

**NIE Energy Limited
Power Procurement Business (PPB)**

**Preferred Options to be considered for
the Implementation of Locational
Signals on the Island of Ireland**

Consultation Paper

SEM-09-107

Response by NIE Energy (PPB)

8 January 2010.



1. Introduction

NIE Energy – Power Procurement Business (“PPB”) welcomes the opportunity to respond to the consultation paper which seeks views on the TSOs’ preferred options to be considered for the implementation of locational signals on the island of Ireland.

2. General Comments

At a strategic level, PPB is disappointed that the TSOs continue to ignore the representations from the majority of generator participants that locational TUoS charges and locational TLAFs have virtually no bearing on a generator’s investment decision. We are particularly concerned that the TSOs clear favour for locational signals may have influenced the partiality of their appraisal of the various options under review, and we believe it would have been more appropriate for the review to have provided an impartial and objective assessment rather than promoting the TSOs’ “preferred” options.

TUoS and TLAFs have little bearing on location decisions

This has been one of the few issues upon which there has been consensus among the generators (both conventional and wind). It has repeatedly been stated that once a generator is connected, the commitment is made for a substantial period and the generator has no scope to respond to any “locational” signals thereafter.

This concept of “sunk” investment appears to be accepted by the TSOs in their comments on the problems of “static” models, yet is ignored in relation to the ability of a generator to respond to the “locational” signals once connected at a particular location. Under the existing arrangements, and in the TSOs’ preferred options, the generator must merely accept variability in charges that may be caused by the decisions of other generators to connect in a particular location or from decisions of the TSOs in the development of the transmission network.

This clearly highlights that once connected, all a generator faces from the existing arrangements, and the TSOs’ preferred options, is risk which invariably increases costs that will ultimately be borne by customers. It also highlights that the critical “locational” decision is the one made when the point of connection is selected by the generator and that therefore it is this decision that should most properly be influenced to ensure the overall costs of the electricity industry, that are ultimately reflected in customers’ bills, are minimised.

Minimising Investment costs

As PPB has indicated in previous responses, we believe that the best means of ensuring that the development of electricity infrastructure (both generation and transmission assets) is conducted at least cost for customers is to ensure that there is full cost transparency and that any potential investor is exposed to the full cost of the consequences of their decisions. Inefficiencies will inevitably arise where such cost signals are diluted and attempts after the event to remedy such inefficiencies only adds to the risk to generators and ultimately further increases costs for customers.

The SEM High Level Design adopted a shallow connection policy but sought to include locational transmission signals in the market arrangements for charging for use of the transmission system. However, as we noted in our response in July 2009, the research into international best practice showed that only three of the markets (Denmark, NEA and GB) fully apply a shallow connection policy. Norway has a shallow policy but is considering moving to deep, Finland has a hybrid policy while the remaining markets all apply a deep policy. Hence the majority of the researched markets clearly seek to ensure the locational issue is addressed upfront at the point of connection.

In our view the primary focus of the review must be to identify how locational signals can be provided to potential investors with the objective of minimising future investment costs for customers. The consensus from the generators in the market is that locational TUoS charges and TLAFs do not deliver this outcome and the review of how to change should not be constrained by the shallow connection policy decision (that was made five years ago). However, if it was felt that large upfront charges were not appropriate, an alternative may be to offer individual TUoS contracts to new generators that would exist for the life of the generator, and which recovers the full cost over that period. This would provide a locational signal that could fully be assessed by a prospective generator as part of their investment decision but paid for by the generator on a depreciation charge basis.

Jurisdictional policy will influence future costs

In relation to existing generators, the connection decisions have been made and are therefore sunk. It would be unfair to seek to apply different locational charges now and therefore a uniform tariff charging arrangement should be adopted for existing generators. As at present, this should continue to apply on a jurisdictional basis, given the varying values of the transmission assets and indeed varying policies, for example, in respect of renewables where RoI has committed to major transmission investment. This is particularly important to ensure there is no cost transfer between customers in each jurisdiction where, for example, they are incurred to facilitate a wider member state policy objective.

3. Comments on the TUoS Preferred Option

As outlined in our general comments above, PPB do not believe locational TUoS charges provide the answer to the main strategic objective of minimising the costs of serving customers - in this instance through minimising overall generation and transmission investment costs.

In our July 2009 response we expressed our view that Options 1 to 4 all suffer from a dependence on load flow analysis and ex-ante scenario modelling of potential load flows that will invariably be wrong. We noted that such analysis is inherently volatile and the rates derived will vary as the transmission network develops, generators connect or close down, demand appears or disappears, etc. We also noted that many of these factors will be influenced by wider policy decisions e.g. support mechanisms for renewables, regional development of the economy, etc., none of which an existing generator has any control over.

The TSOs' preferred option is Option 4 which is claimed best fits the objectives. We consider there are a number of significant flaws in the TSOs' assessment.

Locational signals

The first is the claim that the model sends a signal to participants regarding their contribution in driving the need for future network investment. It is not apparent how the model sends such a signal since the model uses future investment costs to determine the locational element. However such investments will only become part of the investment plan once a generator commits to a location – therefore there is no ex-ante signal to indicate the best network location and any prospective generator would need to try to model the infrastructure investment costs and potential load flows for each prospective location to seek to determine the potential tariffs they would face if they were to site at a particular location.

Volatility

It is also claimed that the model will be less volatile. It is impossible to assess the level of volatility over time, either on average or for specific generators affected by new investments, since the TSOs' analysis has only been completed for a single year. This offers no basis or evidence to substantiate the claims that the model is less volatile than other models, particularly in relation to generators located near potential new investments. The evolution of the tariff rates over a period of 5 to 7 years would need to be analysed (for this and all the other options) to provide some sense of the tariff trends over a period of significant network development.

On the basis of these two issues, we do not consider there is any solid evidence to substantiate the TSOs' assessment that this model is less volatile and more predictable than any of the other locational tariff models.

Tariff determined from potential rather than constructed assets

The model appears to determine the tariff based on a projected future investment programme (for up to 7 years ahead). However, this may result in charges being determined on the basis of assets that may never be constructed (e.g. through planning refusals, delays, or the failure of a project driving the need for the infrastructure investment). This is irrational and if this model were to be adopted, it would surely be better to only include the new network infrastructure costs once they have actually been incurred.

It is also unclear what investment costs are included in the determination of the locational element. For example, the paper talks about including an annuitised recovery rate for a period of 5-7 years. Does this mean that where an asset has a 40 year operating life, only 7/40ths of the cost is ever included in the tariffs? We also queried at the December forum whether asset replacement costs are included in the model but the TSOs were unable to provide a definitive answer. In any event, one would expect that there will be investments that are a combination of both asset replacement and upgrades to accommodate demand growth and/or new generation. It is not clear if or how any such costs would be disaggregated for inclusion in the model.

TSOs' assessment

Given these uncertainties, we do not understand how the TSOs assess the model as providing the maximum level of cost reflectivity. Similarly, it is not at all evident that the model, as currently described, provides substantially more transparency than the other models and indeed the tariffs will rely heavily on the despatch scenarios determined to identify usage of new assets, the reliability and accuracy of which will materially depend on the assumptions adopted.

Impact on CPM

An area that is not considered by the TSOs' paper is the impact on the Capacity Payment Mechanism. The cost of the BNE Peaking Unit is a key element of the CPM and one element of that cost is the TUoS charge. The different TUoS options clearly result in very different TUoS tariffs and the TUoS charges could vary widely depending on the chosen location and the TUoS model. For example, under the TSOs' preferred option, the TUoS charge would be very different depending on whether the chosen site resulted in the use of new infrastructure. Such issues must be considered in the overall assessment of the impact of the proposals on generators and customers and in the determination of any revision to the TUoS arrangements.

Jurisdictional transfer of revenues

Finally, there is no analysis of the impact of any of the tariff options on payments in each jurisdiction and whether there is a transfer of funds from one jurisdiction to another. For example, where RoI policy requires a significantly higher target for renewable generation that requires significant infrastructure costs to be incurred, would NI generators (or customers), under the postalised element of the TSOs' preferred option, end up funding part of such costs and thereby providing a cross-subsidy. Such aspects must also be considered in any final assessment and decision on whether to implement any locational tariff.

Conclusions on Tariff options

We do not believe locational TUoS tariffs have any bearing on the location decision of prospective generators and hence do not provide locational signals.

The assessment criteria weightings selected by the TSOs are particularly subjective and we believe skew the results. In particular, they are heavily weighted towards efficiency and cost reflectivity, yet those pre-suppose TUoS tariffs will be the main influence in locational decisions which is clearly not the case (e.g. wind farms have limited choice).

The analysis is not complete (which is recognised numerous times throughout the paper), and what analysis there is doesn't support the TSOs' preferred option.

The selection of the postalised element minimum of 40% in the TSOs' preferred option is made without any substantive justification or analysis and is impossible to comment upon.

There has been no analysis of the wider implications of the tariff options on for example the CPM mechanism and the overall net impact for generators and customers. There will clearly be winners and losers, yet it is impossible to identify who will be most affected.

There is also no analysis of any jurisdictional impact from the various options, which would clearly result in very different revenues being collected from generators in each jurisdiction and could result in revenue transfers or cross-subsidies. This would clearly need to be understood given the overall revenues to be collected may vary widely in each jurisdiction depending on energy policies adopted by RoI and NI legislators.

4. Comments on the Losses Preferred Option

While the theory of applying losses to ensure efficient despatch is logical, the practical implementation of it is much more difficult. The current methodology for the derivation of TLAFs has major flaws given that it is based on scheduling forecasts determined by the TSOs that are invariably wrong. There has been no review of historic losses to compare against the derived TLAFs and therefore the scale of the error is unknown although we believe it has been substantial since actual plant scheduling has varied significantly. To be effective, there would need to be realtime loss data available to allow the correct loss factor at any point in time to be used. The variability of load flows will continue to increase as the level of wind generation increases. It should also be noted that network losses are also influenced by the network assets procured by the network owners and their investment decisions could have an equally large impact on network losses.

There has been widespread concern over the volatility of the current TLAFs and there is a general desire for more stable arrangements. However, the TSOs' preferred option proposes that 3 different approaches are adopted over a 5 year period. In our view this does not create any more certainty for a potential new investor and we believe it would be much more sensible to identify a sustainable solution and proceed to implement that while retaining the

existing arrangements in the intervening period. It could not be effective, either in terms of costs or in diverting resources to implement 2 interim arrangements, and will only serve to increase the overall cost and timetable for delivery of the final solution.

Short Term Option – compression

In terms of the specific TSOs' preferred options, we do not believe the compression proposal adds any value. We do not agree that they are any less volatile or more predictable than the existing arrangements, although clearly it would dampen the range of movement. However, as we note earlier, this will not provide any locational signal to new investors and the risk of change remains. The TSOs' also assess this model as providing the most "efficient" solution¹. We do not believe the compression option provides any additional efficiency over the existing TLAF arrangements: it actually reduces any signal regarding the best place to locate and therefore reduces the likelihood of ensuring the best possible use of the network and the lowest transmission investment cost. Setting aside our opinion that TLAFs have minimal impact on the location of generation investment, if it had any influence, compression clearly weakens rather than increases any such signal.

It is also incorrect to say that the model is cost reflective. Clearly by manipulating the figures through compression, it loses any semblance of cost reflectivity and thereby results in a cross-subsidy from generators in good network locations to those in poor locations.

Medium Term Option – Splitting

While the "splitting" option may have some merit, the TSOs provide little analysis of the option but then somehow determine it as "appropriate to implement in the medium term" without any particular justification. The TSOs also indicate they are considering how to charge the generators for the losses on a locational basis. This would clearly re-introduce the volatility that the review is seeking to overcome and would effectively result in the ex-post application of TLAFs but with generators bearing the cost. It would also have no impact on reducing the risk to generators and would not address the investment risk concerns that have been raised in relation to the current methodology. Hence, rather than incurring significant effort and cost to implement such an arrangement, it would be more appropriate to concentrate the available resources on implementing the enduring solution, leaving the existing TLAF arrangements in the interim.

Long Term Option – Purchase

This option is described as a development of the "Splitting" concept and also outlines the need to pass the costs back to generator customers. It is not indicated whether this would be done on a locational basis but if it were, it would again effectively result in ex-post TLAFs and would clearly retain all the volatility and unpredictability features of the current TLAF arrangements. It also appears that it would be expensive to implement with significant system changes and the cost/benefit of adopting such an approach needs very serious

¹ (Table 14 in section 8.2)

consideration, particularly given it will have little bearing on generators' decisions on where to locate new plant.

Conclusions on Losses options

We do not believe locational losses signals have any bearing on the location decision of prospective generators and hence do not provide a locational signal.

The TSOs' review states that the adoption of uniform losses is not cost reflective, results in cross-subsidisation and leads to inefficient despatch. While conceptually this may be the case, it is not apparent what level of materiality this has and whether it is materially worse than the existing arrangements or whether the costs of the alternative approaches outweigh any perceived benefits. Such analysis must be concluded as part of any objective assessment and before any final decisions could be made.

We also consider that the TSOs' proposed 3-Stage approach does nothing to alleviate the uncertainty over the matter and believe it would be better to let the existing arrangements continue until such time as the final long term arrangements have been agreed upon and implemented. Indeed we have concerns that it will merely increase costs and divert resources from implementing the long term solution.

We are also concerned that part of the rush to adopt "compression" is to address the impact of low TLAFs on new generation that is to commission over the next few months. Such a move will likely reduce the TLAFs for Northern Ireland generators and potentially result in a jurisdictional cross-subsidy from Northern Ireland customers (in respect of lower revenues earned by units contracted to PPB) to some RoI generators. We do not consider this to be an acceptable outcome for Northern Ireland customers.

5. Overall Conclusions on the TSOs' Preferred options

The TSOs' preferred options for both TUoS tariffs and Losses seek to include locational signals even though the consensus has been that such locational signals have virtually no bearing on the location decisions of new investors and merely serve to create post investment risk. There is also little appraisal of whether the various options provide any net benefits for customers, after taking all resource costs into account.

In respect of the TSOs' preferred TUoS tariff model, as noted above, we find it difficult to reconcile the conclusions with the analysis and it is difficult to make a proper assessment when for example there has been no assessment of potential tariff volatility trends over a number of years.

On the TSOs' preferred losses option, we do not believe a 3 step strategy has any merit and resources would be better utilised determining and implementing the long term solution.

We also believe there are wider matters that must be considered in the appraisal of options, including for example, the impact of the various tariff options on the CPM mechanism (and the net outcome would need to be considered in the assessment of the impact on generators and customers), and the impact on jurisdictional value transfers (i.e. do the options result in cross-subsidies between jurisdictions) arising from both the Tariff and Losses options.

We are also concerned that there appears to be a rush to implement a solution, particularly in respect of Compressed TLAFs, without there being proper consideration of the options and their overall effects. We are particularly concerned that this may be influenced by the low TLAFs recently determined for the new CCGTs connecting in Cork, notwithstanding they reflect poor locational decisions. We consider focus must be to take the necessary time to ensure the most appropriate solutions are adopted for the Irish market having fully considered the options and their individual impacts on market participants.