Integrated Single Electricity Market (I-SEM)

Energy Trading Arrangements Detailed Design

Markets Consultation Paper

SEM-15-026

Power NI Response

5 June 2015

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Contents

Introduction

Power NI welcomes the opportunity to respond to the Regulatory Authorities (RAs) Energy Trading Arrangements (ETA) Detailed Design, Markets Consultation Paper.

As the RAs are aware, Power NI is the largest electricity retailer in Northern Ireland. Power NI is part of the Viridian Group which has within in its portfolio, a retail position in Northern Ireland and the Republic of Ireland, as well as a significant thermal and renewable generation presence.

Power NI is however a separate business. Power NI's legal, managerial and operational separation is mandated via licence condition and it is within the context of being a supplier without vertical integration; that Power NI has approached the ETA workshops, assessed the issues presented and now responds to the ETA Detailed Design Markets Consultation Paper.

In approaching the response Power NI has commented on the broader issue before attempting to succinctly respond to the applicable questions. Answers to the questions however should be considered in conjunction with the particular chapter commentary.

General Comments

Design Principles

As the discussions at the various RLGs, public fora and the Consultation Paper itself illustrates; the design of the I-SEM energy market is both highly complex and multi faceted. Power NI believes there is a high risk of unintended consequences due to the significant number of interdependencies.

During the public workshop in relation to the capacity mechanism, the RA's arranged for an expert address to be given by Peter Cramton, Professor of Economics at the University of Maryland. Within this presentation high level design objectives were recommended as universally applicable to any design activity. The four over arching design objectives were efficiency, transparency, fairness and simplicity.

Prior to considering the detailed design aspects laid out in the consultation paper, Power NI would encourage the RAs to reflect on these objectives and critically evaluate if the energy market design adheres to these principles.

Participant Engagement and a Project Managers Forum

Power NI welcomes the level of engagement to date in relation to the energy market design. As stated above, the aspects under consideration are both highly complex and multi faceted. A considerable amount of time and effort has been spent in presenting and attempting to understand the design options.

While Power NI recognises the need for a clear position to be reached in September 2015, it is vital that the RAs do not withdraw from participant engagement following this consultation, only to reappear in September with a firm position. A number of further workshops to explore the emerging thinking would both assist the RAs in ensuring that infeasible combinations of options are not being selected, unintended consequences are minimised and the participants are able to internally prepare in a manner consistent with the direction of travel.

Power NI would also encourage the RAs to critically assess the timeline with a view to facilitating a 'minded to' or draft decision such is the importance of reaching an optimal design.

Power NI would also welcome a forum such as a Project Managers Group, being developed. This forum could provide continuous communication between the RAs, TSOs and participants regarding the I-SEM project at a macro level.

Such a forum could explore design interdependencies across the I-SEM workstreams as well as provide a channel for TSO procurement updates, NEMO designations, roles and responsibilities. Power NI believes this could fill the information vacuum which currently exists between the Senior Stakeholders

Forum (targeted at MD level) and the RLGs which are targeted and detailed individual workstream design.

Clarification on the role of Market Operator

During the 'building blocks' phase it became clear that the role of SEMO is crucial to the clarity of a number of the topics. Roles such as Central Counter Party, Clearing House, Single Point of Registration, NEMO and Shipper were all described. Likewise within the 'markets' discussion the role of SEMO in particular, in relation to the nature of the relationship with the pricing coupling algorithm was an open question.

These important questions should be thoroughly assessed and discussed in order to ensure there is an open and transparent consideration of the governance and practical implications of the design. The proposed design relies heavily on the EUPHEMIA algorithm; therefore the market should resolve the questions of PCR membership, roles, responsibilities and governance as a matter of urgency.

Power NI believes there will be clear economies of scale and cost efficiencies available to the market by having a single entity performing multiple roles.

In the first instance the cost and burden of registration can be streamlined by having a single registration entity. Multiple entities would require participants to register multiple times, provide details and pay fees. This creates an administrative burden which would be particularly onerous on smaller participants. It also acts as a barrier to entry for new participants.

Dependent upon each entity's systems and procedures, participants may also require separate internal IT systems to efficiently communicate. This mandates additional establishment cost, on-going participation costs and adds risk.

Multiple market operator counterparties will also require participants to incur additional collateral and working capital costs. These costs would be incurred as each operator will calculate required credit cover in the market they are administering in isolation using the maximum exposure. A participant therefore who trades in different markets will have to post credit equal to their maximum in each market rather that a holistic view of their total requirement.

For example, should there be a different party fulfilling the role of market operator for the Day Ahead and Intra Day Markets, if a participant on one day bought 80% of their volume Day Ahead and due to pricing on another day bought 80% Intra-Day, it would be conceivable that the Day Ahead Market (DAM) Operator would mandate collateral posted to the highest value, 80%, and the Intra Day Market (IDM) Operator would require the same, 80%. The participant therefore, even though they have bought the same volume on each day, would in effect have to post collateral equating to 160% of their required volume.

This example also equally applies should an entity other than the NEMO (or NEMOs) act as Balancing Market Operator (BMO). That entity will also seek to have collateral posted to the maximum historic exposure. Continuing the example above therefore, a Supplier on the third day could end up buying 80% from the Balancing Market (BM). The BMO would therefore require collateral which equates to at least that exposure. All three entities therefore would require the Supplier to have posted separately with them, collateral which equates to 80% (i.e. by accounting for the maximum exposure within any assessment period) of its volume. This is clearly a cost which would be passed to consumers and could easily be avoided.

The SEM also facilitates the reduction in working capital costs through the use of 'Settlement Reallocations'. Power NI strongly believes an equivalent should be made possible in the I-SEM design. It is however difficult to envisage that being effective or potentially even possible if multiple market operator entities are present.

The RAs have stated a minded to position that capacity settlement could be carried out by the entity responsible for imbalance settlement. Power NI concurs with this view. There will be clear operational efficiencies from an entity using the metered load volumes for two purposes. Utilising more than one entity would require multiple interfaces for participants and should queries be raised it would reduce the administrative burden and general complexity by having to only raise the query with one body

Power NI is concerned that although the RAs have began the NEMO designation process this does not holistically cover the multitude of roles required within the I-SEM design. The ETA consultation is also silent on the role fulfilment question. Power NI would welcome the RAs considering this important design aspect and ensuring that it is included in the ETA decision making process.

Market Modelling

SEMO are naturally further advanced in their market modelling workstream than participants. Their access to current market information and interaction with EUPHEMIA should ensure that they are able to develop a robust I-SEM market model to assist in the design discussion and decision.

Power NI welcomes SEMO's proposed engagement with market participants and would encourage SEMO to share as much data as it is able to. Power NI would urge the RAs to utilise as much of this modelling work as possible in understanding the consequences of design decisions.

A detailed understanding of the likely EUPHEMIA outputs and BM operation is the only way the RAs can ensure that a robust energy market is designed. Power NI is concerned that due to the design timeframe and the lack of clarification on the role of SEMO (which is preventing full membership and access to EUPHEMIA) the ETA will be concluded without such critical modelling input. This

represents a major risk to the project and increases the likelihood of a sub-optimal design with significant unintended consequences.

As an industry, we must learn lessons from the June 2012 Intra-Day Trading implementation which, as an unintended consequence, encouraged trading operations to the detriment of consumers, as evidenced in recent T&SC modifications.

System Operation

ISEM philosophy

The High Level Design (HLD) philosophy envisages liquid, transparent and functioning energy markets. Power NI recognises that the complexity of the all island network presents significant challenges to the TSOs in operating the system and reaching a feasible dispatch. The RAs in introducing the concepts of early TSO actions also recognise this difficulty.

Unit commitment requirements, constraints, reserves, SNSP etc. raise the question over the sheer volume of actions the TSOs will be taking independent of market outcomes. The consequences for the market and pricing specifically cannot be known without detailed modelling and analysis. As a supplier, Power NI is concerned that early actions (particularly energy actions) will result in an illiquid IDM and a punitive, volatile BM.

Acknowledging the need to operate the system securely, the RAs must act to ensure that the consequences of facilitating early TSO action do not adversely impact suppliers and ultimately customers. The trade off for facilitating the TSO requirements should be a design which avoids disproportionate unintended consequences and risk placed upon suppliers.

A method of minimising the expected distortion caused by having the IDM and BM open concurrently is to clarify that the TSOs early actions (irrespective of their classification as energy or non energy) are start instructions only. Such a clarification will allow the TSOs to ensure system security by having plant available to ramp up or shut down if needed, will facilitate the economic operation of the market by encouraging trading, will minimise disruption and will ultimately allow participants to act in a balance responsible way. It will also facilitate the TSOs responsibilities in relation to affording non controllable wind, priority dispatch, even if it simply ‘turns up’ in the BM.

Objective Function of the Balancing Market

The need for this topic within the detailed design discussion highlighted a lack of clarity in the HLD. The HLD stated that the TSOs will minimise the cost of deviating from physical notifications.

It is clear from this HLD description that the RAs had an assumption that the majority of volume would be traded through the DAM, the market would determine an economic outcome, physical notifications would reflect this and the TSOs would then be required to make only minimal changes from such an economic schedule. This perhaps held true before the DAM had its mandatory nature diluted and more details regarding the operation of EUPHEMIA have became known.

The question posed at the RLG workshop was "*what should the TSO seek to do?*" This is a question of fundamental principles. Should the TSO actively participate to manage the energy market in an attempt to minimise cost to consumers or should the market be left to solve in an economic manner and the TSOs should only act to ensure system balancing and security?

Only when this fundamental question is answered, can the design adequately follow, however it is a complex question.

Much of the debate centred on TSO actions taken while the IDM is open. Such actions will impact the operation of the market both at the intra day and balancing stages. Without however, a detailed modelling exercise to understand the consequences of actions while both markets are open, it will not be possible to fully understand the ramifications of the actions taken; nor will it answer the fundamental question.

Energy Actions

At a principle level it would appear universally accepted that the ETA should look to minimise early TSO energy actions. Power NI believes that elements of the RAs proposals such as defined principles and reporting should form part of the final ETA decision. To include such requirements would be consistent with a transparency objective.

It is unclear what level of energy actions the TSOs would need to take prior to IDM gate closure. The market is trading therefore final output levels are not known and by effectively 'jumping in' the TSO is assuming the market will not solve in an unconstrained manner.

As stated above, Power NI would welcome the RAs clarifying that early TSO actions can be start instructions only. Anecdotally given the ramp rates of many of the plant operating in the current SEM as long as they are running at their minimum stable generation they should be able to respond to any shortfall within the one hour timeframe after the closure of the IDM. Such a requirement places a tangible restriction on the TSOs (restricting IDM distortion) and implements an implicit incentive for generation to have fast ramp rates. Power NI believes these to be both positive design consequences.

Non-Energy Actions

The RAs have described non-energy actions as "*actions that are taken by the TSOs to address system issues that would still exist even if the market had perfectly balanced*"[1]. Within the paper examples include reserves, dynamics, voltage support and thermal transmission constraints. Power NI believes that policy decisions such as priority dispatch should also be included within the classification of a non energy action.

[1] Page 13

At a high level Power NI believes, those actions covered under dispatch balancing / imperfections under SEM should be non-energy under I-SEM.

It was somewhat surprising that the RAs did not comment further on the TSO requirement to give effect to priority dispatch and the consequence of the policy on TSO actions should wind not trade in the DAM. While giving effect to priority dispatch was included as a Building Blocks topic the implementation of the policy will invariably lead to potentially sizeable TSO non energy actions.

Again as stated above, regardless of whether an action is energy or non-energy, Power NI believe early actions should be start decisions only. This should still allow the TSOs to manage non energy actions i.e. constraints

Incentivisation and Intra Day Market Implications

At a principle level, the HLD philosophy means that the TSOs should be incentivised to limit actions taken while ex-ante markets are open. Careful consideration should be given to the form of such incentives and this assessment must be RA and not TSO led.

If the RAs believe that the market should look to solve and the stated HLD I-SEM philosophy is to be adhered to; the incentives must be action led and not necessarily cost led. To adhere to the RAs philosophy the TSOs should be incentivised to take late (within the last hour before delivery) actions even if an earlier (while the IDM market is open) action may be at a lower cost.

It is clear that an early TSO action will negatively affect the IDM; the extent will be dependent upon the magnitude of actions. Power NI believes it would be worth considering the impact of mandating the TSOs to sell the electricity associated with both their energy and non-energy actions into the IDM. Such a requirement would create liquidity in the IDM and could potentially mitigate against the adverse impacts of early TSO actions. Careful consideration and rules would be required in relation to the TSOs price offer formation and financial incentives however it would deepen the IDM and facilitate suppliers being balance market volume responsible.

Question	Answer
1. What are the impacts of early action by the TSOs on the Intraday Market?	Power NI is concerned that early TSO actions will reduce liquidity in the IDM and influence the traded price in both the IDM and BM.
2. What measures can be taken to minimise early actions by the TSOs?	Power NI believes that early TSO actions should only be start instructions (regardless of categorisation as energy or non energy). The associated incentivisation and reporting

	undertaken by the TSOs should then look to ensure only necessary start actions are taken.

Ex Ante Markets

Day Ahead Market

Power NI welcomes the provision of expert analysis on the operation of the Day Ahead and Intra Day Markets during the RLGs. The presentations by PMI, Baringa and Yellow Wood provided some much needed insight into the operation of the various markets in other jurisdictions.

Thibault Henri's (PMI) presentation on the DAM further highlighted the extent of market solving responsibility the HLD places on the PCR algorithm EUPHEMIA. A responsibility in excess of most other member states, who use the algorithm for border optimisation rather than underlying scheduling.

The use of EUPHEMIA therefore is a critical component of the market design and Power NI welcomes the transparent approach SEMO have proposed with respect to testing. It is important that transparency prevails throughout the whole process; from establishment of initial testing by SEMO in isolation scenarios, through to test plans and results from coupled market scenarios. Timely publication and full transparency of data prior to any workshops will allow market participants to complete their own analysis and feed back into the process prior to any re-run of tests.

Alongside theoretically facilitating efficient scheduling and pricing in the day-ahead market, prices from EUPHEMIA are also likely to become an important reference in the forwards market. Costs or benefits associated with the forwards market will ultimately be fed back to end customers, making it essential that EUPHEMIA is optimally implemented in the development of I-SEM.

The RAs should however remain cognisant of progress in relation to EUPHEMIA, request regular updates and insist on checkpoints in the project plan to review the results of testing to ensure assumptions and decisions on the detailed design of the energy markets remain viable and sustainable.

As described above, the governance arrangements in relation to the DAM requires clarity. The HLD abdicates local responsibility for solving the day ahead schedule and setting the key market reference price. It will be important therefore that the I-SEM is adequately represented and has influence in regard to the operation of the EUPHEMIA algorithm.

As was illustrated by the protracted discussion of PNs at the RLGs, a concern exists that the DAM will possibly not solve or will have a low level of traded volume. This remains a high risk in the absence of evidence to the contrary and has led to the TSOs highlighting the need for early actions and subsequently the consequences for the market of such actions.

As stated previously, it was clear from this HLD description that the RAs had an assumption that the majority of volume would be traded through the DAM, the market would determine an economic outcome, physical notifications would reflect this and the TSOs would then be required to make only minimal changes from such an economic schedule. This perhaps held true before the DAM had its mandatory nature diluted and more details regarding the operation of EUPHEMIA had became known.

A practical manifestation of this concern is the possibility that wind will not engage with the DAM. This represents a significant drop in the original expected DAM liquidity levels. It also presents significant difficulties for the TSOs in respect of affording priority dispatch to unknown volumes in the BM.

As a supplier, Power NI is concerned how each of the energy markets will operate.

The importance of appropriate testing and governance therefore cannot be overstated. Initial test result feedback has raised concerns in relation to feasibility, outcome and operation. Will the complexity of the Irish market cause solving issues either in terms of quality, timeliness or both? If such a scenario prevails will the PCR algorithm owners impose a set of offer formats on I-SEM participants? What does that mean for the I-SEM design? What does it mean for pricing in the DAM? Will EUPHEMIA solve in a way that contradicts the HLD intention that it would form the basis for reaching a feasible dispatch? What implications might that have for how participants trade across the different markets? Does it prompt the TSOs to take significant balancing actions while the IDM is open? How will the TSOs respect priority dispatch?

All of these questions have ramifications for the market design and can only be truly answered following the testing and modelling phase. It will therefore be important that the RAs continually review the appropriateness of design decisions in light of testing results. Power NI accepts this is not an ideal process but it is vital to ensure the integrity of the I-SEM.

It is also important to clearly recognise that the target model and the EUPHEMIA algorithm do not look to minimise production costs, both look to maximise social welfare at a European level (and even then it is only to the extent of the depth of trades offered into the market). This is not the same thing. The RAs may, due to European requirements, be implementing a wholesale market which will in fact increase the cost to the Irish consumer.

Day Ahead Market fall back procedures

With such reliance placed upon EUPHEMIA, robust fall back procedures will be essential design components. While it is noted that full de-coupling is rare in the current live DAM, the added complexity brought by new members such as the I-SEM will increase the risk of full or partial de-coupling occurring.

In any event, the likelihood of the interconnectors becoming filled and EUPHEMIA having to solve for Ireland only is high.

The fall back procedures therefore must be transparent, well defined, tested and accessible. Participants will face substantial commercial risks under I-SEM and appropriate risk mitigation opportunities must be available under all potential scenarios.

Additionally, it is unclear what potential impact a Fall Back event would have on other commercial agreements such as CfDs and ROs.

Intraday Market

The IDM is dependent upon the European implementation of a shared order book (XBID). Similar to the day ahead implementation, responsibility and control of the solution has been relinquished. Consistent with the comments above, understanding the governance, the extent of I-SEM's influence, testing and modelling will all be critical components of understanding the IDM.

The RAs cannot simply rely on others to deliver an optimal implementation.

Interim Arrangements

The RAs have identified that the delays in the implementation of the full XBID solution represents a risk to the I-SEM design. Power NI concurs with this view. Interim arrangements must be considered.

The consultation paper outlines 3 options in relation to potential interim arrangements. Option 2 and 3 involve a regional solution coupled with GB. Intuitively an option which couples with GB would ensure optimal use of both the Moyle and East West Interconnectors. Such a solution would de facto incorporate Option 1 and provide a robust arrangement which may be needed for an undetermined length of time and may mitigate against potential stranded costs associated with a solution which is not sufficiently robust.

The primary issue with both Options 2 and 3 is the requirement to reach agreement with GB. Power NI would urge the RAs to begin this process as soon as possible.

Assuming a coupled solution the remaining issue is a design decision in relation to continuous or auction based trading. As a standalone supplier, Power NI will look to refine its position in the IDM. The optimal design is driven by the liquidity expectation. A fully liquid IDM could operate on a continuously traded platform allowing both suppliers and generators to actively trade their positions and respond to dynamic movements. A lack of liquidity however makes such a platform ineffective, creates a monitoring overhead and leaves it open to potential abuse. In the context of an expected lack of liquidity an auction based

solution would focus liquidity into specific times. This is not ideal but could assist to somewhat mitigate the underlying liquidity issue.

Should the RAs be reluctant or find difficultly in implementing an auction approach (assuming a lack of liquidity) a continuous trading arrangement would require market maker obligations.

The granularity of the trades available in both the XBID and interim IDM is a concern to suppliers. This issue is linked to the discussions under balance market settlement and Power NI will comment further under that section. At this stage however, at a principle level, a supplier must be able to trade and refine its position at the same granularity as they will be settled in the BM. As stated above the DAM is largely outside the control of the RAs and I-SEM participants. An opportunity for refinement so that potentially punitive BM prices can be avoided must be afforded to participants.

Question	Answer
1. Which of the three options put forward for interim IDM arrangements is most appropriate?	Option 2 and 3 involve a regional solution coupled with GB. Intuitively an option which couples with GB would ensure optimal use of both the Moyle and East West Interconnectors. Such a solution would de facto incorporate Option 1 and provide a robust arrangement which may be needed for an undetermined length of time.
2. Should intraday auctions be implemented in I-SEM? Are there any advantages to those auctions not described in this paper?	The optimal design is driven by the liquidity expectation. A fully liquid IDM could operate on a continuously traded platform allowing both suppliers and generators to actively trade their positions and respond to dynamic movements. A lack of liquidity however makes such a platform ineffective, creates a monitoring overhead and leaves it open to potential abuse. In the context of an expected lack of liquidity an auction based solution would focus liquidity into specific times. This is not ideal but assists to somewhat mitigate the underlying liquidity issue. It should also not been seen as an absolute decision, the GB market has evolved and the I-SEM could also develop from auctions to continuous (incorporating some market maker obligations) should volume be observed.

Physical Notifications

It remains unclear what the debate on physical notifications is trying to resolve. From a supplier perspective the linking or delinking of physical notifications appears to stem from some concern that the DAM will either not effectively solve or will lack sufficient liquidity i.e. the commercial outcomes from the DAM will not substantially reflect the actual physical outturn in the BM. If this is the case it suggests a fundamental flaw in the design.

It is understandable that the TSOs wish to have as much realistic and useful information as possible. It will also be important in the context of tagging and flagging, that the granularity of the notification is sufficient.

Non-Dispatchable Demand

Power NI agrees with the RAs assessment that *"it is unclear to what use the TSOs would put information from non-dispatchable demand, and therefore, what would be gained from a requirement for non-dispatchable demand participants to submit a PN that would simply be a forecast of their individual consumption."*[2]

The TSOs currently forecast total system demand and will continue to do so in the I-SEM. It would be an unnecessary burden to place on suppliers a requirement to submit a forecast which is ultimately not used (as the TSOs have their own) and which the supplier cannot control. Additionally, no supplier is realistically in a position to provide the information in any meaningful technical manner e.g. by load centre.

Furthermore, dependent upon the design in relation to the treatment of the error in the market, the apportionment adds complexity which the supplier has no visibility of and therefore cannot adequately reflect in a forecast.

The linking of thermal generation PNs

The RAs have presented design options in relation to thermal generation PNs. During the public workshop the presentational slides stated that *"The chosen solution will depend on how much information is required by the TSOs to run the system, and also whether outcomes from EUPHEMIA will allow feasible PNs."*[3] In many ways this statement reinforces our view that the question regarding the linking or delinking of physical notifications appears to stem from some doubt that the DAM will either not effectively solve or will be illiquid.

An information vacuum is clearly of concern to the TSOs and regardless of the final design decision it would appear sensible for the TSOs to have direct visibility of the DAM and IDM outcomes. Clearly careful consideration must be given as to the likely quality and frequency of the information flow the TSO will receive.

[2] Page 38
[3] Slide 34

While the RAs have clearly stated that Option 3 (delinked) will not in effect allow for self dispatch there remains the possibility of vertically integrated units effectively self balancing into the BM by submitting PNs in excess of contracted positions.

The concept of self balancing a portfolio by over stating PNs relative to contractual position to offset a short supply position rather than trading to balance is a concern. This may be a potential unintended consequence of a desire for the TSOs to have more information. For this reason Power NI believes Option 2 provides a more rational solution.

Question	Answer
1. What are your views on the timing of PN submissions to the TSO	No specific comment.
2. What are your views on the removal of the requirement on wind generation and non-dispatchable demand to submit PNs	Non-dispatchable demand should not have to submit a PN The TSOs currently forecast total system demand and will continue to do so in the I-SEM. It would be an unnecessary burden to place on suppliers a requirement to submit a forecast which is ultimately not used (as the TSOs have their own) and which the supplier cannot control. Additionally, no supplier is realistically in a position to provide the information in any meaningful technical manner e.g. by load centre.
3. What are your views on how PNs from participants should be linked to their ex-ante trades and what are your opinions on which of the three options outlined in this chapter is optimal for I-SEM.	Option 2, linked to ex-ante trades at gate closure would appear to be the most practical and beneficial.
4. What are your views on the potential for the inclusion of an information	An information imbalance charge is a feature of a self dispatch market. Given current licence conditions and Grid Code requirements it is unclear why it would be necessary in the I-SEM.

imbalance charge. In addition, comment is sought as to whether this issue is best addressed under the generator performance incentives.	

Forms of Offers, Bids and Acceptances

While a traditional supplier who has non responsive demand will not bid into the BM, it is important to understand the requirements placed on generation. The RAs should be mindful that the requirement on generators in the BM will influence their behaviour in the IDM, especially as they run concurrently. This adds complexity, risk and inevitably a risk premium is likely.

Treatment of Start Up Costs

The treatment of start up costs is an important aspect of the BM design and specifically on price formation. Instinctively costs should appear in the normal operation of the market to ensure consistency and avoid arbitrage etc. It is also important that the operation of the market creates the right incentives

It is of concern to suppliers how substantial start up costs will appear in the market. Dependent upon how they are apportioned, Start Up Contracts could have the effect of dampening energy price volatility in the BM (compared to an explicit option). It is also questionable if they would provide the right incentives in terms of flexibility and exit, especially should the contracts provide an income stream outside normal market revenues. Power NI concurs with the RAs position that the Block Bid proposal limits flexibility is complex and burdensome.

The explicit start up cost option is consistent with the current approach within the SEM. Power NI however, does not support a simple "lift and shift" of the full SEM approach despite the attractiveness of consistency and perhaps some IT simplification. The current SEM uplift mechanism artificially inflates the market cost. This is an issue the RAs have picked up in the consultation paper by suggesting *"Another possible option would be to remunerate the impacted generator only, through a form of make whole payment."* Power NI believes there would be merit in reflecting a unit's start up cost in the BM price however on a more 'paid as bid' basis rather than through the current uplift methodology.

The potential benefits of this approach can be demonstrated by way of a simplified example. In a scenario where 300MWh of demand is being met equally by 3 generating units, the last unit called will determine uplift. The start up costs might be, for illustrative purposes €100/MWh equivalent, compared to €60/MWh and €40/MWh respectively for units 1 and 2. If a start up cost paid as bid approach was adopted the average uplift impact on prices in this example would be €66/MWh, a €34/MWh or 34% reduction. At the same time all 3 generators will still recover their own specific start up and no load costs.

Question	Answer
1. Which of the proposed formats should be used for bids and offers for deviating from PNs?	No specific comment.

• Simple MWh • Relative MWh • Absolute MWh	
2. How should fixed costs be represented within bids and offers? • Explicit start up contracts • Block bids • Explicit start-up (and no load) costs	It is of concern to suppliers how substantial start up costs will appear in the market. Dependent upon how they are apportioned, Start Up Contracts could have the effect of dampening energy price volatility in the BM (compared to an explicit option). It is also questionable if they would provide the right incentives in terms of flexibility and exit, especially should the contracts provide an income stream outside normal market revenues. The explicit start up cost option is consistent with the current approach within the SEM. Power NI however, does not support a simple "lift and shift" of the full SEM approach despite the attractiveness of consistency and perhaps some IT simplification. The current SEM uplift mechanism artificially inflates the market cost. Power NI believes there would be merit in reflecting a unit's start up cost in the BM price however on a more 'paid as bid' basis rather than through the current uplift methodology.
3. Should it be possible to rebid offer and bid prices following an acceptance? Three options are proposed: • Fixing prices of accepted bids and offers • Undo prices • Freezing all prices	No specific comment.
4. Should open or closed instructions be used to move participants away from their PN?	No specific comment.

Interactions between the Balancing Market and the Intraday Market

Concurrent operation of the IDM and BM

As the RAs have noted, the concurrent operation of the IDM and the BM is of concern to participants. Early TSO actions will distort the normal operation of the IDM both in terms of volume traded and pricing.

While both participants and the RAs have accepted the principle that early TSO actions may be required, it is both difficult to quantify the probable extent of such actions or fully model the knock on effects on the IDM and BM. Power NI believes the TSOs should only take start actions, during the concurrent period.

Such a rule would minimise the disruption caused by the concurrent operation of the markets, will still allow the TSOs to effectively manage the system and will facilitate energy trading and balance responsibility.

As stated previously, at a principle level; if the RAs believe that the market should be the primary method of determining both the energy and cost outcome and the stated HLD I-SEM philosophy is to be adhered to; the incentives must be action led and not necessarily cost led. To adhere to the RAs philosophy the TSOs should be incentivised to take late (within the last hour before delivery) actions even if an earlier (while the IDM is open) action may be at a lower cost.

Coupled with strong incentivisation, the RAs should mandate clear market reporting requirements on the TSOs. Such reporting should include the extent of actions taken, the reasons for such actions and potential approaches to avoid or minimise a reoccurrence.

Interactions between BM Offer Acceptances and IDM Trades

Within this section of the consultation paper the RAs attempt to understand and determine how a generator's BM Bid Offer Acceptance (BOA) affects its IDM trading strategy. From a supplier perspective the key issue is the distortion the TSO taking a BOA has on the IDM volume and price.

Neither option presented facilitates an ideal outcome. Either a freezing or an additive approach means that volume contracted via BOA is not available in the IDM. This reduces liquidity. A substitutive approach allows the generator to re-trade BOA volumes however clearly the BOA will set the IDM price floor and effectively by taking the early action the TSO has 'heated up' the IDM.

It is not clear to Power NI that the substitutive option actually "*appears to minimise distortion between the BM and IDM and in particular should act to minimise the potential for any early BM actions to distort the IDM.*"[4] By locking in

[4] Per page 78

the premium or setting the floor which a generator will trade in the IDM you either drive the IDM price higher than the BM (which seems counter intuitive) or add significant complexity to the BM pricing and settlement engine.

Power NI acknowledges that if the TSOs only early action is a start instruction you remove start costs from the IDM however you also encourage generation into the IDM to sell output over and above their minimum generation. Driving up liquidity will facilitate suppliers actively managing / balancing their position and therefore reduce the BM pressure on the TSOs, to the extent that the cause of the pressure is true energy balancing, and not non-energy issues. Such an approach also facilitates the SEMC HLD philosophy of allowing the market room to operate. For this reason therefore Power NI would support an additive approach.

Mandating the TSO to sell any energy contracted through system actions into the IDM market would be worthy of consideration.

Trading in the opposite direction

Instinctively a generator trading against a TSO direction appears counter intuitive and should not be permitted. Additional trading by the generator in the same direction should be considered in line with the additive approach.

The market should look to encourage trading wherever possible, should the TSO be limited to start actions only there is an implicit incentive for a generator to trade in the IDM via an additive approach.

Question	Answer
1. Which of the options put forward should apply to participation in the IDM in the event that the TSOs take a balancing action pre-gate closure: • Freeze PNs • Additive PN Changes • Substitutive PN Changes	Power NI acknowledges that if the TSOs only early action is a start instruction you remove start costs from the IDM however you also encourage generation into the IDM to sell output over and above their minimum generation. Driving up liquidity will facilitate suppliers actively managing / balancing their position and therefore reduce the BM pressure on the TSOs. Such an approach also facilitates the SEMC HLD philosophy of allowing the market room to operate. For this reason therefore Power NI would support an additive approach.
2. If the substitutive PN Changes option is taken, there are two	A substitutive approach allows the generator to re-trade BOA volumes

further options for swapping out or netting IDM trades against bid-offer acceptances: • If the participant wishes to trade in the IDM and substitute the bid-offer acceptance they will need to achieve a more advantageous price in the IDM than the bid-offer acceptance price • Implement a methodology which sees the unit lock in the premium above or below the imbalance price through the bid-offer acceptance	however clearly the BOA will set the IDM price floor and effectively by taking the early action the TSO has 'heated up' the IDM. It is not clear to Power NI that the substitutive option actually "*appears to minimise distortion between the BM and IDM and in particular should act to minimise the potential for any early BM actions to distort the IDM.*"[5] By locking in the premium or setting the floor which a generator will trade in the IDM you either drive the IDM price higher than the BM (which seems counter intuitive) or add significant complexity to the BM pricing and settlement engine.
3. Which of the three options put forward for dealing with "Trading in the Opposite Direction" should be implemented: • No specific consideration of this would be reflected in the market design • Implementing a rule that would prohibit PN changes that increase the quantity of any offer or bid acceptances • Permit PN changes in either direction but, in the settlement of the offer or bid acceptances, to limit the quantity on which the premium is payable, such that a change in PN cannot increase this quantity	Instinctively a generator trading against a TSO direction appears counter intuitive and should not be permitted. Additional trading by the generator in the same direction should be considered in line with the additive approach. The element of the third option which limits the quantity on which any premium is paid so that a simple change in a PN cannot increase this quantity is preferable. The market should look to encourage trading wherever possible, and with the TSO limited to start actions only there is an implicit incentive for a generator to trade in the IDM via an additive approach and the issue of counter trading can be largely avoided.

[5] Per page 78

Treatment of System Services

The treatment of system services is a difficult area for suppliers to fully comment upon. The portfolio of products and the design of the DS3 programme is correctly targeted at ensuring that incentives are in place to ensure that the optimal plant are available to the TSOs.

In considering the impact of system services on the energy market it is important that the RAs ensure that there is both as much transparency and as little distortion as possible.

The considerations in this area again circle back to the issue of early TSO actions. The theoretical design of system services is to reward plant that provides services to the TSOs within the one hour balancing window.

To minimise the DS3 contracts distortion of the energy markets, it is again important to limit the level of early actions. Once again, a firm restriction on start decisions only would assist in this area.

The RAs have also highlighted two areas of further consideration in relation to the interaction of system services.

In Section 7.7.1 the concept of local market power is introduced. As described later in this response, Power NI is concerned that plant, subject to local market power i.e. is behind a constraint and knows it is needed for system security will bid excessively into the BM. This is a scenario which, in the interests of customers must be avoided. The RAs suggest some form of cost reflective bidding principles may be established. While this may achieve the desired outcome, will there be an unintended consequence of in reality applying this to all and effectively recreating the SEM in the BM? Power NI understands that the GB market resolves this issue via licence condition.

The second area of consideration relates to the notification time required by generation plant to synchronise to the system. The TSOs have highlighted a concern in relation to some of the start times of current plant and its interaction with the BM. Again this relates to TSO early actions and adds the concept of warming contracts to the earlier discussion of start contracts.

As per previous comments, Power NI is concerned that while explicit contracts would have the effect of dampening energy price volatility in the BM (compared to an explicit option) it is also questionable if they would provide the right incentives in terms of flexibility and exit, especially should the contracts provide an income stream outside normal market revenues. The electricity market is changing; adaptable plant which provides the necessary flexibility to allow the market to function is the clear future requirement. Remunerating older inflexible plant outside the market dampens any within market signal.

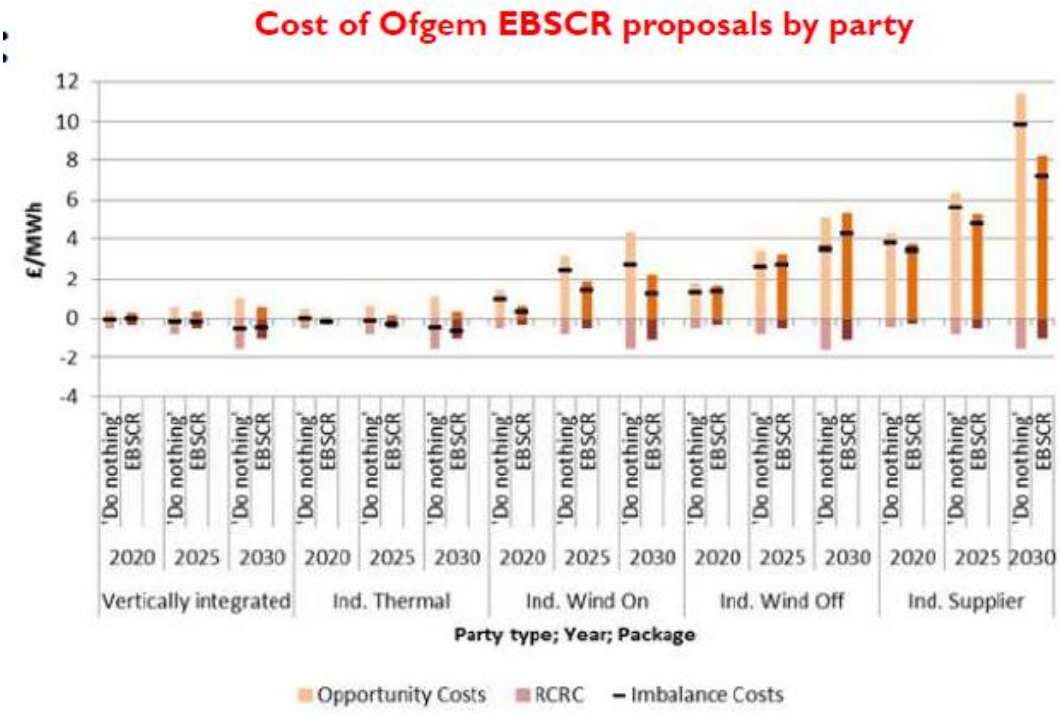
Question	Answer
1. What are your views on the proposal whereby a unit that is deployed for reserves should be constrained to the minimum extent possible in the IDM	No specific comment.
2. Are there any market power issues that need to be specifically addressed in relation to System Services?	Power NI is concerned that plant, subject to local market power i.e. is behind a constraint and knows it is needed for system security will bid excessively into the BM. This is a scenario which, in the interests of customers must be avoided.
3. Which of the two approaches should be utilised where the TSOs have to schedule a plant before the opening of the Balancing Market: • A system services framework would be used to contract with those generators that need to be scheduled prior to the BM opening. • The TSOs would use incremental offers and decremental bids from previous trading day to call a plant pre-BM.	As per previous comments, Power NI is concerned that while explicit contracts would have the effect of dampening price volatility in the BM, it is questionable if they would provide the right incentives in terms of flexibility and exit. The electricity market is changing; adaptable plant which provides the necessary flexibility to allow the market to function is the clear future requirement. Remunerating older inflexible plant outside the market dampens any within market signal.

Imbalance Pricing

Imbalance pricing is one of the key I-SEM considerations for a supplier. Traditional market designs encourage a supplier to secure volume in the ex-ante markets with the expectation that the BM price will act as a deterrent. This incentivisation coupled with the mandatory exposure to the BM price for any imbalance volume is how a supplier meets its balance responsibility.

Minimising BM exposure is a key supplier risk mitigation activity. This however requires liquidity in the ex-ante markets. As has been discussed throughout the ETA process, concerns do exist in relation to the liquidity of the DAM and the IDM. This heightens suppliers anxiety in relation to the BM and focusses consideration onto the pricing methodology.

The graph below illustrates the likely exposure to the GB BM for the various types of participant. This illustration by Cornwall Energy is transferable to the I-SEM as a method which shows that independent or standalone suppliers have the greatest exposure to imbalance costs, regardless of recent changes following review. Those who are part of a vertically integrated entity can protect themselves through a holistic trading approach. This is not possible if you are standalone.



Source: Cornwall, December 2014

It is within this context therefore that Power NI has considered the BM pricing options as well as potential volatility dampening measures.

Tagging, Flagging and Imbalance Pricing

The key issues in relation to the flagging and tagging discussion relate not to the process but rather the actions to be identified. At a principle level, Power NI believes that actions as a result of policy or system constraint should not appear in the pricing of the BM. Consistent with the SEM; these issues are clearly constraints and should appear as imperfections.

Power NI would welcome detailed analysis of schedules to attempt to quantify the extent of the actions likely to be tagged. It was clear from the discussion and description within the paper that due to the level of constraints on the all-island network a significant number of actions may be tagged. This may result in "*insufficient energy actions taken to set an imbalance price*"[6] which has led the RAs to consider other pricing methodologies.

While a large number of tagged actions may result in, on average, a dampening of the BM price, it may also create significant volatility. All aspects of this issue need to be fully understood before the design decision is concluded. This understanding needs to span other workstreams including for example the interaction with ROs if in transpires the balancing price is the adopted reference price.

It was in this context that questions over potential PAR values were raised. While Power NI understands the goal of a PAR value to be a reduction in balancing price volatility this could also be achieved via broadening of tagging rules or de-minimis levels etc. under this particular pricing option.

In defining the actions and rules of imbalance pricing, detailed modelling will be required and the methodology and expected outcomes, including the impacts on pricing and volatility, well understood.

This option is consistent with the HLD, the approach adopted in GB and was the central presented design at the RLGs. Power NI believes this option remains worthy of detailed consideration by the RAs.

Simple Stack

As the RAs have described, the simple stack is perhaps a back up option only due to it's disjoin from actual balancing actions and lack of true cost reflectivity. Instinctively from a supplier perspective this option would notionally provide a dampened BM price however Power NI accepts that it is a movement away from a reasonable market design and for that reason should only be considered as a fall back option.

[6] Page 109

Unconstrained Stack with plant dynamics included

This option has significant similarities to the current SEM pricing algorithm. For this reason, it may appear as an attractive option for the RAs.

In considering this approach Power NI has concerns in relation to the optimisation window. While the plant dynamics, including one would assume start up costs, can be included, the length of time used for optimisation could effectively result in the TSOs running today's algorithm as soon as the DAM closes. It is unclear as to the effect that would have on the IDM and how IDM trades would be reflected.

Essentially the question is, if the optimisation window is longer than the one hour from IDM closure to delivery what would it be optimising? Equally relevant is how would it be optimising since trading would be continuing.

Given the amount of information provided in the consultation paper Power NI believes that it is impossible to fully consider this option. Given its consistency with todays approach and the obvious advantage of negating a detailed flagging and tagging process this methodology is worthy of further consideration.

As descried, such consideration must focus on the optimisation window and ensure that the design does not simply 'bolt on' the SEM to the end of the DAM at the expense of the IDM.

Price based method

Power NI concurs with the RA's view that this approach would be a "black box"[7] In the interests of transparency and considering participant's ability to accurately forecast the market; Power NI believes the RAs should rule out this option.

Marginal Imbalance Pricing

An unreasonably volatile and/or a highly punitive BM is not in the interests of participants or ultimately customers. The RAs should ensure this is not the I-SEM outcome.

One of the fundamental principles of the SEM was to develop a market structure which encouraged entry. As was illustrated in the Cornwall analysis above, independent participants have significant exposure to the BM. A punitive BM price, without sufficient ex-ante market liquidity will lead to market exit. This is clearly contrary to the RAs underlying desire, will result in further market concentration and is not in the interests of consumers.

During the RLGs a potential PAR mechanism was debated. This facility was used in GB as a transitional function to dampen participant's exposure to the BM

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price. Effectively it is a risk mitigation tool. The PAR option specifically is only available under the Flagging and Tagging option and the RAs have correctly identified that other pricing methodologies can incorporate degrees of averaging.

It is the incorporation of some form of risk mitigation function that is of paramount importance to suppliers and other BM exposed parties. The use of PAR or another methodology is merely the mechanism to deliver this. GB transitioned to marginal pricing over a significant time period, this reflects a clear desire not to have a market which is so punitive that participants exit. This is especially relevant in an all-island context as participants are moving to a new market in I-SEM and the SEM specifically encouraged stand alone entry.

Power NI believes a BM pricing risk mitigation methodology must be incorporated. It is especially relevant for I-SEM as –

- The I-SEM represents a fundamental change from the SEM
- There is a high number of standalone participants
- How the BM will operate is unknown
- The liquidity levels of the ex-ante markets are unknown
- The liquidity levels of the forward market is unknown
- The level of early TSO actions are unknown

Over time the risk mitigation measures could transition away as market information becomes available and real data is available.

Question	Answer
1. What are your views on the Tagging and Flagging Approach. A "cause" based method for identifying energy and non-energy actions with the imbalance price being set only on energy actions.	The key issues in relation to the flagging and tagging discussion relate not to the process but rather the actions to be identified. At a principle level, Power NI believes that actions as a result of policy or system constraint should not appear in the pricing of the BM. Consistent with the SEM; these issues are clearly constraints and should appear as imperfections. While a large number of tagged actions may result in a dampening of the BM price, it may also create significant volatility. All aspects of this issue need to be fully understood before the design decision is concluded. In defining the actions and rules of imbalance pricing, detailed modelling will be required and the methodology and expected outcomes, including the impacts on pricing and volatility, well understood. This option is consistent with the HLD, the approach adopted in GB and was the central presented design at the RLGs. Power NI believes this option remains worthy of detailed consideration by the RAs.

2. What are your views on the Simple Stack? With this approach there would be a simple stack of the available bids and offers and the price would be set based on the net imbalance volume.	As the RAs have described, the simple stack is perhaps a back up option only due to it's disjoin from actual balancing actions and lack of true cost reflectivity. Instinctively from a supplier perspective this option would notionally provide a dampened BM price however Power NI accepts that it is a movement away from a reasonable market design and for that reason should only be considered as a fall back option.
3. What are your views on the unconstrained stack with plant dynamics included. These are two additions that this option would have over the simple stack: • Plant Dynamics • An optimisation time horizon	This option has significant similarities to the current SEM pricing algorithm. For this reason, it may appear as an attractive option for the RAs. In considering this approach Power NI has concerns in relation to the optimisation window. While the plant dynamics, including one would assume start up costs, can be included, the length of time used for optimisation could effectively result in the TSOs running today's algorithm as soon as the DAM closes. It is unclear as to the effect that would have on the IDM and how IDM trades would be reflected. Essentially the question is, if the optimisation window is longer than the one hour from IDM closure to delivery what would it be optimising? Equally relevant is how would it be optimising since trading would be continuing. Given the amount of information provided in the consultation paper Power NI believes that it is impossible to fully consider this option. Given its consistency with todays approach and the obvious advantage of negating a detailed flagging and tagging process this methodology is worthy of further consideration. As descried, such consideration must focus on the optimisation window and ensure that the design does not simply 'bolt on' the SEM to the end of the DAM at the expense of the IDM.
4. What are your views on the price based method –	Power NI concurs with the RA's view that this approach would be a "black box"[8] In the interests of transparency and considering participants' ability to

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unconstrained unit from actual dispatch?	accurately forecast the market; Power NI believes the RAs should rule out this option.
5. What are your views on the sharpness of the marginal imbalance price? Do any concerns relate to the transition between SEM and I-SEM or are there other broader concerns?	An unreasonably volatile and/or a highly punitive BM is not in the interests of participants or ultimately customers. The RAs should ensure this is not the I-SEM outcome. One of the fundamental principles of the SEM was to develop a market structure which encouraged entry. As was illustrated in the Cornwall analysis above, independent participants have significant exposure to the BM. A punitive BM price, without sufficient ex-ante market liquidity will lead to market exit. This is clearly contrary to the RAs underlying desire, will result in further market concentration and is not in the interests of consumers. It is the incorporation of some form of risk mitigation function that is of paramount importance to suppliers and other BM exposed parties. The use of PAR or another methodology is merely the mechanism to deliver this. GB transitioned to marginal pricing over a significant time period, this reflects a clear desire not to have a market which is so punitive that participants exit. This is especially relevant in an all-island context as participants are moving to a new market in I-SEM and the SEM specifically encouraged stand alone entry. Power NI believes a BM pricing risk mitigation methodology must be incorporated. Over time the risk mitigation measures could transition away as market information becomes available and real data is available.

Imbalance Settlement

Power NI welcomes the provision of detailed numerical examples by the RAs. The additional examples including for supplier units, was most helpful in increasing understanding.

The settlement of a supplier in the BM is relatively straightforward. The key issues are the determination of price and volume.

As discussed in the previous chapter price determination and the use of a marginal pricing algorithm without risk mitigation (whether that be transitional or enduring) is a significant issue.

Likewise as will be described in the Global Aggregation Section, the determination of a supplier's volume is inherently a core supplier activity. Unknown, unforecastable error levels should not be arbitrarily allocated to suppliers in the BM and at the BM price.

Should both these issues not be addressed by the RAs in the design of the ETA the I-SEM marketplace will be so punitive, volatile and represent such a high risk; there will be inevitable market exit.

Settlement Granularity

To effectively facilitate a participant both being 'balance responsible' and trading their exposure you must be able to trade at the same granularity as you are settled. This is a fundamental design principle without which the RAs are essentially designing in imbalance.

Power NI understands that the EUPHEMIA algorithm will trade at hourly level. The current SEM settles at a half hour level as this is the lowest granularity level that the metering in Northern Ireland can accommodate. As MDP systems and the metering solution in both jurisdictions are configured to provide half hour data Power NI believes this should be the basis for BM settlement in the I-SEM. Any decision which deviates from this will require significant changes to metering, MDP and suppliers retail systems. It will also require a retail schema change.

The RAs have a stated position that should a policy be transferrable from SEM to I-SEM, then it should be. Power NI believes half hour settlement falls into this category.

Given this assumption therefore the IDM must trade at an equivalent half hour level. This as per the HLD and general ex-ante market theory, would allow participants to refine their DAM position by buying or selling the differences naturally created when purchasing hourly for a half hour settlement. This would also create some degree of liquidity in the IDM timeframe.

Question	Answer
1. What are your views on the issues set out in the imbalance settlement section?	The settlement of a supplier in the BM is relatively straightforward. The key issues are the determination of price and volume. The pricing element must not be excessively volatile or punitive especially as the market transitions. Equally the volume should not have an unknown error element arbitrarily added.
2. What are your views on the refined proposal whereby the payment rule applies only to incremental offer acceptance volumes above the PN and to decremental bid acceptance volumes below the PN?	No specific comment.
3. What are your views on the possible consequences of ex-ante trades based on trading periods of different duration to the Imbalance Settlement Period (ISP) and what are your views on the options put forward in the paper.	To effectively facilitate a participant both being 'balance responsible' and trading their exposure you must be able to trade at the same granularity as you are settled. This is a fundamental design principle without which the RAs are essentially designing in imbalance. The SEM half hour settlement principle should transfer to the I-SEM and the IDM should trade at that granularity.

Other Issues

Global Aggregation

Power NI welcomes the RAs including a third option within their consultation paper.

The concept of aggregation, including the application of DLAFs and TLAFs are well founded industry standard calculations. There will always be an error level where demand and generation calculated to a notional trading point do not entirely balance and generators should be paid for power which they generate. It is however, the allocation or cost of this error which raises concern for suppliers.

Since its introduction, the error in the SEM has fluctuated wildly. While in the SEM this is all charged at SMP in the I-SEM context to add this to a suppliers BM volume represents a significant risk and drives much of a suppliers BM anxiety. The fundamental change to the market therefore means that the current approach or a variant thereof as advocated by Options 1 and 2 are not appropriate in the I-SEM context.

The level of error is a value which a supplier is not responsible for; nor can they control or forecast the volume. Error in the market occurs due to inaccuracies in the TSO's determination of TLAFs, the DSO's determination of DLAFs, the accuracy of industry profiles, unmetered supplies, theft, and the MDP's estimation. None of these components are under the control of suppliers yet the initial options put forward require a supplier to estimate how wrong everyone else's estimate is and bear the associated financial burden. A supplier should not be exposed to such an uncontrollable and potentially punitive risk. The design proposed options 1 and 2 would expose suppliers to such risk under would only encourage a risk premium to be added and ultimately paid by consumers.

Power NI strongly believes that the third option is the most appropriate framework for the I-SEM context.

The proposal effectively adjusts the Suppliers DLAF to take account not only physical losses but adds an assumed error level. This adjusted DLAF could be included in MDP systems (as today) and would reflect an estimated error level into Suppliers demand figures. Suppliers would still pay for their customers demand adjusted to trading point.

As it is current policy to allocate error to non-half hour meters (domestic and SMEs) and the majority of such tariffs are set annually (as there is a clear customer, political and regulatory desire for retail stability) the adjusted DLAF should also be set annually. This allows suppliers to have clear visibility and returns the demand forecasting onus to a Supplier (which is entirely appropriate). Suppliers could therefore more accurately forecast their own volumes and seek to manage their own exposure in a balance responsible manner.

There will inevitably be a smaller residual error even after such an adjustment. The error volume both positives and negatives should be assigned to the TSOs and paid for by a tariff levied on suppliers actual volumes. This tariff, working in a similar way to imperfections would have over and under recoveries which would be reflected in the subsequent years levy. This is consistent with all regulated tariffs.

Such a proposal would also bring some much needed transparency to the issue of error. At present it is an unseen cost borne by suppliers and passed to consumers. By including it in the Dispatch Balancing Cost submission, the RAs will publish and consult upon volumes and prices. This exposure will undoubtedly prompt analysis and action to address the underlying issues.

The implementation of such a solution could be implemented globally, jurisdictionally, by metering type or sculpted as deemed necessary.

Power NI would caution against the RAs assuming SMART metering provides a resolution to this issue. It does not. The SMART metering programme in the Republic of Ireland has a target date of May 2019 and in Northern Ireland the SMART metering cost benefit analysis is being redone. Even if it is assumed that both jurisdictions implement a full solution this will deal with the profile error aspect only i.e. the shape. The overall level will not be affected.

For clarity therefore, Power NI is advocating that a suppliers' volume be adjusted year ahead (via a DLAF adjustment) and any subsequent residual error which inevitably appears in the BM is paid by the TSOs and recovered via a tariff (consistent with the constraints and imperfections methodology of the SEM). This incorporates elements of the RAs Option 3a and 3b.

Local Market Power

The issue of market power, whether that be locally behind a constraint or through portfolio size is a complex multi-facetted issue.

The market power workstream cannot consider the issues in isolation. There are aspects of the FM, ETA, CPM and DS3 which are all impacted by market power considerations.

Power NI believes that market power mitigation was not effectively considered in the design of the SEM with Directed Contracts being mandated relatively late in the process and no real consideration given to the forwards market and whether it would operate effectively. To fail to consider this issue in the design phase of the I-SEM repeats a fundamental SEM design flaw which has pushed scarcity premiums to end consumers.

The main mitigation aspect was the Bidding Code of Practice which provides transparency and confidence in the out turned market prices. Relaxation of such principles as suggested is instinctively of concern to suppliers as transparency will be reduced.

Given both the size of the Irish market and the players within it, along with the chunky nature (in terms of relative size) of the generation units and the interconnection available, to fail to consider market power mitigation fully could represent a fundamental failure by the RAs, result in a sub-optimal design and be contrary to the RAs statutory duty to protect consumers.

Power NI would therefore welcome the RAs dealing with the issue of market power in a holistic manner feeding in decisions and adjustments to the relevant design workstreams were appropriate. The issue cannot however be left to the Market Power workstream in isolation. Co-ordination is required across the whole market design. The individual workstreams also need to identify where Market Power could be exercised and identify how this might be addressed in that particular work area and then take those considerations back to the Market Power workstream to see if there is a more general cross market measure that might assist or whether it is a more specific design feature needed in a particular area.

Metering

Power NI agrees that the requirements of each meter data provider should be considered and discussed in an appropriate workshop when detailed design information is known. Power NI however would welcome supplier involvement in those workshops.

At a principle level the provision of timely and accurate meter data is a key market requirement.

Miscellaneous Topics

Power NI notes that the ETA Detailed Design Building Blocks Consultation Paper identified a number of topic areas which, while discussed during the building blocks workshops, were better placed within the Markets phase.

In the interests of completion and to ensure that participant comments are reflected through this change; Power NI has included previously submitted comments regarding these topics.

- **Participant Registration**

As discussed at Workshop 1.3 there appeared to be market consensus that the ideal registration process should be as simple, straight forward, flexible and expedient as possible.

To achieve such a desired outcome it is difficult to envisage anything other than a single point of registration. This point is linked to the earlier discussion and the role of SEMO in the ISEM.

The concept of intermediary registration should also be maintained.

- **Clearing & Settlement**

To a certain extent the settlement of the Day Ahead and Intra-Day markets will be driven by coupling arrangements. In general terms however, Suppliers strong preference is for longer payment terms. This assists in managing the significant working capital requirements the wholesale market creates. The resultant reduction in credit exposure from any shortened payment terms is not a like for like balance.

In determining the settlement processes, one central clearing body operating across all markets (including forwards & capacity) would facilitate the necessary netting arrangements which must be retained. The current SEM affords a settlement reallocation process which acts to reduce unnecessary working capital and credit exposure. This reduces participation costs and therefore ultimately cost to consumers. While the current settlement reallocation process may not naturally be able to transfer, the principle should endure. A contractual arrangement to reallocate a fixed percentage for example, may be a workable alternative.

- **Credit Risk Requirements**

The current SEM principle in relation to credit cover is that the market should be fully collateralised. While this is a principle that participants supported, the implementation has resulted in a significantly over collateralised market. Power NI urges the RAs to consider all options to reduce the burden of collateral which is placed upon participants. This should include consideration of the forward market collateral requirements. A holistic approach to exposure, including provisions for netting or general reduction should be considered wherever possible. The RAs should also consider collateral options such as Parent Company Guarantees and insurances as alternatives to the cash or Letter of Credit approaches. Such options may provider a lower cost alternative while still providing the desired cover.

- **VAT**

As discussed at Workshop 1.3 Power NI would strongly advise the RAs to begin discussions with the relevant VAT authorities as soon as possible. The equivalent discussions in advance of SEM go-live were left until relatively late in the process and resulted in a workaround solution being implemented and subsequent changes made.

All participants are cognisant of the absolute requirement to be VAT compliant. Achieving such compliance can only be achieved through the RAs engaging with the VAT authorities, securing clarity on requirements and ratification of implementation decisions.

Question	Answer
1. Global Aggregation – what are your views on the current policy and the three alternative options put forward in the paper for dealing with global aggregation	Power NI strongly believes that the third option is the most appropriate framework for the I-SEM context. Since its introduction, the error in the SEM has fluctuated wildly. While in the SEM this is all charged at SMP in the I-SEM context to add this to a suppliers BM volume represents a significant risk and drives much of a suppliers BM anxiety. The fundamental change to the market therefore means that the current approach or a variant thereof as advocated by Options 1 and 2 are not appropriate in the I-SEM context. The level of error is a value which a supplier is not responsible for; nor can they control or forecast the volume. Error in the market occurs due to inaccuracies in the TSO's determination of TLAFs, the DSO's determination of DLAFs, the accuracy of industry profiles, unmetered supplies, theft, and the MDP's estimation. None of these components are under the control of suppliers yet the initial options put forward require a supplier to estimate how wrong everyone else's estimate is and bear the associated financial burden. A supplier should not be exposed to such an uncontrollable and potentially punitive risk. The design proposed options 1 and 2 would expose suppliers to such risk under would only encourage a risk premium to be added and ultimately paid by consumers. The proposal effectively adjusts the Suppliers DLAF to take account not only physical losses but adds an assumed error level. This adjusted DLAF could be included in MDP systems (as today) and would reflect an estimated error level into Suppliers demand figures. Suppliers would still pay for their customers demand adjusted to trading point. As it is current policy to allocate error to non-half hour meters (domestic and SMEs) and the majority of such tariffs are set annually (as there is a clear customer, political and regulatory desire for retail stability) the adjusted DLAF should also be set annually. This is consistent with the Option 3b. This allows suppliers to have clear visibility and returns the demand forecasting onus to a

	Supplier (which is entirely appropriate). Suppliers could therefore more accurately forecast their own volumes and seek to manage their own exposure in a balance responsible manner. There will inevitably be a smaller residual error even after such an adjustment. The error volume both positives and negatives should be assigned to the TSOs and paid for by a tariff levied on suppliers actual volumes. This tariff, working in a similar way to imperfections would have over and under recoveries which would be reflected in the subsequent years levy. This is consistent will all regulated tariffs. Such a proposal would also bring some much needed transparency to the issue of error. At present it is an unseen cost borne by suppliers and passed to consumers. By including it in the Dispatch Balancing Cost submission, the RAs will publish and consult upon volumes and prices. This exposure will undoubtedly prompt analysis and action to address the underlying issues. The implementation of such a solution could be implemented globally, jurisdictionally, by metering type or sculpted as deemed necessary. For clarity therefore, Power NI is advocating that a suppliers' volume be adjusted year ahead (via a DLAF adjustment) and any subsequent residual error which inevitably appears in the BM is paid by the TSOs and recovered via a tariff (consistent with the constraints and imperfections methodology of the SEM). This incorporates elements of the RAs Option 3a and 3b.
2. Local Market Power – What are your views on whether there are any specific issues in relation to local market power which need to be considered at this stage.	Power NI would welcome the RAs dealing with the issue of market power in a holistic manner feeding in decisions and adjustments to the relevant design workstreams were appropriate. The issue cannot however be left to the Market Power workstream in isolation. Co-ordination is required across the whole market design. The individual workstreams also need to identify where Market Power could be exercised and identify how this might be addressed in that particular work area and then take those considerations back to the Market Power workstream to see if there is a more general

	cross market measure that might assist or whether it is a more specific design feature needed in a particular area.
3. Metering – What are your views on the proposal for metering put forward in the Consultation Paper.	Power NI agrees that the requirements of each meter data provider should be considered and discussed in an appropriate workshop when detailed design information is known. Power NI however would welcome supplier involvement in those workshops. At a principle level the provision of timely and accurate meter data is a key market requirement.
4. Instruction Profiling – What are your views on the instruction profiling section. In particular, is it feasible to more accurately model the precise loading of units and whether more technical characteristics need to be accommodated in the technical offer data.	No specific comment.
5. Units Under Test – What are your views on the two options put forward for units under test in I-SEM.	No specific comment.