



**Response by Energia to Single Electricity
Market Committee Consultation Paper
SEM-11-098**

Treatment of Losses in the SEM

27 January 2012

1. Introduction

Energia welcomes the opportunity to respond to this consultation paper on treatment of losses in the Single Electricity Market (SEM). This paper provides the first opportunity in over a year for market participants to input into the ongoing process to determine an enduring approach to Transmission Loss Adjustment Factors (TLAFs) in the SEM.

Further to the responses already provided by Energia to previous rounds of this workstream, we continue to maintain that a locational TLAF approach (including compression) is necessary to ensure consistency with the overall principles to be followed by the SEM Committee. For reasons outlined below, splitting is considered to be undesirable and unjustified both in theory and based on the results of modelling presented in this paper.

As a member of IWEA, Energia endorses the importance placed in their response on stability as principle that is key to market participants and investors. However, we expressly reject their submission that a uniform approach is preferable, specifically that, “[T]here is strong agreement within the industry that there is a need to remove the existing methodology of TLAFs as the values are volatile and unpredictable”.

The remainder of this paper is structured to respond to the questions posed by the consultation paper with a discussion of the interpretation of modelling results provided in Section 2. Section 3 presents a summary of Energia’s previously stated views on TLAF methodologies, this section also includes a proposal on the enduring solution for the SEM Committee’s consideration.

2. Interpretation of results

The purpose of this paper, at least in part, is to afford market participants their first opportunity to respond to the SEM Committee’s decision (SEM/10/066) to adopt splitting as a preferred methodology for TLAFs, subject to the results their modelling. Before addressing the results of the modelling undertaken to date, we wish to note our objection to the splitting proposal in principle. Albeit the decision to pursue splitting was largely lacking in justification when outlined in the SEM Committee’s decision paper, further analysis of the proposal leads one to conclude that the approach is also unlikely to satisfy any of the published objectives of the Regulatory Authorities (RAs) in either SEM/09/001 or subsequently as revised in SEM/10/039.

Notwithstanding Energia’s principled objection to splitting as an approach, the decision by the SEM Committee to require modelling of a range of scenarios to advance the understanding of splitting and other options, is a welcomed development to this debate. Previous independent research (NERA) and modelling (Redpoint) presented by Energia in response to SEM/10/039 indicated that a uniform approach, if implemented in 2010/11, would;

- increase electricity costs for consumers;
- cross-subsidise predictably poor investment decisions;
- increase regulatory uncertainty; and

- increase the cost of capital for investment which is expected to erode investor confidence and deflect investment from the SEM.

It was also found that adoption of such an approach would likely;

- increase losses;
- increase constraint costs;
- increase imperfection charges;
- increase cost of the Error Supply Unit;
- increase harmful environmental emissions; and
- harm competition in the SEM.

Noting these conclusions arising from the independent analysis commissioned, it is encouraging to find the terms of reference for this splitting analysis (SEM/11/006) have sought to address a subset of these conclusions as criteria for evaluating the scenarios modelled. Although not directly comparable, it may be interesting to evaluate the results presented in this consultation paper alongside those submitted by Energia to the RAs previously.

Despite Energia's contention that splitting is not a justifiable approach with respect to the RAs' published objectives, the SEM Committee's decision to request the RAs and TSOs to undertake modelling of the results is considered to be a positive development. The absence of modelling to inform the discussions of the SEM Committee throughout this workstream was an issue we had previously highlighted as a shortcoming of the process. This endorsement for the approach adopted by the SEM Committee is of course somewhat contingent upon the modelling actually undertaken. The remaining paragraphs of Section 2 shall address the modelling and, where appropriate, the results presented in the consultation paper.

2.1 Modelling results – general comments

The most immediate conclusion one arrives at after considering the results presented in the consultation paper is that, further to the reasons to be outlined, one can have little confidence in the results presented. Leaving aside the possible reasons for doing so, the results are presented without any mention of the detailed modelling assumptions, interpretation of presented results or importantly, any discussion of their potential drivers. Leaving this to the reader leads one to immediately question, among other things, the SEM Committee's support for the East-West Interconnector (EWIC) as, pursuant to the results, it is seen to provide for unambiguously negative impacts for the system and customers. This result persists irrespective of the TLA scenario chosen in 2011/12. Modelling undertaken by Energia indicates, as one would expect, that the inclusion of an additional 500MW of 'generation'¹ in the SEM is found to lower SMP. This intuitive result is clearly contrary to the RAs findings. Therefore the sensible approach with respect to the "2011/12 EW" scenario is to disregard it and designate the modelling of EWIC to be work in progress. Although unwelcome from the perspective of this consultation, any credence placed in these

¹ Modelling shows that EWIC is unlikely to export under current market conditions.

results would give rise to significant questions for the RAs on EWIC, and as such omission is the preferred approach.

In order to assist with the interpretation of selected results, a series of questions on this paper were submitted to the RAs². The response to these questions highlighted the intentions of the RAs in undertaking this analysis was to attempt to control for network developments in an attempt to expressly identify the merits, or otherwise, of the different TLAF methodologies. Although this could be considered to be a sensible approach to evaluation, it explains the considerable variation in results from those observed in previous years. Where a single set of network characteristics have been employed across all years, it is uncertain whether TLAF values have been recalculated to reflect this for years where the network was not as developed as the one modelled. The effect of such a discrepancy on the results is ambiguous, nevertheless it undermines further the confidence one can attribute to these results. It may be the case that general trends observed are to be unaffected but in some instances the differences between scenarios is relatively small and could be within bounds of modelling error.

Despite the questions raised herein over the modelling used to derive the results presented in the consultation paper, Energia consider the overall results sufficient to dismiss the possibility of splitting the treatment of losses in the market and dispatch. Notwithstanding the absence of a principled argument in support of splitting, the relevant results presented in this paper indicate that a locational TLAF approach (including compression) is preferable to uniform, which in turn is to be preferred to splitting, (specifically uniform treatment in the market and locational in dispatch).

In summary, it is Energia's view that although there are questions pertaining to the modelling assumptions and approach adopted, these results are considered to be sufficient to compel the SEM Committee to remove all proposals relating to splitting from future considerations of the enduring solution.

2.2 Stability of the market schedule

As a significant investor in the SEM, Energia supports the SEM Committee's proposals to seek to promote stability in the enduring TLAF methodology. However, it is important that the issue of stability is properly defined. Energia have submitted a detailed discussion of this matter in response to SEM/10/039. Stability in approach that promotes a predictable outcome is a different objective to ensuring a stable outcome. The former can be consistent with efficiency, while the latter would appear to represent a trade-off. The results presented in the consultation paper focus on stability of outcome across different TLAF scenarios but importantly demonstrate a number of other notable trends.

1. The relative difference in results provided for under the TLAF approaches modelled is small compared to the volatility in results across years. The overall decline in IMR presented by these results is the most striking result.

² Email dated 10/01/12 to Jean Pierre Miura

2. The share of IMR attributable to the regions presented exhibit a transfer of declining IMR in 2011/12 (wo EW) from Dublin and Northern Ireland to Cork, as one moves from a locational to uniform TLAF approach. A similar result was found in the independent modelling undertaken by Redpoint (accompanying Energia's response to SEM/10/039) for 2010/11. It is important to note the following with respect to this transfer;
 - a. A move to uniform does not achieve the apparent objective of the SEM Committee to stabilise the market outcomes for participants. The rate of change in IMR within regions from 2010/11 to 2011/12 (wo EW) is minimised under the current locational approach (compression).
 - b. A transfer of IMR from generators that are well located in terms of serving load and minimising losses, to units in locations with predictably poor TLAFs, would amount to rewarding poor investment decisions taken by certain companies to that have the economically and socially unacceptable consequence of increasing losses on the system.
 - c. Any transfer of this kind would be absent any economic benefit, in fact it will be shown to be harmful to productive efficiency, it is considered to be unjustified and inappropriate.

In summary, if one were to accept the principle of this metric (stabilising the market schedule), based on these results one has to conclude that year-on-year variations, irrespective of TLAF approach, drive volatility in the results. A uniform approach in the market schedule is found to increase rather than minimise year-on-year variations in share of IMR accruing to each region, relative to the current locational (compression) approach. Additionally, there is not economic or social justification for rewarding predictably poor investment decisions.

2.3 Efficiency of the dispatch schedule

The results presented with respect to relevant years indicate that there is a clear and expected result with respect to the relationship between productive efficiency and TLAF approach. The further one moves away from locational loss factors, the less efficient the dispatch schedule becomes.

This result compares favourably with the results of the independent Redpoint analysis of TLAFs presented previously by Energia which shows a significant increase in the load factor of certain generators in predictably poor locations.

It is unclear from the consultation paper whether the RAs and TSOs considered the increase in overall losses expected to arise from a move to a uniform TLAF in dispatch. This would be expected to further exacerbate the problems of efficiency and illegitimate redistribution already identified as average system losses (i.e. uniform system TLAF) would be expected to fall to below 0.98 attributable to the current system based on locational TLAFs.

2.4 Impact on the all-island customer

Following on from the two previous metrics, it is largely unsurprising to find that locational TLAFs provide for the lowest cost to final customers, relative to uniform or the RAs preferred splitting approach. Despite the RAs stated preference in the terms of reference, “[T]he RAs currently believe that a stable loss methodology adopted in the market schedule would ideally not materially increase total supplier costs paid in the SEM”, the results of the analysis do not support this proposition with uniformity applied to the market schedule resulting in an unambiguous trend towards higher end user prices.

2.5 Divergence between the market schedule and dispatch schedule

It is the stated intention of the SEM Committee (SEM/11/006) that any splitting methodology adopted should not result in a material increase in the divergence between the market schedule and dispatch schedule. From the results presented, this is clearly not the case with. It is of no surprise to Energia that the RAs preferred splitting methodology performs worst of all TLAF scenarios considered as part of this analysis.

In summary, while the inclusion of analysis by the RAs is a welcome addition to this process it should serve to dismiss the SEM Committee’s preferred option of splitting as an unjustified option unable to deliver the benefits expected by the SEM Committee of such an approach. Despite the limitations of the modelling presented, a number of the results can be seen to exhibit a general trend and trends that are supported by the independent modelling analysis provided by Redpoint that accompanies Energia’s response to SEM/10/039. Both of these analyses indicate that the market and final customers are better off under a locational TLAF approach, relative to a uniform approach.

3. Treatment of losses in the SEM

It continues to be Energia’s strong view that the only appropriate approach to attributing TLAFs in the SEM is to do so on a locational basis. Despite several assertions to the contrary by other market participants and the RAs, no evidence has been presented to date indicating that the current methodology is ‘broken’. Arguments forwarded around volatility and lack of stability pertaining to the current approach are largely misconceived and ultimately serve to confuse rather than concentrate on the importance of stability in the market for participants. As stated both herein and within previous Energia responses, there is nothing inherently wrong in the current TLAF approach if it is demonstrated that through the use of a stable methodology (as is applied), different but predictable results from the annual modelling are returned.

Additionally, the current approach is not considered to be overly complex as it avails of modelling commonly used elsewhere in the market. The possibility that the maintenance of a locational approach would commercially disadvantage certain

generators in the SEM should be considered to be an endorsement of a locational approach as it fails to reward investments that ignore the general predictability of the current TLAF approach. A decision to locate in any specific location should be strongly influenced by the locational benefits exhibited by specific locations. These can be considered to be TLAF and non-TLAF related benefits/costs. In aggregate if non-TLAF benefits outweighed the potential costs imposed both on the investor and the system reflected in a predictably poor TLAF, an investor may choose such a location over alternatives with more favourable predicted TLAFs. It would be inappropriate that such investments should be afforded a double-benefit arising from a predictable commercial decision relating to the investment location and any decision to socialise the costs such an investment imposes on the system.

The stated objectives of the RAs in relation to transmission arrangements (including TLAFs) is that they should provide, in some form, appropriate signals to transmission users of the costs that they impose in the transmission system. It is stated that the arrangements should be;

- Predictable;
- Provide an efficient dispatch signal (while also allocating losses to generators on a cost-reflective basis);
- Non-volatile; and
- Transparent.

Given the remaining potential options for consideration on the enduring approach to TLAFs (locational, compression, uniform), all are considered to exhibit predictability as a characteristic. As highlighted in our response to SEM/10/039, ESB's presentation at the workshop in Dundalk supported rather than undermined the predictability of the current approach. Although such modelling may not be incontestably accurate, it is not the objective of the SEM Committee that this would be the case but rather that the approach would allow participants to have, "a general picture of what losses they expect to be applied to their output in the year(s) ahead"³. Additionally, if unerring accuracy was to be a conditional feature of the predictability objective, uniform would fall considerably short of such an objective as although it can be predicted with certainty by generators, it is inherently inaccurate of losses imposed by the generators.

It is clear from the discussion herein and from those contained in previous Energia submissions to relevant consultations, as well as SEM Committee decisions on this matter to date, that only a locational approach (including compression) to TLAFs can satisfy this objective.

With respect to the non-volatile objective, it is important to distinguish between the competing and at times confusing arguments forwarded in relation to this. Regulatory certainty is a very important consideration for investors and as such the SEM Committee recognise that their decisions and policies should be "stable" and

³ SEM-10-066, p.4.

“non-volatile”⁴. Energia is fully supportive of the need for regulatory certainty and the implementation of stable and non-volatile policies.

Stability has been frequently substituted for non-volatility throughout this consultation process. As discussed previously in this submission, an important distinction exists between the stability of approach and stability of outcomes, wherein one must also distinguish between market outcomes and the outcome of the calculation of TLAFs. Coupled with the objective of predictability, it is arguably appropriate that any objective pertaining to stability would appreciably relate to the process as opposed to the outcome. Notwithstanding such an argument, the SEM Committee have extended this objective to apply to outcomes, by noting the importance investors place on stability and specifically the belief held by the RAs that a simple locational losses methodology imposes unacceptably high volatility of outcomes on the market. Energia fully supports both the objective of predictability and stability, and accept that achievement of the first does not necessarily follow on to achievement of the second. As an investor it is important that risks are known and that unexpected deviations from these are minimised. A level of stability around highly volatile, albeit predictable, outcomes is also considered to be important. Importantly, none of these views are considered to be incompatible with a locational TLAF approach.

Finally on transparency, the modelling undertaken by the TSOs is regularly used to inform policy and regulatory developments in the SEM. Market participants are typically unable to replicate the analysis and results presented by the TSOs but importantly this is not the appropriate transparency threshold applied elsewhere in the market (e.g. TSOs dispatch decisions). The SEM is a dynamic and changing market, and it is important that fundamental market principles and mechanisms are not unnecessarily blunted by important but competing objectives such as this. This argument similarly applies in rejecting arguments forwarded around the overriding need for simplicity in any proposed approach.

In taking a decision to implement compression as an interim step, the SEM Committee recognised both the competing nature of certain objectives and the ability for these important objectives to be reflected in what amounts to a compromise position. Compression, as implemented, importantly preserves a locational TLAF approach while amending it predictably to provide for greater stability around the outturned TLAF.

In light of concerns around the stability and predictability of a purely locational TLAF approach, many of which are shared by Energia, we consider there to be an appropriate alternative approach to TLAFs in the SEM. This approach preserves the objective benefits of a locational approach while imposing stability and predictability by fixing the locational TLAF value for generators for a three year period. The fixing of TLAF values for generators is considered to remove the need for compression, although such an approach would not be inconsistent with this alternative. The precedent for such an approach has already been published in a draft decision paper by the SEM Committee with respect to the Capacity Payment Mechanism

⁴ SEM-10-066, p.5.

(SEM/11/088). Such an approach has also been considered within the recent Generator TUoS decision paper (SEM/11/078). Importantly such an approach would not constitute a significant change to arrangements in the SEM and would provide substantial stability and predictability. Together these are important issues for market participants and investors, particularly in the context of SEM compliance with the electricity target model. We note that a proposed change to adopt a locational losses approach in Great Britain has been deferred to allow the industry and regulators focus on the required changes pursuant to compliance with the European model.