

**ESB Power Generation
Submission to EirGrid/SONI on:**

‘Preferred Options to be considered for the Implementation of Locational Signals on the Island of Ireland Consultation Paper; November 26th 2009, SEM-09-107’

ESBPG welcomes the opportunity to comment on the TSOs’ consultation document outlining its “Preferred Options to be considered for the Implementation of Locational Signals on the Island of Ireland”.

ESBPG also welcomes clear developments in the TSOs’ thinking; and responsiveness to industry feedback which is evident in options that are improved over those originally put forward. Nonetheless ESBPG feels further improvement/refinements must be made to the form of TUoS and TLAFs and the implementation of TLAFs.

ESBPG remains of the view that a postalised form of TLAF charge should apply and it notes the TSOs’ medium/long term proposals for treatment of TLAFs within dispatch would support this approach. In particular ESBPG believes there is a coherent joint TUoS/TLAF charging solution which could be applied which is consistent with SEM objectives and the objectives/criteria set out by the TSOs as key factors.

ESBPG remains concerned that indicated preferred options still present substantial unpredictability and volatility of charges year on year to industry parties with potential large step changes possible in both TUoS and TLAFs under the current indicated TSOs’ preferred options for each.

Furthermore ESBPG also believe that any future enduring charging regime should seek to be equitable/fair and thus seek to achieve a balanced approach which both balances theory and reality; and impacts of different industry parties e.g. incumbents and new entrants. Fairness is a key aspect of any charging regime which we feel is important and should be included within any objectives for determining an appropriate charging regime.

The 4 issues of predictability, stability, fairness and timing underpin our approach to responding to the TSOs’ consultation on reform of TLAFs and TUoS and is brought out in more depth in the detailed response which follows in the Appendix to this letter.

ESBPG is also concerned that implementation timeframes are overly long and reiterates the critical importance it place on the earliest possible implementation of appropriate enduring reform of TLAFs in particular but also TUoS. Indeed ESBPG believes there is no compelling case for delaying the move to the final solution for TLAFs and the change to the final solution should be made immediately. It is deeply concerning that the TSOs

rationale for not implementing the final solution immediately is that the metering and computing infrastructure to facilitate their managing of losses adequately in real time is not yet in place. However for the last number of years the TSOs saw no difficulty in exposing the generators to significant commercial risk on the basis of a flawed marginal costing methodology. The lack of infrastructure does provide a rationale for delaying the possible incentivisation of the TSOs to minimise transmission losses but it does not justify a delay to the preferred solution which ESBPG believes can and should be implemented immediately. ESBPG reiterates that the current approved 2010 TLAFs represent an unacceptable set of charges from its perspective and is currently reviewing its options for challenge should these be put forward to be implemented and be in place for much of 2010.

Thus ESBPG believes it is entirely appropriate that TLAFs be postalised and the coherent package of refined/amended TUoS and TLAF charging methodologies put forward by ESBPG in the attached detailed Appendix would address all of the key objectives identified by the TSOs in its evaluation of charging options and the wider SEM objectives.

Appendix - Detailed Comments

This Appendix to our main response provides more detailed ESBPG views and arguments regarding the TSOs' proposed approach to reform of the existing regimes for TLAFs and TUoS. It also highlights ESBPG's view that a coherent combined reform of TLAFs and TUoS is achievable based on ESBPG's proposals for each of TLAFs and TUoS.

TLAFs

ESBPG reasserts its fundamental position that it is most appropriate that TLAFs are charged on a postalised basis. The IWEA raised a valid point that much new generation will be renewables and driven by the location of renewable resource and thus unable to respond to locational signals – as an “unavoidable” cost imposition this could be viewed as unfair. ESBPG also notes that the end position proposed by the TSOs naturally facilitates a postalised charging approach without losing any of the cost reflectivity and dispatch efficiency benefits being sought – this is particularly the case where suitable refinement/amendment is made to the TUoS methodology. Specifically, if TUoS methodology appropriately provides long term investment signals to generators and SO dispatch appropriately takes into account short term transmission losses factors within dispatch (and is further incentivised to minimise the cost of losses) then there is no rational argument against simply charging the resultant overall costs of system losses on a postalised basis

The TSOs have indicated their willingness to move to a regime with losses separately addressed in dispatch and the SO responsible for purchasing losses. However it indicates these to not be possible until a medium to long term timeframe (2—5yrs). ESBPG questions why it is not possible to move straight to the “end position” and to do so relatively quickly. The TSOs indicated in the Workshop that timeframes were driven by metering and systems issues meaning measurement of losses is not accurate. ESBPG notes that this inaccuracy is present now and borne by the industry and it is not clear why the industry should bear the risks/costs of this and that the TSOs should be immune from any such risks and costs. Indeed ESBPG believes it is important the TSOs are incentivised to eliminate inaccuracies at the earliest opportunity and this supports a rapid move to the end position for treatment of losses in dispatch and charging

Timing of implementation of an appropriate form of treatment of losses and TLAFs remains an extremely important issues for ESBPG and ESBPG wish to see such implementation to be adopted as quickly as possible to allay its strong concerns of misalignment of TLAFs and related costs with expectations given by the authorities at

the time of substantial investment in new generation. If a stepped approach has to be adopted it must be done as rapidly as possible.

If a stepped approach is unavoidable; reviewing the short term options ESBPG acknowledges that the TSOs have developed their thinking and believes the TSOs have rightly determined the Compression methodology is the best candidate of the options presented.

However ESBPG highlights that all the options put forward are still fundamentally based on or start with a marginal cost approach which ESBPG has clearly demonstrated in previous consultation responses to be flawed unless calculated in real time. ESBPG remains of the view that any treatment of TLAFs should not be based on a marginal approach and must more correctly reflect the true impact of generation dispatch on system losses. Furthermore given the potential errors inherent in measurement the priority should be to avoid overstating any locational signals and to err on the side of understatement as this avoids the risk of unduly and unreasonably impacting on the commercial status of generation projects.

In our response to the previous Consultation ESBPG identified 2 other high-level features which it believes must be taken into account, in order to better meet the primary objectives as set out in the Consultation in a balanced manner and which should form the basis of any future Losses charging regime. These are:

1. sharing of cost of transmission losses between generation and demand;
2. recognition of fixed and variable losses within the charging structure;

These are discussed in further detail below:

1. Sharing of costs between generation and demand

Transmission losses are driven by combined siting and operational behaviour of generation and demand, rather than of generation alone. Thus it seems inequitable that the full cost of losses is borne by generators, especially through a fully locational Losses charging regime.

Furthermore the RAs have explicitly identified as one of their primary objectives in section 3 of the previous Consultation document that it is important to ensure consistent treatment of generation and demand within charging regimes (both for TUoS and Losses). Given this objective and the shared responsibility for network losses, we believe it reasonable to expect the total cost of losses to be borne equally by generation and demand.

Thus, ESBPG proposes the total costs associated with losses should be equally recovered from generation and demand, i.e. 50/50. This will not impact on the overall price for consumers – indeed the explicit cost will further incentivise energy efficiency and could materially reduce costs.

In principle we believe that the Losses charging structure for demand should mimic that for generation – essentially being equal and opposite on the basis that generation = “negative demand”. However, in the context of locational based Losses charging we recognise the lower elasticity of demand siting response and wider political imperatives such as the need to stimulate the economy across Ireland on a planned and equitable basis, rather than driven by transmission network considerations. Consequently, ESBPG believes it is both pragmatic and reasonable to apply Losses charging to demand on a postalised basis; regardless of how generators are charged for Losses. Thus this simply becomes an issue of fairness of allocation of cost recovery; not an issue of signalling desired behaviour – the two are separate elements of determining tariff regimes and are not intertwined i.e. you determine who should bear what proportion of cost recovery first; then you determine how that recovery should be obtained (locationally or otherwise)

2. Recognition that losses consist of fixed and variable elements

Transmission losses consist of fixed elements (such as corona losses) and more variable elements (such as circuit losses). This is a well understood feature of electrical systems; and indeed some TSOs report losses in a disaggregated fashion e.g. National Grid under Table 7.4 of the GB Seven Year Statement indicates the components of overall transmission losses at time of peak demand – which consist of fixed (e.g. corona losses), semi-variable (GSP transformer losses) and variable components (circuit losses).

The fixed elements are not driven by generation (or demand) siting decisions or by generation (or demand) operational behaviour but rather reflect the nature of the transmission network itself. Dependent on the duration and timing of the period over which transmission losses are measured and prevailing generation patterns and network availability within this period, ESBPG believes fixed losses can be 20%-35% of total losses for a given time period.

Furthermore, in reality, variable elements will also have a de minimis level below which they will not fall. For example, heating losses due to transformers at all Bulk Supply Points will always be present to a degree i.e. there will always be a

number of BSP transformers taking power. There is variation depending on the number and size of BSP transformers in use and their level of utilisation at any point in time and over a period of time; but in practice this is likely to be relatively limited. ESBPG believes the de minimis level of variable losses can represent 5-15% even under extremely favourable generation dispatch assumptions; and is probably more likely to be 15-30% under more central assumptions. This represents a further “quasi-fixed” element of the transmission losses.

At present, by simply applying a purely locational Losses charge, the current Losses charging regime does not recognise the physical reality of how transmission losses arise and the degree to which they are attributable to generation (as discussed above) and locational factors. As such the current locational transmission charge is not cost reflective, which is one of the RAs stated primary objectives in section 3 of the previous Consultation document.

ESBPG proposes that any future Losses charging mechanism should recognise this physical reality and even in the event that a locational element is retained, it should apply to the variable component of transmission losses only. The fixed component (35%-65%, the exact figure to be based on analysis and evidence from the TSO) of the costs recovered from generators should be levied on a socialised €/MWh basis.

As indicated, we are happy to be advised by the TSO based on its own network modelling and understanding of transmission losses on what the appropriate demarcation/definitions of “fixed” losses and “variable” losses are and on this basis what is an appropriate percentage of overall losses to allocate to each of fixed and variable losses components.

In this context ESBPG have identified a number of detailed improvements which the TSOs could and should adopt within any application of the Compression methodology for TLAfs:

- Equal allocation of Losses recovery to Generation and Demand – as discussed above there is an unequivocal logic based on the causer pays principle that each of generation and demand has an equal impact on the creation of transmission losses. As such it is equally clear that the fair approach to recovering the cost of such transmission losses should be equally borne by both generation and demand. This simply reduces the overall costs levied on generators as a whole and is a principle which should apply under any methodology of charging for Losses.

- Iteration – currently single snapshot does not reflect rebalanced dispatch which would arise given initially determined TLAFs – this overstates the locational TLAFs
- Piecewise curves – impact on system losses will differ by the level of generation observed per generator; it should be possible to model sensitivities for each generator for a set of defined loading points e.g. 0, minimum stable generation, 50%, 75% 100% and thus to determine a more average based TLAF based on expected average performance
- Probabilistic approach – an alternative to the above is to model generation probabilistically taking into account various stochastic events and forward uncertainties. ESBPG believes the models used by the TSOs e.g. Plexos can run in this manner
- Higher compression – the current suggested Compression factor of 2 appears to be an arbitrary number and not based on any underlying rationale. Based on the argument it is most appropriate to understate rather than overstate any locational signals ESBPG believes a higher Compression factor should be adopted. In particular, ESBPG notes the proposed Compression factor of 2 still utilises marginal loss factors as its starting point. Thus ESBPG re-iterates its argument that use of an average losses approach is more cost reflective than a marginal approach (as discussed above and in previous consultation responses) and delivers reduced TLAF differentials by a further factor of 2. In addition, recognising that losses also comprise both fixed and variable elements; as discussed above, there is a further argument that the differentials should be further enhanced by up to a factor of circa 1.5 to 2. In combination; this suggests that the Compression factor should be somewhere between 4 to 8; not 2 as proposed by the TSOs.

Given the above additions/refinement to the Compression methodology this would represent an acceptable step towards the end solution for TLAFs though ESBPG reiterates the end solution should be implemented at the earliest opportunity and it remains unclear why it is not appropriate or viable to do so in very rapid timeframes within 2010.

With regard to the end solution it is imperative that the means of charging for losses by TSOs in the new regime is also transparent and the problems with the existing regime do not just re-surface in a new TUoS type format with the same degree of volatility, unpredictability and lack of cost reflectivity.

TUoS

ESBPG accepts that the current TUoS methodology can be improved and that it is appropriate to introduce a forward looking element to the TUoS charging methodology.

Furthermore ESBPG is happy to observe that the TSOs have apparently dismissed the multiplicative approach to charging the residual which is clearly nonsensical and has no rational basis to be put forward e.g. such an approach is clearly not cost reflective. It is clear under any economic rationale that the residual revenue needed to be recovered to ensure appropriate overall recovery of TUoS under a postalised basis. The TSOs should clearly understand that the derivation of cost reflective signals and revenue recovery are two separate aspects of any locational charging methodology which should be addressed individually and the two should not be confused together.

Having accepted that a forward looking element may be appropriate within TUoS, ESBPG believe that the TSOs may have overly eliminated the historic/backward looking element from within its indicated preferred TUoS Option, namely Option 4. The Option 4 as currently proposed has some weaknesses which should be addressed. These are:

- Exit signal – by providing TUoS costs to incumbent plant based on forward expectation ahead of realisation it potential unduly drives pre-emptive closure decisions before new entrants commission;
- New entrant costs – by focusing on incremental investment costs there is a risk that new entrants face high TUoS costs based on the relative strength/weakness of the existing network preceding their connection; reflecting historic TSO investment decisions over which they have no control;
- Step change in TUoS after 7 years – the methodology includes incremental investment costs for a period of 7 years from connection – after which these incremental investments are removed from the TUoS calculation. This can result in material step changes to TUoS between years;
- Dependence on delivery – by tying costs to planned TSO investments; where such investments are substantially delayed (and there clear recent examples of this) this unduly exposes incumbents to prolonged exposure to associated costs and indeed facing TUoS costs based on investments not made in a given year(s).
- Transparency – the lack of transparency is self-evident by the inability of the TSOs to provide indicative 2014 figures for option 4.

- Volatility – the TSOs claim option 4 is less volatile than option 3. This may be true in terms of not having as wide a range of values in any one particular year. However it is very possible that variations from year to year could be very volatile (and unpredictable) with situations arising where a “good area” for TUoS would quickly flip to being a “poor area” from one year to the next. We believe this may happen more often than under option 3, but it is not clear as there is insufficient data provided as part of the consultation to determine this.
- Fairness – Parties will more readily accept paying for the use of the existing network which they use every day rather than on the basis of some future plans, which are subject to change and may never come to fruition.
- Some of these features reflect consequences of TSO decisions and actions over which participants have no control and thus it is important that generators have both assurance and financial mitigation within their charges or via post-event financial compensation where these otherwise impose undue TUoS costs on them. Measures could be introduced within the TUoS methodology to smooth/mitigate step changes; and or to provide reconciliation/recalibration post event.

The last two features reflect the need to carefully consider the appropriate balance of forward and backward looking aspects of the TUoS charging methodology to ensure greater stability and fairness of the TUoS charges faced by all parties. ESBPG believes a better balance of forward and backward looking elements could be achieved in a number of ways an option it has identified is to derive a hybrid TUoS based on a weighted combination of Option 3 and Option 4. This weighting could be (a) 50/50; or (b) weighted by ratio of existing asset base value to NPV of incremental asset investment – this would typically put higher weight on existing assets; or (c) an alternative ratio argued to be most appropriate e.g. favouring forward investment 75/25?

ESBPG believes there is a further reason for retention of option 3 to some degree as ESBPG believes it represents a reasonable basis for apportioning transmission losses if the TUoS methodology continues to be based to at least some degree on the reverse MW mile approach. Since losses are incurred on the existing network (and not the future network), their recovery needs to reflect this and not speculative future locational signals. Such an approach would ensure an appropriate fit/consistency with postalised charging of Transmission Losses under the TSOs proposed end position of losses separately addressed in dispatch as in combination it would retain appropriate long term and short term signals to generators.

In addition to the need to refine the balance of treatment of historic and future investments; ESBPG believes the TSOs need to revisit the proposed 60% cap on the locational element of the TUoS charge and the rationale it applies to derive this figure.

Holistically, as previously explained ESBPG's view is that when setting locational signals on a proxy basis – recognising 100% accuracy of cost capture is not possible in practice nor within a charging regime which meets wider objectives such as stability and transparency – such locational signals must not be overstated and it is most appropriate to err on the side of understatement to avoid the risk of imposing undue and unreasonable commercial costs on generators. Failure to avoid this presents the risk of formal challenge which is desirable to avoid.

Furthermore, the TSOs have argued that 60% is appropriate as it capture the two economic factors (Efficiency and Cost reflectivity) in their five objectives and their aggregated relative weightings as ascribed by the TSOs. As indicated by the IWEA at the previous Workshop; it is arguable that all the objectives are economic factors as they all to a degree influence on economic siting decisions of generators. ESBPG believes a more sensible argument is that the locational charge should be capped at the weighting ascribed to “Cost reflectivity” as this is essentially what the locational signal is seeking to achieve and the “Efficiency” is derived from the implementation of these cost reflective locational signals. This would cap the locational charge at 30%.

ESBPG notes that the TSOs themselves highlight that in practice they saw a locational charge from their own modelling of c.35% and as such this is consistent with the above cap erring on the side of caution as ESBPG has already indicated should be the holistic philosophy adopted for locational charges. 30% is also consistent if not higher than the level of locational charges seen in other locational TUoS charging regimes seen elsewhere e.g. such as the GB market where it is typically nearer 20%.

Coherent TUoS and TLAf charging

As noted under the TLAfs section above; ESBPG believes that if a TUoS methodology is adopted which better balances forward and historic investments (i.e. includes at least some capture of the existing network – for which the backward looking TUoS option 3 approach provides a good proxy) it will provide the appropriate long term signals for new entry and/or exit taking into account investment capacity issues and efficient use of the existing network, which represents a reasonable proxy for losses. ESBPG has provided suggestions as to how this balance can be achieved.

If at the same time transmission losses are addressed separately in short term dispatch (and further the SO is incentivised to seek to minimise the cost of losses in real time)

this will appropriately optimise short term economics of operation of generation to meet demand (taking into account wider comparative generation costs/economics).

Under this package there is no need for supplemental locational transmission losses charging as both incumbent and new entrant generator will see both effective long term investment signals and be exposed to short term efficient operation signals (which in themselves provide long term signals if the outturn TLAFs and modified dispatch data versus that derived from unconstrained bids is made transparent to the industry).

Thus ESBPG believes it is entirely appropriate that TLAFs be postalsised and that this coherent package of refined/amended TUoS and TLAF charging methodologies put forward by ESBPG would address all of the key objectives identified by the TSOs in its evaluation of charging options and the wider SEM objectives.