

ESBPG Response to the Proposed Decision Paper titled "Proposed RAs Option for All-Island Harmonised Transmission Loss Adjustment Factors (TLAFs)"

Executive Summary

ESBPG considers that the existing regime is not fit for purpose and that this has been demonstrated unequivocally by the ESBPG commissioned study which has already been shared with the RAs and the industry. The impact of TLAFs derived using the existing methodology is unreasonable and unjustifiable in that excessive losses/benefits are attributed to various generators resulting in revenues to plant which bear little correlation to the value they deliver.

Continuation of the status quo would not only damage the future operation for stations allocated such penal TLAFs (through a significant reduction in their running regime), but would also result in increases to the total cost of production on the island which will ultimately be borne by the end-consumers. ESBPG believes that this is inconsistent with the RAs' obligations to "to encourage the efficient ... production of electricity;...".

Continuation of the current regime therefore is not an option.

In changing the system there is little value in waiting for further analysis to be completed to complement the substantial volumes of work done by the industry in response to this consultation process in the hope of moving from a system that is fundamentally flawed and 'perfectly wrong' so as to arrive at a 'perfectly right' solution'. Evidence from the GB market where a uniform TLAF system is in place since 1990, on exactly this issue, suggests that even after many years of consultations, cost benefit analysis and independent assessment there is still no proven case that to move to locational based loss factors are a better solution than the current uniform approach.

ESBPG believes that the RAs' proposed decision to apply a uniform approach is the result of a considered process which began in January 2009. In arriving at their conclusions, the RAs have taken account of the significant work that has been undertaken by all parties during the review of the TLAF arrangements, have considered all the comments raised by respondents to the consultations and of attendees at workshops. Ultimately, the RAs concluded that the arrangements should be predictable, non-volatile and transparent and that uniform TLAFs best meets those criteria.

ESBPG believes that the proposed decision to move to a uniform TLAF will promote more efficient dispatch in the market, will reduce the overall cost of production, and will significantly reduce emissions as evidenced by the analysis herein.

It is also clear that there is no systematic impact on SMP resulting from the proposed decision. ESBPG analysis shows only marginal change in SMP for 2011 with any such change being driven by the random impact on individual price setting plant. In any event, given the distortion of the 2010 market induced by the faulty TLAF methodology, ESBPG would caution against using 2010 as a base case for any analysis to support an important industry decision such as this. Indeed the 2010 market distortion has been such that industry players are focussed around the impact of the unjustified gains and losses resulting from this distortion rather than focussing on finding an appropriate solution to this long running issue.

The RAs proposed decision to apply uniform TLAFs in both the short-term, and in the longer-term in respect of the market under the Splitting approach, is supported by ESBPG.

1. Background

The background to the RAs proposed decision paper is well known. Appendix A of this response provides relevant key information but in this section ESBPG highlights certain key events which have occurred in the last 20 months by way of introduction to its response.

In January 2009 the SOs, at the invitation of the RAs, commenced a review of transmission charging arrangements. The review began with a survey, the results¹ of which (in respect of TLAFs) showed:

- 69.6 % of respondents stated that the current arrangements were not acceptable;
- 73.9% stated a locational signal was not an important element of TLAFs; and
- the most important criterion in relation to the derivation of TLAFs was Stability (Low volatility) with 81.8% identifying it to be “Very Important” (the highest available category).

Of the 23 respondents to the questions on TLAFs, there was a clear consensus for a change to the current arrangements and a movement towards more stable signals which need not be locational.

Responses to the November 2009 consultation² reinforced this consensus, indicating substantial opposition to the current regime. Indeed the response from the Irish Business and Employers Confederation (IBEC, which represents the collective of energy providers in the Republic of Ireland) called for the application of uniform TLAFs to replace the current system.

At the recent workshop in Dundalk (26 July 2010), in response to questions from the floor, the Director of Grid Development and Commercial confirmed the view of the SOs is that the current TLAF arrangements were designed for a different environment and are no longer fit for purpose.

In their proposed decision paper, the RAs having consulted widely, and having considered the relevant criteria, concluded that uniform TLAFs should be implemented from 1 October 2010 and that in the longer-term, the application of TLAFs in the market

¹ *System Operators' Review of Locational Signals on the Island of Ireland. Workshop, Questionnaire and Industry Paper Overview, 30 April 2009, SEM-09-046*

² *Preferred Options to be Considered for Locational Signals on the Island of Ireland. Consultation Paper, 26 November 2009, SEM-09-107*

should be separated from their application in the dispatch phase provided an Impact Assessment establishes a cost-benefit in proceeding at all.

In this response ESBPG sets out why it believes the RAs have made the correct decision and that this decision is not only consistent with their own identified criteria, but also the obligations placed upon them, and the SEM Committee, by Primary Legislation.

2. The Existing Regime is Fundamentally Flawed

In order to test its understanding of the treatment of losses in the SEM, ESBPG commissioned a report to estimate system losses and examine the cause of such losses³. The study examined publicly available data for a December day in 2010. For the selected day, the SOs identified the All-Island losses (in the supporting data that accompanied the published draft 2010 TLAFs) as 95MW. The jurisdictional split of these losses gives the following:

- ROI System Losses 68.3 MW; and
- NI System Losses 26.7 MW.

Applying the associated TLAFs for the Cork area for the relevant day (0.917) results in 66.8MW being attributed to the two new CCGTs in the area. Thus, almost the entire system losses for the Republic of Ireland are identified as being attributable to the Aghada and Whitegate CCGTs. This, in ESBPG's view, seems somewhat incredible.

Furthermore, applying the relevant TLAFs to the same SO data shows that the power stations in Northern Ireland are deemed to cause negative losses. In ESBPG's view this is equally incredible. Additionally, an analysis of the individual TLAFs applicable to Transmission connected power stations in Northern Ireland for the period July to December 2010 shows that the average TLAFs are all greater than unity – i.e. none of these power stations will contribute to All-Island losses in Q3 and Q4 of this year, in spite of fact that the studies employed to derive the TLAFs show only a small net flow over the North-South tie lines in the same period (6 MW flow). Given the limited electrical coupling between the Republic and Northern Ireland transmission systems, this is totally implausible.

Given the above results, and in particular that current TLAFs suggest that virtually all losses in the Republic of Ireland are attributable to the Aghada and Whitegate CCGTs, ESBPG were keen to examine the actual impact the two stations have upon losses. The

³ A summary of the study is provided in Appendix B with the full study report being attached as Appendix D.

results (summarised in Figure 1 of Appendix B) show that actual generation from the two CCGTs has a minimal impact upon total system losses. Furthermore the first 385MW of generation from the two stations actually reduces system losses by up to circa 20MW, and that positive impact on losses (i.e. reduction in losses) is maintained through to 800MW of generation – i.e. the first 800MW of generation is loss free.

The contrast between the above results and the 66.8MW of losses attributed to the two new CCGTs in the Cork area by the existing TLAF methodology could not be starker. This excessive loss apportionment arises as a result of the TLAF calculation methodology which determines a single loss factor at the margin only but then applies it across the entire output of the plant. This has the effect of applying the tangent shown in Figure 1 in Appendix B (the green line) to every MW produced by the stations, even though it clearly fails to represent the actual value of those MWs to the system in terms of their contribution to (largely reducing) losses. This distortion is exacerbated by the fact that loss factors are calculated one year ahead of their application and are therefore unlikely to reflect real-time system conditions at all times.

It is evident from the above that the use of a single marginally derived TLAF for each node is flawed for use in the market regardless of whether the TLAF is calculated ex-ante or in real time as it applies that one TLAF to the full output of the generation plant and remunerates the generation plant accordingly.

The only rational conclusion from the above is that the regime is no longer fit for purpose.

3. Impact of broken system obligates immediate change

It is therefore clear that the current marginal methodology for the determination of TLAFs is fundamentally flawed and that the impact on generation can be considerable. The above analysis demonstrates that the methodology as applied in 2010 puts an excessive financial burden on two CCGTs in the Cork area, which is unjustified by the actual impact the plant has on system losses.

Based on ESBPG's own analysis, this has significant financial impact, both direct and indirect on the Aghada CCGT plant. The direct cost is in reduced revenue when the plant runs in the market. Of equal significance is the indirect impact TLAFs have on the merit order placing of the plant. This has the effect of moving the most efficient CCGT in SEM to approximately 6th in merit order, with resultant significant impact on its load factor and this has already been demonstrated as it has been a significant factor in the plant being dispatched off at night in recent weeks. Other participants are similarly

severely impacted, and the severity of impact is such that, in the interests of transparency and equity, this must be addressed immediately.

Additionally, continuation of the status quo has wider impacts on the SEM and its customers. By not running the most efficient generation plant, it will increase the total cost of production on the island, and the increased costs of the same will ultimately be borne by the end-consumers, regardless of any random anomalies. ESBPG's own analysis shows that the overall cost of production for SEM year 2010/11 is reduced by €4.4m by moving to uniform TLAFs.⁴ This efficiency improvement is also reflected in reduced carbon emissions which ESBPG estimates to be over 238,000 tonnes for the same period.⁵

These benefits would be inexplicably lost by any delay in implementing the proposed decision.

It is clear that the RAs have recognised that the current TLAF methodology is not fit for purpose and, in making their proposed decision they effectively concur that its continued use is not a credible or tenable option. There is an imperative to follow through on the proposed decision and implement it now, in the interests of fairness and the fundamental obligation to market credibility, in particular, when a solution is at hand which is at least 'approximately right', enjoys widespread industry support and has significant precedential use in other jurisdictions (see later).

This view is further supported by the SOs who, in response to questions at the workshop in Dundalk on 26 July 2010, consider that the current TLAF mechanism was designed for a different environment and is no longer fit for purpose. Also at the workshop, the SOs stated that the system 'will become more and more volatile' and from their modelling they could see no systematic reason for a change in constraint costs arising as a result of the introduction of uniform loss factors.

Thus, the regime needs to be changed now. A further delay for yet further option evaluation is neither warranted nor required.

4. RAs Proposed Solution – Meets Required Criteria

The RAs have identified that the arrangements for transmission charging should provide appropriate signals to users of the system of the costs they impose on the network so as

⁴ In the absence of published TLAFs for 2011 ESBPG's analysis has employed the Q3 and Q4 TLAFs for 2010 (which ensures appropriate inclusion of all new, large scale plant) by mirroring these values into Q1 and Q2 of 2011 and replicating them for Q3 2011.

⁵ ESBPG would be willing to discuss the basis of all its analysis with the RAs and confirm the assumptions underpinning the results.

to lead to a more efficient development and use of the transmission system. In addition the RAs consider that the arrangements should be predictable, non-volatile and transparent.

Employing uniform TLAFs is the way proposed by the RAs meets the above criteria in terms of predictability and transparency, and will clearly give rise to non-volatile results. While it may be argued that applying uniform loss factors will not provide signals to users for the costs they impose upon the system, locational Transmission Use of System charges do provide appropriate long-term cost signals to generation plant reflecting the actual costs they impose on the system and improving the overall efficiency of asset usage. TLAFs were purported to do likewise based on short term costs. However, it has been demonstrated that the current application of TLAFs in SEM does not result in cost reflective pricing. In the context of TLAFs, it is more appropriate to send no signal in the short term than continue with an inappropriate signal.

The RAs proposed Splitting option which advocates the application of locational TLAFs to the dispatch process only (supported by ESBPG) has the potential to give rise to a more efficient use of the network in real-time (if implemented correctly), reflecting the actual costs/benefits users impose on the system and improving the overall efficiency of asset usage.

In addition to the criteria identified by the RAs, the SEM Committee is obliged to comply with objectives (which are jointly incumbent upon the relevant Government/Minister, the RAs and the SEM Committee) set out in Section 9 of the Electricity Regulation (Amendment) (Single Electricity Market) Act 2007 and Section 9 of the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007⁶. In summary, the identified principal objective is to protect the interests of consumers of electricity, wherever appropriate by promoting effective competition. In complying with this obligation the SEM Committee must take regard of a number of matters, the relevant ones of which, in respect of the RAs proposed decision on TLAFs, are:

- the need to secure that persons are able to finance their activities;
- the need to ensure transparent pricing; and
- the need to avoid unfair discrimination between consumers in the two jurisdictions.

⁶ The full text of which is provided in Appendix C.

Furthermore the SEM Committee must carry out its obligations so as to (among other matters):

- promote efficiency;
- secure a diverse, viable and environmentally sustainable long-term energy supply; and
- have regard to the effect on the environment.

In ESBPG's view the RAs proposed decision to implement uniform TLAFs in the market is consistent with all of these requirements. The stable, predictable nature of the resulting losses treatment will help parties to finance their activities, the mechanism is transparent, will reduce total cost of production and this in turn will lead to a reduction in All-Island carbon emissions.

Uniform loss factors will also help to correct an existing distortion which currently unfairly discriminates between customers in the two jurisdictions. Paradoxically the proposed decision reduces discrimination between the two jurisdictions rather than introducing it as was intimated at the RAs workshop.

The RAs proposed longer term option, i.e. Splitting, which advocates the application of locational TLAFs to the dispatch process has the potential to give rise to greater efficiencies in real-time (if implemented correctly). ESBPG support the proposed Impact analysis and agree that marginally derived TLAFs calculated in real-time (and reflecting the actual output of each plant on the system) may be useful in making marginal adjustments to dispatched plant (i.e. in a range of +/- 20MW), reflecting the actual impact users have on the system and improving the overall efficiency of asset usage, and it is a question of establishing the cost-benefit implications of so doing. The RAs proposed analysis should establish the merits and feasibility of this option and in doing so consideration should be given to the consequences on carbon emissions of an ineffective dispatch process, balanced against the benefits of achieving an "optimisation" of network losses.

The remaining objectives for the SEM Committee do not apply in relation to the RAs proposed decision on TLAFs and, therefore, in ESBPG's view the RAs decision complies with all necessary criteria for the establishment of an appropriate treatment of transmission losses.

Furthermore, the RAs proposed decision to apply a uniform approach is not simply a reaction to recent events (i.e. the clarification of the impact of the current methodology

which became apparent with the publication of the TLAFs for 2010), but is the result of a considered process which began in January 2009, involving all parties and addressing concerns expressed by all parties stretching back to the early design phase for the SEM. In arriving at their conclusions, the RAs identified that the arrangements should be predictable, non-volatile and transparent. The application of uniform TLAFs meets all of these objectives.

5. Proposed Solution – A Pragmatic Solution

During the review of the TLAF mechanism, a number of matters have been identified which any new regime needs to address. Key among these matters are:

- Dispatch efficiency;
- Impact on total cost of production; and
- The impact on System Marginal Prices (and therefore upon customers).

Two further considerations are the impact on the environment and the jurisdictional/private vs. state owned impact identified by VPE in its presentation at the Dundalk workshop. In the following, ESBPG demonstrates that the RAs proposed decision on TLAFs is consistent with the RA criteria and SEM Committee objectives in addressing each of these matters.

5.1. Efficient Dispatch

By not running the most efficient generation plant in the market, the current regime is not delivering an efficient dispatch. Moving to uniform TLAFs immediately improves this distortion.

Implementing the Splitting approach identified by the RAs for the longer term – whereby the treatment of losses in the dispatch phase is separated from the treatment of losses in the market - has the potential to further improve the overall dispatch on the system subject to an appropriate loss treatment methodology being employed. As identified earlier, the application of single (as opposed to multi-part), year ahead determined marginally derived loss factors is completely inappropriate for both the market and dispatch phases since, by definition, such loss factors will not reflect the actual situation encountered during the dispatch phase and, therefore, will fail to reflect the actual impact plant have on losses in real-time. If a methodology is employed which seeks to determine the impact of plant on transmission losses in real-time, or close to real-time, the SOs will be able to factor this into their dispatch decisions so as to derive a more

appropriate and efficient schedule. Improving dispatch efficiency will benefit customers and facilitate lower overall forward costs.

5.2. Total Cost of Production

As ESBPG has demonstrated in Section 3, moving to uniform TLAFs will allow plant to compete on an equal playing field in the establishment of market prices, allowing more efficient, cheaper plant to displace less efficient, more expensive plant and so reduce the overall costs faced by consumers on the Island over time. ESBPG has calculated the value of this to be €4.4m in SEM year 2010/11.

Continuation of the status quo has wider impacts on the SEM and its customers. By not running the most efficient generation, it will increase the total cost of production on the island, and the increased costs of the same will ultimately be borne by the end-consumers in the long term, regardless of any anomalies which could result in higher or lower SMPs in the short-term.

5.3. Impact on System Marginal Prices

There is no systematic reason for the proposed change to uniform TLAFs to increase or decrease SMP. Any changes in SMP are likely to be minimal and random. BGE's analysis, presented at the RAs workshop on 26 July demonstrated this randomness clearly. However, the impact on SMP for 2010/11 has been subject of some debate during the consideration of the RAs proposed decision paper, with some parties claiming the implementation of uniform TLAFs will increase SMPs in 2011 by 3% or, in the case of VPE's claims stated at the workshop in Dundalk on 26 July, by as much as €80 million. ESBPG's own analysis indicates that for 2011 the impact on SMP of the proposed decision will be minimal, significantly less than 1%. It must be emphasised that any such change is not systematic but due to the random impact of individual price setting plant.

ESBPG does not accept that there will be an SMP impact of the scale claimed by other parties and asserts that over time there will be no overall SMP change caused by the proposed decision. .

The RAs proposed decision to move to uniform TLAFs has been portrayed as a one year decision although the text of the decision would largely imply otherwise.

There is also a fundamental problem with using comparisons between 2010 and 2011 on metrics such as SMP in support of argument being made against the proposed

decision. Such arguments ignore the extent to which the 2010 market is distorted by the TLAF methodology . Thus any argument using 2010 as a base case should be treated with caution. Comparing the resulting SMPs derived from such an unrealistic situation with any other possible scenario is meaningless. The more appropriate economic criterion upon which the RAs should base any decision is the impact on the total cost of production.

The key is to consider whether the application of uniform losses will deliver a “totally right” result – or at least a result which is approximately right. Operating a market where two power stations effectively subsidise the operation of all other generating stations through the specious application of loss factors determined on a discredited basis fails any definition of an efficient market.

It is undeniable that in economic theory, marginal pricing (upon which the current definition of TLAFs is claimed to be based) is an efficient mechanism to drive efficient economic behaviour. That behaviour will, however, only be realised where the mechanism for the determination of the marginal impact is suitable to the overall situation. The current TLAFs are calculated based on a forecast of the expected output of power plant (employing a number of point studies to derive the factors), however the actual costs imposed by losses will, inevitably, differ from any such forecast as a result of changes in generation dispatch (caused by variations from the assumed output of wind generation, differences in forecast forced outages and planned outages etc.) and differences in the network configuration. Furthermore, as identified by Ofgem in its consideration of transmission losses in the design of the GB trading arrangements⁷, the average losses on the system and not the marginal losses will determine the actual costs imposed by losses, and therefore marginal pricing (based on point analyses) will lead to an over-recovery of costs.

So should the answer be to determine and apply loss factors on a real-time basis? As highlighted earlier, such a determination and application of loss factors should, if applied correctly, result in a more efficient dispatch. However, applying such losses to the marginal pricing mechanism would still not be appropriate since parties would be unlikely to be able to respond to such short-term signals and, moreover, the actual losses incurred would be influenced in part by decisions taken by the SOs with regard to maintenance and configuration of the network (since this affects the pattern of flows across the network and, therefore, the losses incurred), exposing participants to prices dependent upon decisions taken by the SOs..

⁷ *NGC System Operator Incentives, Transmission Access and Losses Under NETA*, Ofgem, December 1999.

The construct of the current mechanism, employing an annual ex-ante charge setting mechanism together with the above marginal based approach, suggests that the TLAF is a form of signal towards the longer-term, seeking to provide a signal as to where capacity investment should be undertaken. While this approach works well for network charges, these typically have a large base and are relatively slow moving, the application of this approach for TLAFs has created significant volatility, unpredictability and a lack of transparency, leading to investment decisions that could be seen as contrary to the intended incentive of efficient economic behaviour.

The mechanism has failed, it does not provide an effective location signal for investors to use to make economic decisions - it is simply too volatile. It also creates the potential for unintended consequences of reducing the attractiveness of high efficiency plants that could easily offset the marginal loss costs from their operation by reduced fuel burn and emissions that the alternative of running older plants with marginally lower losses can not. Under these conditions the benefit of maintaining the current TLAF arrangements versus moving to an alternative would need to be carefully weighed within the context of the statutory duties of the CER (and similarly for NIAUR under its arrangements), under Electricity Regulation Act 1999, subsection 5:

“...a) to take account of the protection of the environment;

b) to encourage the efficient ... production of electricity;...”

A good example of a marginal cost mechanism that works is the System Marginal Price (SMP). This is a marginal price, but the price determining mechanism is suitably designed to allow efficient economic decisions within a reasonably predictable framework. This has several characteristics that the TLAF mechanism does not. First it is uniform, there is no locational element to the pricing, making it more simple and transparent. Second the mechanism for setting marginal price allows market participants to make efficient economic decisions, alongside a range of external factors that may also influence their behaviour. This may lead one to consider TLAFs calculated in real-time.

ESBPG believes that marginally derived TLAFs calculated in real-time (and reflecting the actual output of each plant on the system) can be useful in making marginal adjustments to dispatched plant (in a range of +/- 20MW), however these fail to provide the long-term predictability that was seen as one of the key issues to resolve when the SEM Committee published its response paper in January 2009 and therefore are not appropriate to use from a market perspective.

“The methodology needs to allow for greater medium to long term predictability of generator charges and to limit year-on-year tariff volatility”

5.4 Environmental Impact

As identified above the implementation of uniform TLAFs will enable plant to compete on a level playing field and, as such, plant with higher efficiencies and lower costs will displace plant with lower efficiencies and higher costs. As well as reducing the total cost of production in the longer-term (and, therefore, SMPs and the costs to consumers), the net improvement in cycle efficiency will reduce All-Island carbon emissions. ESBPG's own analysis, referenced above indicates that moving to uniform TLAFs (as compared to maintaining the current TLAF definition) will yield an overall reduction of over 238,000 tonnes of CO₂ in 2010/11.

5.5 Jurisdictional and State vs Private Sector Impact

In its presentation to the Dundalk workshop, VPE highlighted that implementing uniform TLAFs would result in a transfer of wealth from Northern Ireland to the Republic of Ireland in 2011 and that, as a result, Northern Ireland consumers would see an increase in the cost of their electricity. ESBPG does not consider this to be a matter of jurisdictional prejudice. The aim, and indeed the objectives for the RAs and the SEM Committee, should be to establish an efficient market through which prices can be competitively set on a level playing field. The current mechanism fails to achieve this and retaining such a broken mechanism will result in a higher overall cost of production and, in turn, higher prices for all consumers.

It has also been stated that the proposed decision will result in an increase in the PSO for NI consumers. However the windfall benefit of the 2010 year's TLAFs to NI consumers (which has yet to be considered and 'K factored') should more than offset any potential negative impact the move to uniform from October 2010 will have. In respect of VPE's claims, ESBPG believes that consumers, both north and south, would be best served by a fully competitive retail market and a properly functioning, efficient wholesale market. A move to uniform TLAFs, removing the volatility described above, will promote this...

VPE further claimed that the implementation of uniform TLAFs would result in a transfer of wealth from private sector generators to state sector generators. Again, in ESBPG's view this is not a matter of favouring state owned generation over private owned generation, it is a matter of rectifying a flawed methodology which is resulting in an inefficient, distorted market. A move to uniform TLAFs will improve transparency, predictability, efficiency and the environment – all criteria against which the RAs and SEM Committee must compare any proposed changes to the market arrangements.

When the RAs published draft TLAFs for 2010⁸ on 27 October 2009, the extent of impact that TLAF volatility could have on the revenues of large scale conventional generators became clear for the first time, unfairly creating big winners and equally unfairly, big losers. As a result, it appears that some stakeholders changed their previously clearly stated opposition to the current method of calculation and application of TLAFs presumably as a result of the significant short-term gains available to them. Consequently while it was generally accepted by all these parties that the system was broken and that a movement to uniform TLAFs was a perfectly viable (and fair) solution, some belatedly postulated that this move should be postponed for a year, so as to materialise the windfall transfer of value. This is of course a shift from their previously stated positions which did not seek such a delay.

6. Uniform Loss Treatment has almost Universal Acceptability

There would seem to be little support for locational based loss factors from within other markets. The SOs' initial consultation paper outlined the various regimes for dealing with locational signals in the electricity industry worldwide. It is clear from that research, and similar research done by other parties regarding locational signals, that uniform treatment of losses remains by far the most prevalent means by which losses costs are apportioned world wide. Indeed, our nearest neighbour, the GB Electricity System, currently employs a uniform loss factor methodology and has done so since its market was created in 1990. Consideration has been given several times to move to a locational system, first of all in 1994. The most recent consideration, under modification proposal P229, has been on-going for approaching two years and has resulted in the majority of the industry and the industry's BSC Panel declaring that a move to a zonal locational based system would not be better than the current status quo of uniform factors. It should be noted that extensive cost-benefit analysis and assessment on the issue has been done under this and the various previous attempts to 'improve' the loss factors mechanism in the GB market but the complexity and uncertainties associated with the approximations that need to be made to estimate these factors seem to outweigh any perceived benefit that they may be able to bring in terms of improving cost reflectivity and hence efficiency. The experience from GB suggests that no amount of analysis will lead to a natural uncontentious outcome.

7. Going from Perfectly Wrong to Approximately Right is prudent

As an industry it is a question of whether we would be knowingly profligate in following a similar tortuous path to that of GB, in continuing to bear considerable cost in monetary,

⁸ *Draft Transmission Loss Adjustment Factors. Consultation Paper, 27 October 2009, SEM-09-102*

resource and regulatory time indulging in greater analysis on the basis that it is unlikely to provide unambiguous guidance upon which to make a fully quantified decision. Herein, we would seek to go from a 'perfectly wrong' current regime to an attempted but fruitless 'perfectly right' desired state when an 'approximately right' solution, in the immediate use of uniform TLAFs, is at hand and established internationally as the norm.

8. Conclusions

The existing regime is not fit for purpose. ESBPG's study demonstrates unequivocally that the impact of TLAFs is not only unreasonable, but also unjustifiable, unfair and untenable, given that it unjustly penalises generators by inappropriately attributing excessive losses to all generators in the Cork area. These excessive losses arise as a result of the TLAF calculation methodology which determines a single loss factor at the margin only but then applies it across the entire output of the plant. This has the effect of applying the tangent shown in Figure 1 in Appendix B (the green line) to every MW produced by the stations, even though it clearly fails to represent the actual value of those MWs to the system in terms of their contribution to (largely reducing) losses. The application of this mechanism cannot be allowed to continue and must be changed immediately.

The implementation of uniform TLAFs, while not delivering a "perfectly right" solution, will address the inequalities and inefficiencies present in the current marginal methodology, allowing plant to compete on a level playing field and allowing efficiencies to drive costs out of the market. Substantial work has already been undertaken by the RAs, SOs and the industry to evaluate the alternative options and uniform TLAFs have been identified as clearly superior to all other options considered – a position supported by the vast majority of the industry until the recent identification of potential windfall gains led some parties to change their positions. The justification by these parties to maintain the current broken system is largely provided by utilising 2010 as a base case against which to compare the impact of uniform losses, but this fails to reflect that the situation in 2010 is massively distorted by the specious application of loss factors determined on a discredited basis which invalidates any comparison. ESBPG analysis of the impact of introducing uniform TLAFs shows that the total cost of production (the more appropriate economic indicator of efficiency) will be reduced by €4.4m in SEM year 2010/11 and 238,000 tonnes saving of CO2 emissions.

The RAs have made a compelling case for the implementation of uniform loss factors following consideration of all the evidence, opinions and data provided by all parties, against criteria established by the RAs at the outset of this process 20 months ago. A compelling case to reverse the RA proposed decision has not been made and any

decision to reverse or alter that proposed decision would, in ESBPG's view, be a retrograde step.

The RAs proposed decision should stand. Uniform TLAFs should be implemented from October 2010 in order to avoid further distortions to the wholesale market. .

ESBPG concurs with the view that an Impact Analysis should be undertaken to establish the value of the Splitting option. It is however ESBPG's contention that the use of a single marginally derived TLAF for each node is flawed for use in the market regardless of whether the TLAF is calculated ex-ante or in real time as it applies that one TLAF to the full output of the generation plant and remunerates the generators accordingly. As is demonstrated in the ESBPG analysis of the Cork based CCGTs, this is totally inappropriate. Therefore ESBPG concur with the RAs view that uniform approach to losses should also be adopted for the market schedule under the Splitting option. However TLAFs derived in real time (or close to same) and used in dispatch could potentially lead to a benefit by further reducing the total cost of production, and it is a question of establishing the cost-benefit implications of so doing. The RAs proposed analysis should establish the merits and feasibility of this option and in doing so consideration should be given to the consequences on carbon emissions of an ineffective dispatch process, balanced against the benefits of achieving an "optimisation" of network losses.

Background to the Proposed RA Decision

In the SEM High Level Design⁹ the Regulatory Authorities (RAs) first identified their preference to harmonise the all-island transmission charge and loss arrangements, with such arrangements seeking to provide locational signals which reflect the costs users impose on the system. In that document, the RAs concluded in respect of losses to apply static Transmission Loss Adjustment Factors (TLAFs) determined using a marginal methodology for the initial operation of the SEM.

Subsequent to that decision, a number of concerns were raised to the RAs regarding the calculation methodology, in particular regarding the year-on-year volatility of the resulting TLAFs, and the disconnect between actual operation and the applied TLAFs resulting from their year-ahead derivation. Indeed the RAs recognised the concerns raised as far back as 2006¹⁰ and stated that they wished to review these issues in future years.

In 2007¹¹ the RAs announced their intention to “follow up on volatility mitigation measures for the TLAFs post 2008” and subsequently (in publishing the TLAFs for 2009¹²) the RAs announced their intention for the issue to be included in the “review of locational signals in the SEM, to be undertaken in 2009, with a view to implementation in the following years”. This announcement led to the major review undertaken by the System Operators (SOs) at the request of the RAs, beginning in early 2009.

The SO review began with a survey, the results¹³ of which showed:

- 69.6 % of respondents stated that the current arrangements were not acceptable;
- 73.9% stated a locational signal was not an important element of TLAFs; and
- the most important criterion in relation to the derivation of TLAFs was Stability (Low volatility) with 81.8% identifying it to be “Very Important” (the highest available category).

⁹ *Proposed High Level Design*, 31 March 2005, AIP-SEM-06-05,

¹⁰ *The Single Electricity Market: Treatment of Transmission Losses. Decision Paper*, 31 August 2006, SEM-112-06.

¹¹ *Transmission Loss Adjustment Factors for 2008. A Decision Paper*, 7 December 2007, SEM-07-04

¹² *Transmission Loss Adjustment Factors for 2009, Decision Paper*, SEM-08-173, 25 November 2008

¹³ *System Operators' Review of Locational Signals on the Island of Ireland. Workshop, Questionnaire and Industry Paper Overview*, 30 April 2009, SEM-09-046

It is clear that among respondents (of which there were 23 to the questions on TLAFs) there was a clear consensus for a change to the current arrangements, moving towards more stable signals which need not be locational.

At the end of May 2009, the SOs published their consultation document¹⁴ on the review of locational signals. A common view among the 15 respondents to this consultation (as reported by the SOs in their subsequent consultation on “preferred options”¹⁵) reaffirmed that the volatile nature of the TLAFs resulting from the current methodology presented misleading locational signals. Responses to the latest consultation by the SOs (the “preferred options” consultation referred to above) indicates substantial opposition to the current regime. Indeed the Irish Business and Employers Confederation (IBEC) response (which represents the collective of energy providers in the Republic of Ireland) called for the application of uniform TLAFs.

At the recent workshop in Dundalk (26 July 2010), in response to questions from the floor, Andrew Cooke confirmed the view of the SOs is that the current TLAF arrangements were designed for a different environment and are no longer fit for purpose.

In their proposed decision paper, the RAs have taken account of the significant work that has been undertaken by all parties during the review of the TLAF arrangements, have considered all the comments raised by respondents to the consultations and attendees at workshops, and, in the light of the criteria they identified as requiring to be met by any new TLAF arrangements, have concluded that uniform TLAFs should be implemented from 1 October 2010 and that in the longer-term, the application of TLAFs in the market should be separated from their application in the dispatch phase provided an Impact Assessment establishes a cost-benefit in proceeding at all.

¹⁴ *Methodology Options to be Considered for the Implementation of Locational Signals on the Island of Ireland. Consultation Paper, May 2009, SEM-09-060*

¹⁵ *Preferred Options to be Considered for Locational Signals on the Island of Ireland. Consultation Paper, 26 November 2009, SEM-09-107*

Summary of the ESBPG Commissioned Study – Calculation of Transmission Losses

Using publicly available data (EirGrid published data for the Republic of Ireland electronically, Forecast Statement 2008-2014 and Winter 2009 case), ESBPG's study ('Calculation of Transmission Losses' - appended to this letter) looked at the actual impact of the new generation on losses for a day in December 2010 which EirGrid had identified as resulting in the worst impact (i.e. the lowest TLA values) for the two new plants in Cork area (Aghada CCGT owned by ESBPG and Whitegate owned by Bord Gais).

More particularly, to establish how the losses attributable to the two Cork CCGTs vary, the study held demand steady while output was progressively reduced for the two Cork CCGTs in 20MW steps from 825 MW to zero. In order to maintain a system balance, output was gradually increased on other generators.

The impact on ROI System Losses can clearly be seen in the figure below.

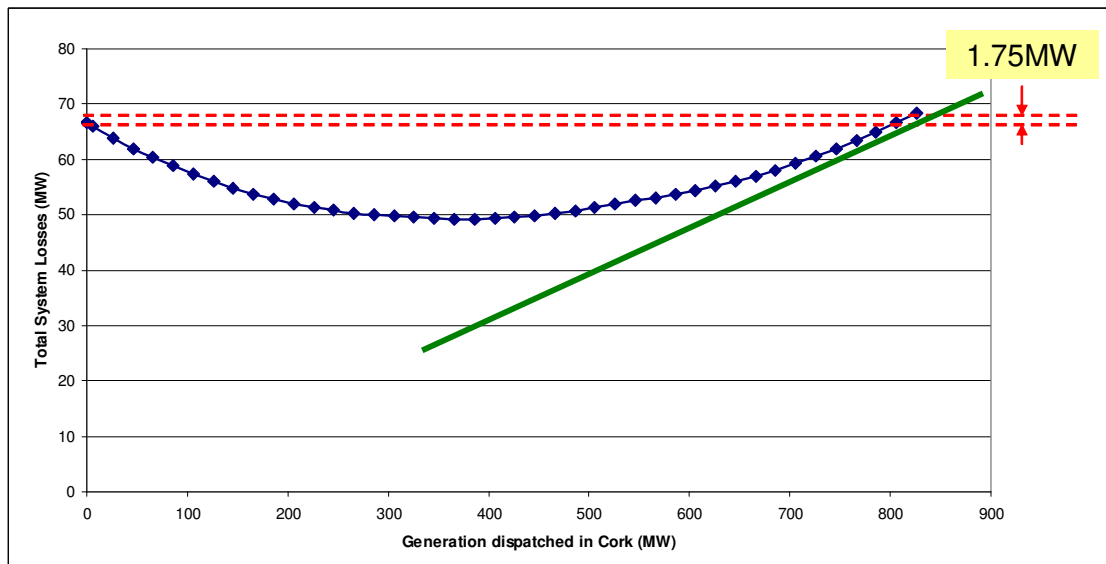


Figure 1 Impact of Cork Region Generation on System Losses

From the figure it can be seen that System Losses (indicated by the blue line) increase by less than 2 MW if generation at Aghada and Whitegate CCGTs is used to replace

other generation on the system. Furthermore, it can be seen that the first 800MW of generation from the two Cork CCGTs is loss free.

In summary:

- Generation from Aghada and Whitegate CCGTs has a minimal impact on total system losses;
- The first 385MW of generation reduce total system losses (by up to circa 20MW); and
- The first 800MW of generation are loss free (i.e. net zero impact on system losses).

Section 9 of the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007¹⁶

Principal objective and duties of Department, the Authority and SEM Committee in relation to SEM

9. — (1) The principal objective of—

- (a) the Department in carrying out its electricity functions in relation to matters which it considers materially affect, or are likely materially to affect, the SEM;
- (b) the Authority in giving effect to any decision of the SEM Committee;
- (c) the SEM Committee in carrying out its functions under Article 6(2),

is to protect the interests of consumers of electricity in Northern Ireland and Ireland supplied by authorised persons, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the sale or purchase of electricity through the SEM.

(2) The Department, the Authority and the SEM Committee shall carry out those functions in the manner which it considers is best calculated to further the principal objective, having regard to—

- (a) the need to secure that all reasonable demands for electricity in Northern Ireland and Ireland are met; and
- (b) the need to secure that authorised persons are able to finance the activities which are the subject of obligations imposed by or under Part II of the Electricity Order or the Energy Order or any corresponding provision of the law of Ireland; and
- (c) the need to secure that the functions of the Department, the Authority, the Irish Minister and CER in relation to the SEM are exercised in a co-ordinated manner,
- (d) the need to ensure transparent pricing in the SEM;

¹⁶ The wording in Section 9 of the Electricity Regulation (Amendment) (Single Electricity Market) Act 2007 is substantially the same.

(e) the need to avoid unfair discrimination between consumers in Northern Ireland and consumers in Ireland.

(3) The Department, the Authority and the SEM Committee may, in carrying out any of the functions mentioned in paragraph (1), have regard to the interests of consumers in Northern Ireland and Ireland in relation to gas.

(4) Subject to paragraph (2), the Department, the Authority and the SEM Committee shall carry out the functions mentioned in paragraph (1) in the manner which it considers is best calculated—

(a) to promote efficiency and economy on the part of authorised persons;

(b) to secure a diverse, viable and environmentally sustainable long-term energy supply in Northern Ireland and Ireland; and

(c) to promote research into, and the development and use of—

(i) new techniques by or on behalf of authorised persons;

(ii) methods of increasing efficiency in the use and generation of electricity.

(5) Subject to paragraph (2), in carrying out any of the functions mentioned in paragraph (1) the Department, the Authority and the SEM Committee shall have regard to—

(a) the effect on the environment in Northern Ireland and Ireland of the activities of authorised persons, and

(b) the need, where appropriate, to promote the use of energy from renewable energy sources.

(6) In carrying out any of the functions mentioned in paragraph (1) the Department, the Authority and the SEM Committee shall not discriminate unfairly—

(a) between authorised persons; or

(b) between persons who are applying to become authorised persons.

(7) In carrying out any of the functions mentioned in paragraph (1) in accordance with the preceding provisions of this Article, the Department, the Authority and the SEM Committee shall have regard to—

(a) the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed;

(b) any other principles appearing to it to represent the best regulatory practice.

(8) In this Article—

“authorised person” means the holder of a licence or exemption granted under Part II of the Electricity Order or any corresponding provision of the law of Ireland;

“electricity functions” means —

(a) functions under Part II of the Electricity Order;

(b) functions under the Energy Order relating to electricity;

(c) functions under Part IV of the Electricity Order 1992 (Amendment) Regulations (Northern Ireland) 2005 (SR 2005/ 335); and

(d) functions under this Order;

“environmental sustainability” includes the need to guard against climate change; and

“renewable energy sources” has the same meaning as in the Directive.

(9) In relation to any time after the coming into operation of Article 3 but before the establishment of the SEM Committee, this Article has effect as if for paragraph (1)(b) there were substituted—

"(b) the Authority in carrying out its functions under Article 3;" .

Calculation of Transmission Losses

The full text of the ESBPG commissioned study “Calculation of Transmission Losses” is provided in this appendix (appended as a separate document).