtailment in I-SEM from 2018***

Only one respondent considered that curtailed volumes should be cashed out at the imbalance price. The respondent argued that this would be the simplest solution and could incentivise participants to forecast curtailment levels and avoid selling volumes in the ex-ante markets that were likely to be curtailed.

Several respondents had no preference between mandated bidding behaviour and cash out with post processing. Some argued that a separate consultation on curtailment was necessary and some argued that the question couldn't be adequately answered without further knowledge of the design of the balancing market. It was stated however by several respondents that renewable generation must not be discouraged from trading ex-ante.

Those respondents who favoured the mandated bidding behaviour option felt that wind generators should be required to bid a decremental price into the balancing market based on its revenues from the ex-ante markets. Energia on the other hand argued that if the decremental bid of a wind generator was priced to ensure it recovered the value of the lost opportunity under its renewable support mechanism then this would ensure proper compensation for curtailment. BGE sought clarity on

how the mandated bid price should be derived, i.e. whether it should be the day ahead price or an intraday reference price or a blended price.

Conversely, respondents who favoured cash out with post processing felt that it would be the better option for market participants. They argued that mandated bidding behaviour should be avoided as it would be extremely complex to implement and monitor and that it would be difficult to resolve issues if mistakes were made. In addition they argued that it is not clear how mandated bidding behaviour would work given that wind generation may be aggregated into portfolio bids, but curtailment will be on a unit basis. Finally it was argued that the same functionality should be applied for both curtailment and the cash out of non-firm ex-ante positions in the event of constraint.

SSE proposed that wind generators without an ex-ante position should be turned down first to resolve any curtailment issue and paid according to their metered generation output as this would incentivise participation in the ex-ante markets.

### ***Other Issues***

ESB GWM proposed that the allocation of pro-rata curtailment be internalised within wind generation portfolios, rather than being applied on a unit basis. They stated that this would simplify the cash out and post processing of curtailment (or indeed mandated bidding behaviour) as it would associate curtailed volumes with a portfolio which would be consistent with the portfolio based ex-ante and imbalance positions. They also stated that it could incentivise wind generators to participate in aggregators.

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## **6.3 SEM COMMITTEE RESPONSE AND DECISION**

### ***Re-opening the SEM Committee decision on compensation for curtailment***

The desire to open this decision (SEM-13-010) was raised through the RLG meetings and in pre consultation feedback. However, having considered this feedback, the SEM Committee remains of the view that there is no particular feature of the I-SEM implementation that warrants re-opening this decision. The SEM-13-010 decision made by the SEM Committee was made following a consideration of a wide range of issues and it would not be appropriate to re-open one very particular part of that process without looking at all the issues that were considered in that workstream.

The decision on curtailment has provided certainty to the industry as a whole on the enduring regime. The SEM Committee remains confident in the decisions made and suggests that the uncertainty associated with reopening the decision would not be helpful.

Therefore, the focus of this response to consultation responses and decision concentrates on how best to implement the SEM Committee decision.

***Implementing the SEM Committee decision on compensation for curtailment in I-SEM from 2018***

The SEM Committee has decided that cash out and post processing is the optimal way to implement its decision on compensation for curtailment in I-SEM from 2018. A generator in a curtailment event will be initially cashed out at the imbalance price. Then a post processing stage will recoup any extra revenues earned by the generator where the prices in the ex-ante markets were higher than the balancing market prices, and will “make whole” any losses made by the generator where prices in the ex-ante markets were lower than the balancing market prices.

The SEM Committee agrees with concerns that mandated bidding behaviour would be difficult to implement, monitor and enforce. The SEM Committee also agrees that it would be difficult to resolve issues if mistakes were made by participants in the bidding process.

The SEM Committee has decided to adopt a different approach for curtailment than decided upon for the treatment of units with non-firm access (which applies to all generation plants irrespective of technology). While the same underlying principles should apply to any decision related to curtailment of wind generation due to transmission constraints, and constrained operation of generation plants in their non-firm region, the SEM Committee is of the view that the approach to curtailment of wind generation represents the most direct implementation of SEM Committee decision (SEM-13-010). In reality, many of the arguments for cashing out non-firm access the imbalance price could also apply to the treatment of curtailed output from wind generation. However, the SEM Committee is mindful of the certainty given to industry in SEM-13-010. The SEM Committee notes that the vast majority of respondents did not favour cashing out at the imbalance price for curtailment, and that there is thus general support for the decision that it has taken.

Generators without ex-ante market positions will be paid the imbalance price for their metered generation output, which by definition does not include curtailed volumes. Hence, they will not receive any compensation for the amount of output that was curtailed, and no further settlement rules will be required.

The SEM Committee notes SSE's proposal that wind generators without an ex-ante position should be turned down first to resolve any curtailment issue. Whilst acknowledging that this would further incentivise wind generation to participate in the ex-ante markets, the SEM Committee believes that this would amount to re-opening its decision on compensation for curtailment given that a key component of that decision was the pro-rata treatment of all wind farms in dispatch for the purpose of curtailment.

Energia's proposal that the decremental bid of a wind generator be priced to ensure it recovered the value of the lost opportunity under its renewable support mechanism also amounts to the re-opening of the SEM Committee decision on compensation for curtailment and indeed goes even further as it would involve the *de facto* payment of subsidies for electricity that was not produced in reality.

### ***Post processing methodology***

The post processing methodology will be centralised within imbalance settlement in the market. The post processing will invariably require a trade-off between practicality and accuracy. In the same way that requiring generators to bid a decremental price reflecting all ex-ante trades would be onerous, it may be onerous for the ex-ante market operator to send across the details (price and quantity) of each individual trade. It may be even more complex and onerous to put in place a process where the imbalance settlement operator reviews each trade to decide which ones to use as the price(s) in post processing.

Therefore, the SEM Committee has decided that the most suitable approach is to set a reference price or prices to feed into the post-processing. This reference price could be the day ahead price or it could be a basket of the day ahead price and the intraday reference price (average price of all intraday prices). The finer details of this can be parameterised and set in the implementation phase but the systems procured by the TSOs should be able to accommodate the basket of prices.

However, in developing the market systems the TSOs should put in place a post processing framework that allows for either the use of actual trades and prices or the use of a price which is calculated based on the day ahead price or a basket of prices. The final decision on the ex-ante price to be used will be made in the implementation phase.

### ***Other Issues***

The SEM Committee notes ESB GWM’s proposal to allocate curtailment on a wind generation portfolio basis rather than on a unit basis but considers that it would probably not be possible to implement with the current tools at the disposal of the TSOs. In curtailment events MW set-points are issued (simultaneously) to all controllable windfarms which cap the output of each windfarm. This is done via remote control from the TSOs’ control centres, as most windfarms are not staffed to accept dispatch instructions and control output accordingly.

## 7 DE-MINIMIS LEVEL

### 7.1 INTRODUCTION

This chapter examines the issues surrounding the mandatory participation of smaller generators in the I-SEM.

The I-SEM HLD Decision states that participation in the ex-ante markets will not be mandatory in the new market arrangements. However all participants will be mandated to participate in the Balancing Market (BM) in keeping with their technical ability to do so. The mandatory requirement of the BM could have a significant impact on smaller participants and to a lesser extent the TSOs and the Market Operator.

Smaller participants may not have adequate resources for market participation given the financial and administrative burden involved. It should also be noted that electricity generation may not be a central business of many of these participants.

From the TSOs' perspective, it becomes impractical to dispatch smaller units to balance the system. Similarly the Market Operator or other parties may consider it impractical to enter into legal and/or commercial agreements with smaller units.

### 7.2 DE MINIMIS THRESHOLD IN I-SEM

Currently, generators are mandated to participate in the SEM if they have a Maximum Export Capacity (MEC) of 10MW or greater under a single connection agreement. This 10MW threshold is referred to as the De- Minimis Threshold in the Trading and Settlement Code. Generation below this threshold can participate in the SEM on a voluntary basis. Where a generator decides not to enter the market, they instead have the option to contract with suppliers whereby their generation is netted against that supplier's demand<sup>5</sup>. The I-SEM HLD Decision did not signal that any changes to the current policy on the De Minimis threshold would be required as a result of the introduction of the I-SEM.

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<sup>5</sup> This generation can be netted against up to the three suppliers in the retail systems

The Consultation Paper asked whether the current de-minimis level should be changed given the time that has passed since the establishment of SEM and in order to reflect the impacts that new market arrangements may have on participants.

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### 7.3 SUMMARY OF RESPONSES RECEIVED

Most respondents felt that the current de-minimis level should not be changed. ESB Networks stated that any proposed change to the current levels below which generation is not allowed to be a non-participant generator in the SEM would require engagement with them as a market facilitator.

Some respondents called for the de-minimis level to be reduced to ensure the market reflects the underlying reality of the system and increase liquidity in the ex-ante markets. Some of these respondents also stated that removal of de-minimis exemptions –allowing small participants to aggregate instead - would ensure that all demand faces capacity costs and imperfection charges. However, the TSOs pointed out that there could be system control issues if aggregators are allowed to have wind units with a MEC in excess of the de minimis level. There were also calls for units under 100kW to participate only through aggregation. There were also suggestions that, depending on the aggregation arrangements, consideration should be given to increasing the de-minimis level.

*The TSOs further suggested that the concept of ‘supplier lite’ is not compatible with the European day-ahead market.*

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### 7.4 SEM COMMITTEE RESPONSE

The SEM Committee notes the comments received regarding de-minimis generation level. It notes that the majority of respondents do not wish to see a change in the de-minimis level.

The SEM Committee agrees with respondents that there will be an important role for aggregators in I-SEM. There will be a basic Aggregator of Last Resort (AoLR) as set out in the SEM Committee Decision on that issue, and the opportunity will exist for commercial aggregators to develop. In light of this there should be no requirement to increase the de-minimis level. Increasing the de-minimis level would potentially increase the volume of generation operating outside of the central market places and would increase costs for the remaining generation. While this may not be a significant issue now, it could become more pronounced in the future.

The SEM Committee does not see a need to reduce the de-minimis level at this point. Effective AOLR and independent aggregation services, should they develop, will provide a route for small generators to participate in the central I-SEM markets should it choose to do so, whilst maintaining commercial freedom to trade outside of the centralised I-SEM arrangements. Also, reducing the de-minimis level could create difficulties for existing out of market players where they would be required to come into the market.

The SEM Committee is of the view that the supplier lite arrangements should continue. Specifically, these “supplier lite” arrangements relates to scenarios where a generator participates in the market through an intermediary agreement with a supplier registered in the market. For the avoidance of doubt, any generator unit above 10MW will be registered in the market.

The SEM Committee understands that the TSO response regarding the removal of the de-minimis limit, with a requirement to then trade through an aggregator appears to be referring to the scenario where below de-minimis generators are netted against a supplier unit without any demand. These appear as negative demand in SEM today and are paid the SMP in addition to being paid the imperfections charge and the capacity charge. At this stage the SEM Committee is not making a decision on the charging regime for the imperfections charge or capacity charges. However, it is the case, as per the TSO response, that the supplier will be balance responsible for such generation which appears as negative demand. In imbalance settlement the supplier allocation will be compared to its ex-ante position and would be cashed out for any differences.

Regarding the option set out in the Consultation Paper of having a kW or MW threshold level below which participants can only participate through aggregation, the SEM Committee is minded not to introduce such a proposal at this time. The SEM

Committee recognises that very small players will probably choose not to trade in the market in their own right given issues such as fixed charges or minimum trade levels in the DAM and IDM but does not see the need to establish market rules to prevent this.

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#### 7.5 SEM COMMITTEE DECISION

The SEM Committee's decision is to keep the de-minimis level at 10MW.

## 8 TREATMENT OF CURRENCY

### 8.1 INTRODUCTION

This chapter examines the issues surrounding the treatment of currency in the I-SEM.

The SEM covers two currency areas with trading in both euro and sterling. In the current SEM, there is no discrimination between participants on the basis of currency; participants submit offers into the market in their local currency and cost changes between the time of trading and financial settlement are socialised across the entire market.

### 8.2 TREATMENT OF CURRENCY IN I-SEM

The Consultation Paper proposed the following solution for the treatment of currency under I-SEM:

- The I-SEM should operate on the basis of dual currency as the SEM does at present;
- Currency costs should be projected ex-ante and charged to suppliers as a tariff. Any difference between the projected and actual should be treated as a correction factor.

### 8.3 SUMMARY OF RESPONSES

Most respondents supported the proposal to project currency costs ex-ante and charge to suppliers as a tariff with an ex-post correction factor. Clarification was sought on the following issues:

- How feasible is it to forecast the change in relationship between Euro and GBP?
- How is it decided who is a “supplier” on whom this is levied (e.g. is a bid to buy seen as a “supplier” trade? Is the designation of “supplier” based on unit registration? How are assetless trades treated?

One supplier supported the dual currency approach and believed that each participant should be responsible for managing its own currency risk, with the result that there would be no requirement to socialise the costs (or surpluses) arising from unexpected exchange rate movements.

Another respondent appeared to suggest that if an ex-ante tariff were applied to generators as well as suppliers, it is likely that generators would seek to include any tariff requirement in bid prices to cover their currency cost risk.

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#### 8.4 SEM COMMITTEE RESPONSE

The SEM Committee notes the responses and the majority preference for an ex-ante projected tariff.

Firstly, the SEM Committee sees merit in the continuation of the current policy of having dual currencies where participants in Ireland bid in Euro and Northern Ireland participants bid in Sterling and the cost of maintaining this is paid by or socialised across the market as a whole.

However, the SEM Committee notes the points raised by respondents that the current regime could be made simpler. Therefore the SEM Committee sees merit in so far as possible charging the currency costs to suppliers. There was some confusion as to who would be deemed to be suppliers. The costs will be charged on suppliers in the imbalance settlement mechanism based on demand i.e. those that took electricity from the market. Using the imbalance settlement mechanism ensures the entire demand in the market pays the cost.

The SEM Committee notes that there were detailed questions from the TSOs about how the mechanism might work. In particular the TSOs suggested that the treatment in the DAM and IDM might need to be different. The TSOs also suggested that it may be difficult to forecast exchange rate fluctuations.

The SEM Committee believes that the points raised by the TSOs are valid, and is of the view that these can be addressed by the TSOs in the implementation phase. While the SEM Committee has a preference above that suppliers in the imbalance settlement pay the currency costs across all timeframes it would not be a significant issue if the systems or service procured implemented the policy in a different way

once the overarching policy is upheld. The SEM Committee would expect that the TSOs will develop process and methodologies for the implementation of the currency policy (including a proposed methodology for forecasting currency costs) in the implementation phase.

Finally, the SEM Committee notes the concerns raised that consideration also needs to be given to the treatment of currency in capacity, ancillary services and forwards markets. The SEM Committee agrees that currency may need to be addressed in those workstreams but is of the view that they are addressed within those workstreams as opposed to this Decision Paper.

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## 8.5 SEM COMMITTEE DECISION

The I-SEM will operate on the basis of dual currency as the SEM does at present.

The SEM Committee has decided that currency costs will be projected ex-ante and charged to suppliers as a tariff. Any difference between the projected and actual should be treated as a correction factor. The TSOs will need to develop a methodology for the implementation of this policy which will be charged on suppliers through the imbalance settlement, unless an alternative implementation of the policy is agreed by the RAs.

## 9 MARKET INFORMATION

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### 9.1 INTRODUCTION

The publication of market information plays an important role in facilitating efficient market operation and transparency. As a general principle, the more information that is made available the more it helps market participants make informed decisions on investment and their interactions with the market. The publication of market information may also provide part of a check on price manipulation through particular bidding strategies, primarily as it provides for the wider scrutiny of market behaviour, and consequent reporting to the market monitor.

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### 9.2 MARKET INFORMATION IN I-SEM

The Consultation Paper considered it prudent to ensure that there is a capability to publish as much information as possible. This is especially so in the case of the balancing market where there will be less influence from the EU marketplaces. Questions around any restrictions on the publication of information should be dealt with as part of implementation.

One important question in the consultation related to whether there is information not currently published that should be published under the I-SEM. The SEM Committee is of the view that additional information should be published by the TSOs and market operator to support the operation of the Balancing Market and facilitate the balance responsibility of trading parties. As mentioned above, the TSOs could publish aggregate notifications and their assessment of expected demand. Also, the TSOs could publish aggregate wind notifications and TSO expected wind output.

Finally, the Consultation Paper noted that the SEM Committee saw merit in the establishment of a market bulletin board to aid transparency.

### 9.3 RESPONSES RECEIVED

The principle of transparency in relation to the release of market information was generally well supported. It was stated that while transparency is essential towards market power mitigation, it is not sufficient by itself.

Other participants suggested that additional market information that would assist the management of balancing risks would be supported. This should include:

- accurate demand and wind forecasting
- Real-time information on the operation of the system and constraints
- Aggregate and individual physical notification for plant
- A central notice board for unavailability notifications
- Imbalance flagging and tagging
- A monthly market report identifying market movements and the reason behind them

Another respondent stated that the publication of both private and public reports should also continue.

It was highlighted that publication of data will, in the I-SEM, inform ex-ante trading, rather than facilitate the ex-post analysis and review of market outcomes, as is the case in the SEM. Correspondingly, participants will have greater sensitivity to what is published, and when. It was suggested that this issue needs careful consideration and that a balance must be struck between participants being able to respond to market signals, and the potential for market information publication to lead to the exercise of market power or to facilitate gaming.

It was proposed that there is an industry workshop held in early 2016 to define a wish-list of the set of data to be published, its timings and the manner of its publication, before procurement of systems are fully defined and difficult to change.

The applicability of REMIT to non-energy balancing actions taken by the TSOs should be considered. If non-energy balancing actions are not made public they could be classed as “inside information” under REMIT as they are likely to significantly affect the price of balancing energy.

There was a positive response to the SEM Committee suggestion of a market notice board, but it was noted that its effectiveness would depend on its implementation.

The TSOs in their response are support of as much transparency as possible but does note that the suggestion of developing market systems that have the capability to publish as much information as possible needs to be considered against the implementation cost involved.

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#### 9.4 SEM COMMITTEE RESPONSE

The SEM Committee notes the responses received and the general support for as much information as possible to be published.

In general, the SEM Committee supports the view that as much information as possible should be capable of being published, and that, as a general principle, information should be published unless there is a case for not doing so. It notes that there may well be reasons for not publishing information or indeed delaying its publication. This is the case in the current market where, for example, commercial offer data is not published until after the trading day.

The SEM Committee sees merit in the suggestion that a workshop be held to discuss the information that might be published. This workshop will likely form part of the market rules phase where discussions will be held on the appropriate level and method for publication.

The SEM Committee further notes the TSOs comment regarding the costs and benefits of increased data publication. At this stage, the SEM Committee is of the view that the TSOs in their procurement should leave it open to publish as much as possible and decisions on the benefits versus the costs involve can be considered in implementation.

In light of the above, the SEM Committee believes it is not prudent to adopt an approach now that defines a list of data items that must be published. Rather it considers that it is more appropriate to adopt a broad policy that as much information as possible should be published. A detail publication list should be developed in the implementation phase.

## 9.5 SEM COMMITTEE DECISION

As discussed in the consultation, the SEM Committee considers it prudent that the market systems are developed so that as much information as possible can be published. Once the systems are developed, the timing of the publication of information can be considered and whether there is any information which must remain confidential for commercial reasons for the mitigation of market power.

## 10 NEXT STEPS

This Paper forms the Decisions of the SEM Committee in relation to I-SEM ETA Building Blocks issues.

The SEM Committee is also making a decision on the I-SEM ETA Markets Issues and on the Aggregator of Last Resort.

The decisions in these papers will be further developed into market rules and systems in the implementation phase which will commence with the publication of these Decision Papers. The implementation of this detailed design will then be the subject of decisions to be taken in line with the amending legislation proposed in each SEM jurisdiction.

Appendix A of this Decision Paper contains a list of issues to be addressed in the implementation phase arising from this paper.

## 11 APPENDIX A. BUILDING BLOCKS ISSUES FOR THE DETAILED RULES AND IMPLEMENTATION PHASE

	<b>Issue</b>	<b>Lead Responsibility</b>	<b>Timeframe for Decision/Implementation</b>
1	Discussion of interconnector losses application in DAM with EUPHEMIA developers	SEMO	2015/16
2	Approval of Imperfection Charges for I-SEM Go Live	RAs	2017
3	Development of post processing framework for curtailment	Market Operator and Mods Committee	2015/16
4	Derivation of TLAFs to apply from I-SEM Go-Live	TSOs	2017
5	Approval of curtailment post processing parameters	RAs	2017
6	Setting of parameters for priority dispatch deemed bid price	RAs	2017
7	Price Floor for Absolute Priority Dispatch	RAs	2017
8	Review of generation licences to account for Priority Dispatch	RAs	2016/17
9	TSO consideration of providing greater information on likelihood of constraining down	TSOs	2016/17
10	Development and implementation of process for currency cost	Market Operator and Mods Committee	2015/16
11	Approval of currency cost tariff	RAs	2017
12	Consideration of what information should be published in I-SEM including consideration	TSOs/SEMO and Mods Committee	2015/16

	of development of market bulletin board.		
13	Approval of detailed market rules covering all building blocks issues	RAs	2016