

Single Electricity Market

Generator Transmission Use of System Charging

Decision paper

29 September 2011

SEM-11-078

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1 INTRODUCTION

The development of harmonised all-island transmission Generators charges and losses arrangements was an objective stated in the original Single Electricity Market (SEM) high level design¹. It was also stated as an objective that the harmonised transmission arrangements should provide locational signals to users that reflect the costs that they impose on the transmission system.

“Generators should pay a locational charge as part of their Transmission Use of System, i.e. they should pay more to contribute to the cost of the deep reinforcement which their shallow connection has caused”².

On the basis of these signals, users can make informed decisions concerning their use of the transmission system. This should, other things being equal, lead to more efficient development and use of the transmission system.

The Transmission Use of System (TUoS) charging arrangements should set charges that appropriately reflect transmission investment costs linked to system usage. On this basis, each Generator’s TUoS charge should be reflective of transmission investment costs linked to its own use of the system. Those participants that drive investment pay higher tariffs. In response to signals provided via cost-reflective charges, Generators are able to make informed decisions concerning their own system usage. This should promote efficient use of the system by Generators, which should, in turn, facilitate efficient investment in the transmission system overall.

The Generator TUoS (G-TUoS) charges should, therefore, provide signals that enhance the efficiency of investment in the transmission network in the longer-term.

The purpose of this SEM G-TUoS decision paper is to outline the decision made by the SEM Committee (SEMC) on the following matters:

- The outstanding issues from SEM-10-081 which were consulted upon on SEM-11-018. They were (i) calculation methods for all-island G-TUoS tariffs, (ii) fixed tariff options, (iii) non-firm G-TUoS charging and (iv) distribution connected Generators TUoS Threshold Level;
- Indicative all-island G-TUoS tariffs proposed by the Transmission System Operators (TSOs) to the SEMC for the tariff year 1st October 2011 to 30th September 2012 published in SEM-11-036;
- The G-TUoS methodology statement developed by the TSOs published in SEM-11-037, which details the steps taken by the TSOs in calculating the 2011/2012 indicative tariffs. It should be noted that a final G-TUoS methodology is published alongside this paper (SEM-11-079); and

¹ Please see the following [link](#).

² Ibid.

- Further refinements to be examined by the Regulatory Authorities (RAs) Project Team and TSOs in the coming months.

This decision paper is structured in the following manner:

- **Section 1** provides an introduction to this issue.
- **Section 2** outlines the background and development of this present workstream since January 2009.
- **Section 3** outlines the main themes of the submissions received to the consultation papers SEM-11-018, SEM-11-036 and SEM-11-037 and the SEMC response to same. This section is broken into three parts which separately deals with each consultation.
- **Section 4** outlines the SEMC decision in relation to the three papers detailed above. Again, this section is broken into three parts which separately deals with each consultation. This section also outlines the further refinements to be examined in respect of the G-TUoS methodology.
- **Section 5** provides a summary of decisions made in this paper and the next steps of this workstream.
- **Appendix A** outlined the final G-TUoS tariffs to apply for the period 1 October 2011 to 30 September 2012.

Queries to this SEMC publication should be submitted to Jamie Burke (jburke@cer.ie).

2 BACKGROUND

At present, different transmission charging methodologies apply in Republic of Ireland and Northern Ireland. In Northern Ireland, a common, non-locationally varying £/MW capacity charge is levied upon all eligible Generators such that 25% of allowed transmission revenue is recovered from Generators. In the Republic of Ireland, G-TUoS charges vary by location. Each Generator's charge is determined based upon its forecasted responsibility in new transmission network investment, as determined by load flow modelling. As in Northern Ireland, 25% of allowed transmission revenue is recovered from Generators.

G-TUoS tariffs are usually charged on capacity basis (MW). This is appropriate considering that transmission costs are largely associated with the recovery of lumpy fixed investments. Therefore, the cost is not linearly related to the actual usage by the Generator, but to the requirement to put in place the network to facilitate that usage, as and when required. In other words, it is generator capacity which drives network investment and not actual generator output.

Efforts to harmonise G-TUoS arrangements (by moving towards an approach which delivers locationally varying TUoS charges) have been ongoing for a number of years. However, during the process market participants raised a number of concerns relating to the impact of the proposals put forward in 2008, particularly tariff volatility between years and the robustness of the methodology. Given these concerns, the SEMC took the decision³ to defer the harmonisation of G-TUoS charging arrangements.

It was then decided by the SEMC to combine the Generator TUoS workstream with the treatment of losses and a locational signals project has now been ongoing since January 2009 involving the TSOs and RAs and in consultation with industry. This project undertook to examine options for the introduction of harmonised all-island G-TUoS charging and Transmission Loss Adjustment Factors (TLAFs). In the summer of 2010 the workstreams separated with the publication of a decision on all-island TLAFs (SEM-10-066) in September of that year.

The process to date in relation to G-TUoS is as follows:

- in January 2009, at the request of the SEMC, the TSOs initiated the review of locational signals provided by G-TUoS charges and TLAFs (SEM-09-001)⁴.
- in May 2009, the TSOs published a consultation paper (SEM-09-049) which presented a range of potential methodology options in respect of G-TUoS and TLAFs⁵.
- based on feedback provided to the May 2009 consultation, in November 2009 the TSOs published a further consultation paper (SEM-09-107) in which they set out their preferred options for both G-TUoS and TLAFs⁶.

³ Please see the following [link](#).

⁴ Please see the following [link](#).

⁵ Please see following [link](#).

- in November 2009 the TSOs held a workshop in Dundalk where they presented on their preferred options outlined in SEM-09-107. The SEMC also presented on their perspective at the workshop and participants were invited to comment on the TSOs preferred options⁷.
- in February 2010, having considered responses to the November 2009 consultation, the TSOs provided a formal response to the SEMC in which they set out their updated position and recommendations.
- in December 2010 the SEMC endorsed the proposal of the TSOs to proceed with a 'dynamic' forward looking locational signal model of tariffing for Generators, as outlined in "*All-Island Generator Transmission Use of System Charging*" decision paper" (SEM-10-081)⁸.
- in April 2011 the RAs published a consultation paper (SEM-11-018)⁹ which set out some of the TSOs proposals required to implement SEM-10-081, as well as other clarification areas. SEM-11-018 was formulated by the TSOs with input and advice from the RAs. It discussed and provided recommendations on a number of specific issues.
- in June 2011 the RAs published a consultation paper containing 2011/2012 Generator Indicative tariffs (SEM-11-036)¹⁰ supplied by the TSOs and a G-TUoS methodology statement developed by the TSOs (SEM-11-037)¹¹, which detailed the steps taken by the TSOs in calculating these indicatives.
- the RAs also held a joint workshop with the TSOs on the Generator indicative tariffs and their method of calculation in June. This allowed stakeholders to question the indicatives and the assumptions used in their calculation by TSOs.
- acknowledging the fact that there was a significant body of information to comment on the RAs decided to extend the consultation period for SEM-11-036 and SEM-11-037 by a further ten days to 25 July.

This SEM workstream now moves to decision phase.

⁶ Please see following [link](#).

⁷ Ibid

⁸ Please see the following [link](#).

⁹ Please see the following [link](#).

¹⁰ Please see the following [link](#).

¹¹ Ibid

3 GENERATOR TUOS CONSULTATIONS AND RAS RESPONSE

As noted in section 2 in December 2010 the SEMC decided to implement the 'Dynamic plus Postage Stamping' methodology as the all-island G-TUoS methodology through SEM-10-081. The all-island G-TUoS charges will be levied on the basis of recovering 25% of the allowed revenue for network costs on the island.

The main aim of the Dynamic plus Postage Stamp methodology is to differentiate the impact that participants have on the transmission systems through providing a forward looking locational signal. By using this methodology it is intended to give appropriate entry and exit locational signals to Generators. The tariff design also includes a postage stamp element that seeks to recover, on a pro-rata basis, the sunk network costs.

SEM-10-081 approved a methodology which included the following:

- Uses a combination of postalised and locational elements;
- Uses static network charging based on the MEAV as the basis for the postalised element;
- Uses the dynamic network based on the value of planned future network as the basis for the locational element; and
- Uses multiplicative scaling separately on the total postalised and locational charges resulting from the above approaches to scale to maximum 30% and 70% respectively of the required revenue for a given year.

The locational element of the methodology under this model will collect up to 30% of the allowed revenue allocated to Generators. The remaining amount will be collected through a postage stamp methodology. The split between the two elements balances the need for stability with the need for differentiation to drive efficiency.

The following sections provide a summary of the responses received to each of the three consultations since publication of SEM-10-081 in December. It also details the SEMC response to the themes advanced by respondents.

3.1 April 2011 Consultation - All-Island Generator Transmission Use of System (TUoS) charging: Outstanding Issues.

In April 2011 the RAs published a consultation paper (SEM-11-018) which set out some of the detailed issues required to implement SEM-10-081, as well as other clarification areas. SEM-11-018 was formulated by the TSOs with input and advice from the RAs. It discussed and provided recommendations on a number of specific issues:

- Calculation methods for All-Island G-TUoS Tariffs.
- Fixed Tariff Options.

- Non Firm G-TUoS.
- Charging Distribution Connected Generators TUoS – Threshold Level.

There were twenty responses received to SEM-11-018. All non-confidential responses have been published on the AIP website alongside this paper. They were:

- ABO Wind Ireland Ltd.
- AES NI
- Airtricity
- ART Generation Ltd.
- Beam Wind Ltd.
- Bord Gáis Energy
- Bord na Móna
- DW Consultancy Ltd.
- Endesa Ireland
- ESB Energy International
- IBEC
- Irish Wind Energy Association
- Lisdowney Wind Farm Ltd.
- NIE Energy - Power Procurement Business
- Northern Ireland Renewables Industry Group
- NOW Ireland
- Renewable Energy Systems Ltd.
- Synergen
- The Consumer Council
- Tullynamoyle Wind Farm

Below is an outline of the responses to the four issues in the consultation and other general comments.

Calculation methods for All-Island G-TUoS Tariffs

SEM-11-018 proposal: The harmonised all-island G-TUoS must ultimately recover the allowable transmission revenue requirement relating to network costs. The application of all-island calculated tariffs, which are collected jurisdictionally, will result in one jurisdiction under-recovering compared to their jurisdictional allowed revenue and the other over-recovering. Consequentially cross-border financial flows will occur to ensure adequate revenue recovery in each jurisdiction.

Of the respondents that commented on this issue there was a split between those for and against the TSOs recommendation. A number agreed with the TSOs recommendation that Option 3 (Jurisdictional Generator Adjustment) should be removed from consideration because of the TSOs view that Option 3 fundamentally undermines harmonised Generator all-island tariffs. Most in favour supported the TSOs position for Option 1, while a number of those did not state a preference for Option 1 or

Option 2. As one respondent noted *“the approach suggested by the TSOs is equitable with both EirGrid and SONI sharing the risks”*.

Those respondents against the TSOs recommendation were concerned that under Option 1 25% of all-island network revenue requirement is charged and collected from all-island Generators, i.e. an all-island Generator pot. A number of these respondents believed that cross border flows, as envisaged under Option 1, will result in cross subsidies between one jurisdiction and another.

“Allowed revenue in each jurisdiction will be determined by separate and distinct Government energy and renewable policy. Such policy will underpin the infrastructure investment requirement and it should not be assumed that similar policies will be adopted in each jurisdiction...aggregating the allowed revenue on an all island basis will result in one set of generators subsidising another”.

SEMC response

The SEMC agree with the assertion that Option 3, which adjusts recovery from Generators within a jurisdiction, is not all-island in nature and were it to be employed would call into question the purpose of having harmonised all-island tariffs. The SEMC believe that this was not the intent of the review established under SEM-09-001.

Under Option 1 25% of the all-island network revenue requirement is charged and collected from Generators who use the all-island transmission network in the SEM. This leads to the establishment of an all-island Generator pot. Financial cross-border flows are required to ensure that each jurisdiction recovers its regulated revenue requirement, however these flows do not equate to cross border subsidies between one jurisdiction and another.

It is important to note that the transmission revenue requirements in both ROI and NI are determined by CER and NIAUR separately, and not by the SEMC. A subsidy would imply a monetary contribution being made by one jurisdiction to another. This is not the case as these financial flows are not contributions, but transfers to ensure that the transmission revenue requirements in both jurisdictions are recovered correctly and fully. Further to this issue of subsidies, the SEMC wish to point out that both jurisdictions have separately decided to implement policies which will aim to achieve 40% of electricity consumption from renewable sources by 2020¹².

It is also important to clarify that the creation of an all-island pot for G-TUoS with consequential financial cross-border flows between the TSOs, does not have an impact on supplier/demand TUoS in either jurisdiction. The G-TUoS model is set to recover the required G-TUoS pot; any over or under-recovery of the total pot will be dealt with through a K-factor in the following all-island G-TUoS pot.

¹² Please refer to the following papers: [here](#) and [here](#).

Fixed Tariff Options

SEM-11-018 proposal: The adoption of tariffs being fixed in relative terms for 5 years.

Of those who responded to this issue there was no clear consensus on which option to adopt, it was split between those for and against the TSOs recommendation that G-TUoS tariffs be fixed for a period of 5 years in relative terms. The main argument advanced by respondents was that G-TUoS tariffs under Option 3 would evolve along with system developments.

Fixing the tariff absolutely *“would fail to reflect changes in circumstances across the period and the impact on suppliers may be problematic”*.

No respondents were solely in favour of option 2, while those against the TSO recommendations called for Option 1 to be implemented – fixing the tariffs absolutely for 5 years. The main reasons advanced were that Option 1 would fulfil the spirit of the SEM-10-081, i.e. fixing the tariffs, while at the same time providing stability to Generators. Option 3 would not provide stability to Generators as their tariffs would shift year-on-year.

In fact one respondent called for G-TUoS tariffs to be fixed absolutely for a period of ten years, *“such certainty would greatly assist generators in preparing a business case for investment in new generation and would more effectively address the issue of volatility”*. However, as another respondent noted *“care must be taken in providing this stability, to avoid any unnecessary or unexpected risk which would add to the overall cost to consumers”*...and that the *“option chosen should reflect a suitable equity of risk between the generators and demand side”*.

SEMC response

As noted above, in SEM-10-081 the SEMC decided that Generators tariffs under the new all-island methodology should be fixed for a period of five years at a time, (with new Generators also being fixed for five years). So for example Generators provided with tariffs for the period 1 October 2011 to 30 September 2012 would have the same tariffs until the completion of the 1 October 2015 to 30 September 2016 tariff period.

In the case where new Generators connect during the five year period their tariff is also fixed for five years, (e.g. Generator A is provided with a tariff for the period 1 October 2013 to 30 September 2014 and that tariff is fixed until the completion of the 1 October 2017 to 30 September 2018 period).

SEM-10-081 also stated that the TSOs should prepare a recommendation for the SEMC on how this can best be dealt with or alternative options to achieve the appropriate level of stability. Hence the submission of the three options to the SEMC, outlined in SEM-11-018.

In light of the responses received to SEM-11-018, SEM-11-036 and SEM-11-037 (discussed later) the SEMC has now decided not to implement the fixing of G-TUoS tariffs under any form (neither Option 1, 2 or 3) at present. The SEMC recognise that fixing for five years would provide stability for Generators, however, the SEMC now feel that the disadvantages of fixing (at this point in time) outweigh the advantages. This matter and the reasons for the decision are outlined later in the paper.

Non-Firm G-TUoS

SEM-11-018 proposal: charging both firm and non-firm on the same capacity (MW) basis is the most appropriate approach.

A significant majority of respondents did not support the TSOs recommendation that firm and non-firm Generators be given similar treatment in terms of G-TUoS charging. As one respondent noted it is *“unfair to require Generators who do not have full transmission access rights to pay at the same level as users who do have full firm financial access....the principles of fairness, which is a fundamental design objective of the SEM out-weighs any potential distortion of the TUoS tariff methodology”*.

Another respondent stated that the existing methodology is an incentive in itself for the TSOs to complete transmission build, in an efficient and timely manner, in order to allow these non firm Generators to connect on a firm basis. *“There is no sense in transferring even more aspects of the risk of transmission delays to Generators as would be the case (if the TSOs recommendation was adopted)”*.

These respondents support retaining the current arrangements where non-firm Generators pay TUoS based on their energy MWh output, not on a capacity based Maximum Export Capacity (MEC). Of the few respondents who did support the TSOs recommendation the response was quite minimal, simply stating their support for the proposal and little more. One respondent noted that *“non-firm generation does not receive a lesser service from the grid than firm generation, as it will be dispatched on economic merit”* and *“that the full access to the market that non-firm generation does, on balance, outweigh the ‘lesser service’ it receives through the absence of constrained-off payments”*.

SEMC response

One of the key principles established by the SEMC (and TSOs) during this review has been that of fairness. The principles used in the establishment of the TUoS tariffs and the application of those tariffs must be fair and non-discriminatory. Under the dynamic plus postage stamp methodology all Generators are charged based on the anticipated future usage of the transmission network. Essentially, all Generators on the island are charged now based on their estimated responsibility in the expansion of the transmission network in ROI and NI. There is no distinction between what type of Generator is driving the need for these future assets, firm or non-firm.

Non-firm Generators, like their firm counterparts, still need to pay for the existing assets on the transmission system (mainly postage stamp element) and the future assets/investments they are driving (mainly locational element). As they both make a similar contribution it is important that all Generators see the full locational signal regardless of their access right 'status'. The SEMC acknowledges that firm and non-firm Generators, under current SEM arrangements, are not identical. Simply speaking, non-firm Generators are not entitled to compensation in the event that physical access to the transmission system is denied to them, or unavailable. Generators with firm access are entitled to these payments.

However, the SEMC agrees with the TSOs statement that non-firm Generators are effectively granted access to the Market Schedule by virtue of the dispatch decision. The TSOs are now charged with dispatching the system on a least cost basis without regard to the firm or non-firm status of the Generator. Therefore, all Generators effectively get access to the Market Schedule based on their overall competitive position in the merit order. This principle has been confirmed in section 4.3 of the recent SEMC decision paper "*Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code*" (SEM-11-062).

The SEMC has therefore decided that firm and non-firm Generators will be treated the same under the all-island G-TUoS methodology, i.e. both will pay a fixed MW charge - they are computed in the same way.

Charging Distribution Connected Generators TUoS – Threshold Level

SEM-11-018: Due consideration should be given by the SEMC to lowering the threshold to 5MW with incremental MW charging to avoid step changes around the threshold value.

The proposal to reduce the TUoS charging threshold to 5 MWs for Distribution connected Generators was the singular issue for a number of respondents. The majority of respondents were in favour of the TSOs recommendation, with one qualifying that they supported the proposed new regime applying to new Generators only. One respondent believed that the proposed new limit of 5 MWs was still too high and that a limit of 1 MW would be 'more appropriate'.

Those against the TSOs recommendations believed that Generators had made business cases and investment decisions based on the existing regime and a retrospective change would be unfair and weaken investment opportunities. Some respondents believed that there was little evidence provided in the consultation that Generators in the 5 to 10 MWs range were having a material impact on the transmission system.

One respondent noted that "*the example provided in the SO paper is a relatively extreme example of how Generators can impact on the transmission system. There does not appear to be balance within the SO paper to recognise the system benefits*

provided in many cases by embedded generation". A number of respondents were of the opinion that this proposed change would not align with EU policy to encourage embedded generation.

SEMC response

Again, the key principle of fairness needs to be taken into consideration by the SEMC. Under the current system, is it fair to have a 10.1 MW Distribution connected Generator paying the full TUoS charge of 10.1 MW on its capacity, while a 9.9 MW Generator does not contribute at all? The SEMC see this situation as an anomaly and reject the notion that changing the system would be unfair against those who connected under the current arrangements.

It is appropriate that the SEMC can change aspects of the SEM market as it evolves and on the basis of market experience. These changes should be carried out in the interests of fairness and non-discrimination for all participants, including existing Generators and those looking to connect.

The SEMC do not see how this proposal conflicts with EU policy encouraging embedded generation. The intent is to introduce a more equitable and fairer scheme than at present, as the appropriate costs for use of the transmission system will be spread fairly across embedded generation, rather than only on those Generators with an MEC of greater than 10MWs. The charge for the over 10 MW Generators will also be reduced.

The SEMC agree with the TSOs that reducing the threshold to 5 MWs and implementing the new incremental MW rule (i.e. a 7 MW Generator be charged for 2 MWs, a 12 MW Generator be charged for 7 MWs etc) results in a more equitable system of TUoS payment by distribution connected generation.

It is noted that historically the combined impact of smaller Generators exporting power onto the transmission system was minimal, as these small Generators were mainly supplying local distribution system load. However, as a result 2020 NI and ROI renewable targets we are moving to a situation in both ROI and NI where these small embedded Generators (including those of less than 10MWs MEC) will be contributing to flows on the transmission system, otherwise there would not be a requirement to build out the transmission network in both jurisdictions to the extent that is planned.

While the amount of generation connecting to the distribution network is increasing, the level of demand has not changed in the same proportions thus causing increased effects and increasing levels of export onto the transmission system. The 'seven-year' statements in both ROI and NI support this case¹³.

¹³ Please see the followings link: [here](#) and [here](#).

Not only are we moving to situation where these Generators are contributing to flows from the distribution network on to the transmission system, but in order to connect them to the system these Generators are also contributing to the requirement for deep transmission works. In addition, the greater the volume of distribution connected Generators, the more significant this issue becomes. It is the SEMC's view that is fairer to move to a system where more of these distribution connected Generators driving these transmission needs are financially contributing to the development of the transmission system in both ROI and NI, because ultimately they are receiving a benefit from it.

Stakeholders should note that in the case where distribution connected generation is contributing to an offset of flows then negative/zero tariffs may apply where applicable, i.e. a continuance of the current ROI policy.

However, in recognition that this is a change to the charging structure of particular Generators, the SEMC has decided that this updated policy will not be implemented until the start of the next tariff period, 1 October 2012. Therefore, the current charging structure (i.e. threshold of 10 MWs) will continue for the upcoming tariff period 1 October 2011 to 30 September 2012.

General Comments:

Most of the respondents were concerned with the fact that 2011/2012 Indicative TUoS tariffs had not been published by the SEMC prior to the commencement of the SEM-11-018 consultation. Respondents felt that a more effective response could have been made to SEM-11-018 had the 2011/2012 Indicatives been available. As one respondent noted, *"the absence of...indicative tariffs makes it difficult for parties to properly assess the impact of the TSOs recommendations"*.

Two respondents were concerned with how the Inter-TSO compensation scheme interacted with the proposed all-island G-TUoS tariff proposals. As one noted, *"it is not clear what additional use of system costs, if any, the TSOs may recover for transit or cross-border flows"*.

Another respondent stated the tariff option chosen should *"reflect a suitable equity of risk between the generators and demand side in meeting reasonable revenue requirements...care must be taken in providing this stability, to avoid any unnecessary or unexpected risk which would add to the overall cost to consumers"*.

SEMC response

The SEMC are aware that some stakeholders may have found it difficult to respond to SEM-11-018 without sight of the indicative tariffs. These indicatives were subsequently published in June (SEM-11-036). However SEM-11-018 was concerned with tariff principles and not levels. The SEMC believes that stakeholders responses to the principles outlined in SEM-11-018 may have been impacted by any concerns which they

might have had over the indicative tariffs. This could have meant responses not focusing on the principles. Indicative tariffs, while of interest to all Generators, were not of direct relevance to that consultation paper.

The Inter-TSO compensation scheme¹⁴ is designed to compensate network users for the costs of providing network, in order to facilitate cross border trade and host transits. Therefore, when assessed under the scheme that network was provided for hosting such transits an amount would be payable to the host TSO. It is appropriate that a proportion of this would be netted off the costs that Generators face as to do otherwise could result in them paying, under either postalised or locational charges, for network which is ascribed to the use of others.

In the event that a jurisdiction is making a contribution to the ITC fund (as is the case in both jurisdictions on the island) then again it is reasonable that Generators bear a proportion of the cost of such compensation to other TSOs. This is because it is the generation portfolio, and the overall pattern of generation and demand, which is driving such payments: the most obvious case being where a jurisdiction is a net exporter and therefore likely to be contributing to increased flows in neighbouring jurisdictions. Therefore, the SEMC does not accept the assertion that Generators are somehow paying double for the network, through the attribution of charges associated with the ITC scheme.

The comment in relation to the suitable equity of risk between the Generators and demand side is essentially concerned with the SEM-10-081 decision to fix charges for a period of five years. This matter is addressed in the next section.

3.2 June 2011 Consultation - Generator Transmission Use of System Charging: 2011/2012 Indicative tariffs

In June 2011 the SEMC published a consultation paper (SEM-11-036) which contained indicative all-island G-TUoS tariffs for the upcoming tariff period 1st October 2011 to 30th September 2011.

In light of the significant number of SEM consultations published in Q2 2011 the RAs decided on 8 July to extend the consultation period of SEM-11-036 and SEM-11-037. Respondents were encouraged to submit their views as early as possible in advance of the new closing date, in order to facilitate the RAs review of responses. It was stated that any responses received after the new deadline (12.00 noon on Monday 25 July) would not be considered.

However, even allowing for the extension the majority of responses still missed the new deadline and as a result the RAs felt it necessary to review all responses received. The RAs acknowledge that there was a large body of SEM publications out for consultation in Q2; however the RAs would ask all stakeholders to please abide with timelines given

¹⁴ Please refer to the following [link](#) for guidelines relating to Inter TSO compensation scheme.

in future. If the problem of late submissions continues in relation to SEM consultation, the RAs will consider implementing a very rigid approach whereby only those submissions received in advance of the consultation deadline will be considered, while late submissions will be ignored and requests for extensions to deadlines will not be granted.

There were fourteen responses received to SEM-11-018. All non-confidential responses have been published on the AIP website alongside this paper. They were:

- AES NI
- Airtricity
- Bord Gáis Energy
- CBI Northern Ireland
- DW Consultancy Ltd.
- Endesa Ireland
- ESB Energy International
- ESB Power Generation
- Fingleton White & Co. Ltd.
- National Electricity Association of Ireland
- NIE Energy - Power Procurement Business
- Synergen
- The Consumer Council
- Viridian Power and Energy (VPE)

Most respondents focused specifically on the G-TUoS Methodology Statement and not on the indicative tariffs. The indicative tariffs produced in SEM-11-036 are simply the application of the SEMC 2010 December decision (SEM-10-081) which approved the proposal to implement 'Dynamic Plus Postage Stamp methodology' to all-island G-TUoS¹⁵ and the details of this methodology are outlined in SEM-11-037. However, a number of respondents did ask that Generators be provided with a breakdown of the assets associated with their respective locations, to enable understanding of the charges being levied against them.

SEMC response

The SEMC acknowledge that in the interests of transparency Generators should be aware of the assets driving their locational charge under the methodology. During the consultation phase a number of Generators contacted the SEMC and the TSOs requesting such information, which was subsequently relayed to them on an individual basis. Identifying and publishing the assets driving the locational charge of every Generator in SEM-11-036 is a significant body of work.

¹⁵ Please see following [link](#).

However, the SEMC is open to accommodating further requests from Generators looking for this breakdown of their specific charge(s). Interested parties should contact Jamie Burke (jburke@cer.ie) in the CER or Billy Walker (billy.walker@uregni.gov.uk) in the UR.

3.3 June 2011 Consultation - G-TUoS Methodology Statement

The SEMC also published an accompanying G-TUoS methodology statement developed by the TSOs (SEM-11-037), which detailed the steps taken by the TSOs in calculating the indicative tariffs contained in SEM-11-036. This statement outlined the details of the TSOs methodology in response to the SEMCs high level approval of the methodology in SEM-10-081 and request for a consultation on the detailed methodology. The same number of responses was received to SEM-11-037 as that of SEM-11-036, with nearly all respondents focusing solely on the proposed methodology statement.

Comments on SEM-11-037 methodology:

Most of the respondents commented on the inputs, assumptions and models used by the TSO to derive the indicative 2011/2012 tariffs. The following categorises the responses relating to the methodology into three sections.

Load Flow and Dispatch scenarios

Some respondents stated that the assumptions used by the TSOs in deriving the tariffs were only first published in SEM-11-037 and therefore lacked transparency. A number of respondents questioned the suitability of assuming an 80% wind capacity factor in the summer minimum, considering the very low level frequency of that occurrence. Further to this point concerning dispatch scenarios assumed, one of the respondents stated that *“it is not economically prudent to base decisions on a deterministic worst case scenario. Rather a more probabilistic approach should be adopted”*.

Some respondents questioned the appropriateness of allocating 1MW of dispatch to out-of-merit plants to give them a locational charge in the load flow analysis. These respondents believed that the locational charge should be set at zero for these Generators considering they are not being dispatched in the model. A number of respondents also noted the impact of the Moyle Interconnectors and its flow on the tariffs. In the model Moyle is not being charged TUoS, but its imports are driving dominant flows in the certain scenarios. Respondents suggested that Moyle imports should be removed from the load-flow analysis.

Finally, a number of respondents questioned the use of a DC model in deriving the tariffs, which these respondents believed to be *“a simplification of a full AC power flow”*.

Assets

One respondent stated that with a proposed five year fixed tariff regime assets should be included for either ten years or fifteen years, and not twelve years as proposed in SEM-10-037. This would allow for asset alignment. A couple of respondents asked for further clarity on the treatment of assets that are cancelled, i.e. what was the result to a units locational charge and postalised charge when assets are taken completely out of the TSOs cost file.

Charging

One respondent questioned whether it was appropriate to charge its own Generator (name excluded for confidentiality purposes) on its maximum export capacity when a protection system on the transmission system does not allow full export capacity. Another queried that if the reduction in the TUoS threshold is to apply to Autoproducers and CHP Producers should it only apply when the MEC minus the MIC is greater than 5MWs?

One respondent made the point about it being counter-intuitive that Generators identified in the separate TSOs Generator Capacity Statements as requiring network build to allow export of energy are receiving a lesser TUoS charge than those with adequate network build. One respondent also made the point about the TSOs not considering use of two 110kV circuits in the north-east area of the island, while the new Cavan/Turleenan circuits have been included by the TSOs in their costs file.

TSOs response

The queries were addressed to the TSOs by the RAs, as they related specifically to the inputs and assumptions used by the TSO in deriving the indicative 2011/2012 tariffs. The below text represents the response made by the TSOs to the RAs request.

Load Flow and Dispatch scenarios

The TSO's have stressed that the load flow and dispatch scenarios used are based on the scenarios used by network planners in planning the development needs of the system. This consistency is important as G-TUoS charging based on the network investment needs being driven by each Generator must be reflective of the actual planning scenarios being used. In relation to the assumed 80% wind capacity factor and the probabilistic approach, the main reason for the use of the 80% capacity factor is to test the network for a credible and onerous condition which the TSOs are obliged to consider. Based on historical data the occurrence of up to 80% wind during summer is a frequent enough event to consider this a credible dispatch. The assumptions used by the TSOs are based on historical, verifiable data.

The 1MW incremental dispatched is used in order to reflect the Generator's access to the market schedule. While the Generator may not be physically dispatched, it still has

to pay for the potential access that it could have if it were dispatched. The transmission network still has to be in place in the event that it was dispatched. This provides a locational signal to the existing plant and furthermore a locational signal to any potential future plant.

In relation to the inclusion of Moyle imports, the reason they are currently included is that the planners within the TSOs include it in their studies. The transmission network needs to be built to allow for all the power flows including Moyle. It should be noted by stakeholders that EU legislation¹⁶ prohibits the charging of interconnector users directly for cross-border flows and the interpretation made by the European Commission and Member States excludes interconnector owners from TUoS charges as well.

The ITC mechanism effectively compensates TSO and/or consumers for hosting cross-border flows. The practice of not charging TUoS to Interconnectors users has recently been implemented in Great Britain¹⁷, amongst other Member States. To do otherwise would be outlier amongst Member States in the EU. Therefore, Interconnectors in the SEM will not be charged TUoS.

The TSOs believe the usage of DC in the model to be appropriate. There is significant international use of DC tools for this purpose. The TSOs have consulted some academic papers that conclude that while there is a loss of accuracy using DC approximation, the results from a DC power flow are still acceptably accurate.

Assets

The TSOs acknowledge that the fixing approach raises a number of questions, one of which is what impact does the fixing period have on the total period that assets are included for calculation. However, the assets would have to be included for a period which is a multiple of 5 years to fully align.

The impact of assets that are cancelled is that they are removed from the network file. The locational charge will more than likely decrease for those participants who use the particular asset. However, the postalised element to be charged across all Generators will have to be increased slightly to make up for the allocated cost associated with the usage of the withdrawn asset.

Charging

With regard to special protection schemes, the TSOs note that in the case of that particular respondent's query, it does make sense as they are part of a special protection scheme. This means that this plant is made financially whole where the system is constrained.

¹⁶ Regulation EC No 713/2009 on conditions for access to the network for cross border exchanges (repealing 1228/2003), that entered into force in July 2010 and applies from 3rd March 2011 (the 'third package').

¹⁷ For example see decision made in Great Britain, GB ECM-26, Report to the Authority, Review of Interconnector Charging Arrangements, National Grid, September 2010.

One the issue of the Autoproducers and CHP Producers these plants should be charged on MEC as the transmission network is planned to support this. For example there may be some instances where a certain CHP producer is exporting its full capacity on to the system and not importing any energy, this case shows that the system needs to be planned to allow this. The SEMC supports and approves this position.

The proposed locational differential tariffs are based upon the network reinforcements included in the current TSO model. The most consistent and transparent approach for the inclusion of these reinforcements is to use Transmission Forecast Statement in ROI and the 7 Year Statement in NI as the source of future network developments. The future Dublin-Cork reinforcements are outside of the 5 year horizon, but the North South tie-line is within the horizon. It is likely that when the future Dublin-Cork reinforcements are included in the TSO model that those Generators driving the Dublin-Cork line would be impacted.

Finally with regard to the two 110kV circuits in the north-east, they are used for emergency flows only and it is not appropriate for them to be included in the model for planning purposes.

SEMC response

The SEMC have reviewed the inputs and assumptions used by the TSOs and are of the view that they are reasonable.

It should be noted by stakeholders that the assumptions used by the TSOs (e.g. four dispatch scenarios, assumption of an 80% wind capacity factor etc.) were not first produced in SEM-11-037. These assumptions have been indicated to stakeholders since the creation of various options for a new all-island G-TUoS methodology in Q4 2009¹⁸.

Cross-subsidization:

A number of respondents re-iterated the point that that cross-border flows, as envisaged under Option 1 of SEM-11-018, will result in cross-subsidies between one jurisdiction and another. This point is based on the fact that there will be a north-south flow of approximately €7 million in the tariff year and this constitutes, in the eyes of these respondents, a subsidy to ROI Generators being paid by NI Generators.

As one noted, *“NI Generators are paying on average 23% more for the use of the transmission system than Generators in ROI. The overall net effect of the proposed tariffs is that NI Generators will be making a €7m/year contribution to ROI Generators”*.

¹⁸ Please refer to sections 6.1.1 and 6.1.2 of SEM-09-107

SEMC response

As outlined in SEM-11-018 (and above) under Option 1 25% of the all-island network revenue requirement is charged and collected from Generators who use the all-island transmission network in the SEM. This leads to the establishment of an all-island G-TUoS pot. The notion of an all-island pot was developed at the early stages of this project workstream. Stakeholders should be aware that the 2008/2009 indicative tariffs derived by the TSOs for SEM-09-107 used approved jurisdictional 2008/2009 revenues¹⁹. The concept of an all-island pot and not separate jurisdictional pots is a fundamental aspect of the all-island G-TUoS concept and was not something developed only for the purposes of SEM-11-036 and SEM-11-037, but rather throughout the course of review process.

Once the total all-island G-TUoS pot is established, the G-TUoS model is then set to recover this total revenue pot from all generators on the island using the methodology outlined in SEM-11-079. The model does not see jurisdictional borders, but rather an all-island system that Generators have access to. That some Generators will pay more than others is a fact of the model designed to charge Generators based on the level of future network investment which they are driving.

The SEMC believe that the establishment of this pot is required to fulfill the creation of an all-island harmonised G-TUoS recovery - as envisaged under the SEM High Level Design. The methodology is designed to provide appropriate signals to transmission users of the costs that they impose on the transmission system. Financial cross-border flows are required to ensure that each jurisdiction recovers its regulated revenue requirement, however these flows do not equate to cross border subsidies between one jurisdiction and another.

The transmission revenue requirements in both ROI and NI are determined by CER and NIAUR separately, and not by the SEMC. A subsidy would imply a monetary contribution being made by one jurisdiction to another. This is not the case as these financial flows are not contributions, but transfers to ensure that the transmission revenue requirements in each jurisdiction, as determined by the relevant regulator (CER or NIAUR), is recovered correctly and fully.

Fixing of tariffs:

A number of respondents were deeply concerned about the issue of fixing. A few argued that fixing would provide certainty; a welcome proposal and even those against the notion of fixing recognised this. However, in the view of these respondents the potential drawbacks outweighed the benefits of fixing.

- As noted above some respondents believed that the methodology employed by the TSOs in deriving the indicative tariffs to be incorrect. Therefore, the tariffs

¹⁹ Please refer to section 6.1.6 of SEM-09-107

themselves are not cost-reflective, correct or fair and fixing them for five year would have a significant financial impact on affected Generators. As one noted, *“fixing the tariff for a period of five years is inappropriate, given the weakness in the GTUoS calculation methodology”*.

- Inconsistency of the locational signal was also an issue for some respondents. The indicative tariffs contained in SEM-11-036 would indicate that new generation should locate in ROI, while at the same time the Transmission Loss Adjustment Factors (TLAFs) for the current tariff period²⁰ and indeed the 2012 BNE Peaker consultation²¹ indicate that NI is a more favourable location to connect generation.
- Some respondents noted the possibility that under the proposal to fix the tariff for five years some Generators may have completely different tariffs fixed for five years, even though they are located in the same geographical area. For example, Generator B is provided with a tariff of €5/kW/yr for the five years of 1 October 2011 to September 2016. However during that period Generator C, located in the same area as Generator B, is connected for the tariff period 1 October 2013. Under the methodology the TSOs will need to provide a tariff to Generator C, while keeping all existing Generators at the same tariff level. The updated model run used in deriving Generator C’s tariff will be different (updated transmission system topography and assumptions) to that used to derive Generator B’s. Therefore the two tariffs will most likely be different (e.g. Generator C could be given a tariff of €10/kW/yr), which in turn will provide an ineffectual and perverse locational signal.

SEMC response

The SEMC acknowledge that there is a significant level of concern among stakeholders with the issue of fixing. Therefore, the SEMC have decided not to implement fixing in any form from 1 October 2011 (fixing the absolute tariff, fixing the absolute tariff based on anticipated future requirements or fixing the tariff relativity).

G-TUoS tariffs will not be subject to any of these options outlined in the fixing section of SEM-11-018. The tariffs contained in Appendix A below are for the tariff period 1 October 2011 to 30 September 2012 only. However it remains the SEMC’s policy that the fixing of G-TUoS tariffs would provide certainty to Generators and that this proposal will be revisited when setting the tariffs for the 2012/2013 tariff period.

The SEMC note the potential benefits of fixing, primarily the increased certainty that comes from tariffs being in place for a period of five years. However, the SEMC are in agreement with respondents who feel that the disadvantages outweigh the advantages at this point in time. It should be noted that in coming to this decision the SEMC has kept in mind to need to balance the various weightings (cost-reflectiveness, efficiency,

²⁰ Please see the following [link](#).

²¹ Please see the following [link](#).

stability, transparency etc) to the greatest level possible. The reasons for this decision are as follows.

- Fixing Generator tariffs for a period of only five years will not be cost-reflective, especially in the coming years where there is expected to be large scale investment in the all-island transmission network. A cost reflective tariff should differentiate between participants impact on the network and therefore participants will face the costs of their behaviour and decisions. Cost reflective tariffs should also include a fair allocation mechanism for common costs across the island. The example of Generator B and Generator C in the section above clearly demonstrates that fixing tariffs for a period of five years will not provide cost-reflective signals for investment. In many cases it could lead to a perverse locational signal.
- Related to this point is the issue of a step-change at the end of the five year tariff period. Some respondents were supportive of the idea of fixing because it provided certainty. Five year fixed tariffs will provide certainty, but only for that period. Generation investment by its very nature is large-scale and long-term, significantly longer than five years. Fixing for longer than 5 years (e.g. 10 years), while providing for a considerably longer period of certainty, would only further exaggerate the disadvantages of fixing particularly at the end of the fixed period with the calculation of the “new” tariffs.

Under fixing, the tariff charged to a given Generator would not reflect any changes to transmission system over that period. It would however face this change at one point in time. So for example the charges faced by many Generators in the tariff period 2015/2016 may be significantly different to that they face in the upcoming tariff period 2011/2012. One could argue that several large shifts in a Generator’s tariff from a five-year period to the next is not providing any greater stability than small annual changes, when the economic life of a Generator can be twenty to twenty-five years.

With considerable investment expected in the all-island transmission network in the next five years the possibility of large-scale shifts is almost certain. The SEMC believe it more appropriate for Generators in the new all-island methodology to face this in a more granular year-by-year change.

- Fixing by its very nature takes a ‘snapshot’ of assumptions, model inputs etc. and holds them for a period of five years. This point is related to some of the detailed submissions made by respondents concerning the assumptions used by the TSOs in deriving the 2011/2012 indicative tariffs. This is not to say that the assumptions used by the TSOs were incorrect, the SEMC are of the opinion that the inputs used by the TSOs are reasonable. A final G-TUoS methodology is published alongside this paper (SEM-11-079).

However, these assumptions and inputs must be allowed to evolve year-on-year, especially in the context of a large scale transmission network investment programme in both ROI and NI. Fixing would inhibit this. For example, the processes carried out by the TSOs to derive the 2011/2012 indicative tariffs did not include new East-West Interconnector (EWIC) flows, which is expected to be energised by Q4 2012. Events like this mean that the locational element of the tariffs will evolve substantially in the coming years.

Allowing these assumptions and inputs to evolve will lead to cost-reflective and efficient tariffs, while also providing stability in some sense to Generators, who will see a granular change in their charges.

- In SEM-10-081 the SEMC were aware that fixing could increase the tariffs charged to Demand, and therefore impact the 75:25 split between Demand TUoS and G-TUoS, and stated that an objective would be to reduce and/or minimise this disruption to Demand if possible for the upcoming tariff period(s). If a material variation to the split was expected the TSOs were asked to *“prepare a recommendation for the SEMC on how this can best be dealt with or alternative options to achieve the appropriate level of stability”*.

The SEMC must be conscious of any potential adverse effects that changes to the G-TUoS methodology may have on the Demand side. Decisions in the SEM must be taken in the interests of all consumers, while taking into account the impact on Generators. It is clear that fixing Generator tariffs (under option 1 or 2) for a period of five years in a period of significant network change would lead to Demand recovering any revenue recovery shortfall from Generators and ultimately increased volatility for Demand customers.

Although option 3 of fixing in SEM-11-018 removed the necessity of any adjustment to Demand, it still would not have allowed the assumptions and inputs of the methodology to evolve fully over the five-year period (e.g. fixed load flow model under option 3). Fixing under option 3 would still not produce a cost-reflective and efficient TUoS methodology.

General comments:

A number of respondents requested that the 2012 BNE decision reflect the 2011/2012 Indicative TUoS rates published in SEM-11-036. Another questioned whether EirGrid and SONI were thinking of developing a single transmission investment plan for the island.

SEMC response

The 2012 BNE decision paper was published on 2 August²² (SEM-11-059) stated the following.

The TUoS charges quoted by the respondents (to the 2012 BNE Consultation paper) are currently only indicative rates and they will be reviewed by the SEMC. In the view of this the SEMC recognises that the indicative rates do not provide a finalised estimate of the costs of a BNE plant entering the market in 2012. As no SEMC decision has been made, the SEMC do not feel it is appropriate to use the indicative TUoS rate as the indicative target rate has the potential to change and therefore could produce a subjunctive unrealistic ACPS which could be subject to criticism. It is therefore proposed that no change is made to the TUoS charges in the consultation paper.

In relation to the single transmission investment plan the TSOs have stated that there are no plans at present. While EirGrid and SONI work jointly on a number of things on an all-island basis, NIE are responsible for the NI investment plan, hence a joint investment plan is not appropriate at this point in time.

²² Please see the following [link](#).

4 SEM COMMITTEE DECISIONS

The following sections outline the decisions made by the SEMC in respect of each of the consultations discussed above (SEM-11-018, SEM-11-036 and SEM-11-037).

It is clear from the timeline in section two above that this workstream has been extensive and indeed long in duration. The current project began in January 2009 – the SEMC now moves into the decision phase in September 2011. There have been a number of consultations, questionnaires, workshops and interactions with stakeholders throughout the review process and in the interests of certainty and stakeholder confidence it is important that the SEMC now makes its final decision on this matter for the upcoming tariff period and officially closes off this workstream. To continue with uncertainty in this project stream would hinder the development of the SEM, as envisaged under the 2005 high level design.

Stakeholders should note that the decisions (and by extension tariffs) outlined below revolve around the 2010 December SEMC decision (SEM-10-081). That decision allowed for the introduction of a ‘dynamic’ forward looking locational signal model of tariffing for Generators, with the locational charge for each Generator being set at 30% max of their entire charge. The decisions below are in essence an extension of that decision and a confirmation of the detailed methodology, building upon the high level design of that decision and the accompanying tariffs.

The locational/postage stamp tariffs contained in Appendix A below are for the tariff period 1 October 2011 to 30 September 2012 only. They are set to recover 25% of the allowed revenue for network costs on the island, as determined by the 2011/2012 ROI and NI transmission revenue requirements²³.

4.1 SEMC Decision on April 2011 Consultation SEM-11-018

There were four issues for consultation in this paper.

1. Calculation methods for All-Island G-TUoS Tariffs

The SEMC has decided option 1 of the calculation methods outlined in SEM-11-018 be adopted. Generator tariffs will be calculated on an all-island basis with supplier tariffs calculated jurisdictionally as today; consequential cross-border revenue flows between TSOs (“All-Island Generation Adjustment”).

Characteristics of this calculation methodology as per SEM-11-018;

- 25% of the all-island network revenue requirement is charged and collected from all-island Generators - an all-island Generator pot.
- 75% of ROI revenue requirement is charged and collected from ROI suppliers.

²³ Please see the following links: [here](#) and [here](#)

- 75% of NI revenue requirement is charged and collected from NI suppliers.
- All billing and collection remains on a jurisdictional basis.
- This means that 25% of the NI G-TUoS revenue requirement will not necessarily be collected from NI Generators and vice versa; rather the all-island generation pot is assumed to be collected from all-island Generators with one jurisdiction setting out to collect more than 25% of the revenue requirement from Generators within that jurisdiction and the other jurisdiction by definition less. Financial cross-border flows will therefore be required to ensure each jurisdiction recovers their regulated revenue requirement.

Any over/under recovery of revenues (of the entire all-island G-TUoS pot) will be added to the Generator element of the all-island network revenue recovery in the subsequent tariff year.

2. Fixed Tariff Options

The SEMC has decided none of the fixed tariff options outlined in SEM-11-018 will be adopted. The locational/postage stamp tariffs contained in Appendix A below are for the tariff period 1 October 2011 to 30 September 2012 only. They are set to recover 25% of the allowed revenue for network costs on the island, as determined by the 2011/2012 ROI and NI transmission revenue requirements. Indicative tariffs for the following tariff period (1 October 2012 to 30 September 2013) will be published for consultation with stakeholders in 2012.

However it remains the SEMC's policy that the fixing of G-TUoS tariffs would provide certainty to Generators and that this proposal will be revisited when setting the tariffs for the 2012/2013 tariff period.

3. Non Firm G-TUoS

The SEMC has decided that firm and non-firm Generators will be treated the same under the all-island G-TUoS methodology, i.e. both will pay a fixed MW charge.

Non-firm Generators, like their firm counterparts, still need to pay for the existing assets on the transmission system (mainly postage stamp element) and the future assets/investments they are driving (mainly locational element). As they both make a similar contribution it is important that all Generators see the full locational signal regardless of their access right 'status'. Furthermore, all Generators effectively get access to the Market Schedule by virtue of the overall competitive position in the merit order, whether they are firm or non-firm.

4. Charging Distribution Connected Generators TUoS – Threshold Level

The SEMC has decided to adopt the proposal in SEM-11-018, that the threshold level for charging TUoS to distribution connected generation be lowered to 5 MWs, with

incremental MW charging to apply (i.e. a 7 MW Generator will be charged for 2 MWs, a 12 MW Generator will be charged for 7 MWs etc).

The SEMC see the current situation as an anomaly and reject the notion that changing the system would be unfair against those who connected under the current arrangements. These changes are carried out in the interests of fairness and non-discrimination for all participants, including existing Generators and those looking to connect. The SEMC agrees with the TSOs that reducing the threshold to 5 MWs and implementing the new incremental MW rule results in a more equitable system of TUoS payment by distribution connected generation.

However, in recognition that this is a change to the charging structure of particular Generators, the SEMC has decided that this updated policy will not be implemented until the start of the next tariff period, 1 October 2012. Therefore, the current charging structure (i.e. threshold of 10 MWs) will continue for the upcoming tariff period 1 October 2011 to 30 September 2012.

Finally, as noted above in the case where distribution connected generation is contributing to an offset of flows then negative/zero tariffs may apply where applicable, i.e. a continuance of the current ROI policy. The TSOs will credit those Generators upon whom they are able to call upon to provide tangible system benefits through offsetting flows to the direction of dominant flow on the transmission system, and which thereby have the potential to reduce the need for future investment in the system. This can result in some Generators having a negative overall TUoS charge, if their negative locational charge outweighs the positive postalised charge, which is spread across all Generators.

Furthermore, a lower bound of zero will apply to generation which does not provide the level of system security from a planning perspective necessary to offset future investment requirements – wind generation due to its intermittent nature, and therefore inability of the TSOs to call upon it should the need arise. Therefore, overall TUoS charges in intermittent generation will not fall below zero, given that the TSOs are unable to rely upon this generation to provide system support.

4.2 SEMC Decision on June 2011 Consultation SEM-11-036

The SEMC through SEM-10-081 approved a methodology for the calculation of all-island G-TUoS tariffs, which included the following:

- Uses a combination of postalised and locational elements;
- Uses static network charging based on the MEAV as the basis for the postalised element;
- Uses the dynamic network based on the value of planned future network as the basis for the locational element; and

- Uses multiplicative scaling separately on the total postalised and locational charges resulting from the above approaches to scale to maximum 30% and 70% respectively of the required revenue for a given year.

As noted above the locational element of the methodology will collect up to 30% of the allowed revenue allocated to Generators. The remaining amount will be collected through a postage stamp methodology. The split between the two elements balances the need for stability with the need for differentiation to drive efficiency.

In that decision paper (SEM-10-081), the SEMC requested that the TSOs develop the detailed methodology and indicative tariffs based on this approved design.

The locational/postage stamp tariffs contained in Appendix A below reflect the outcome of the methodology outlined in this section. They are applicable to the tariff period 1 October 2011 to 30 September 2012 only. It should be noted that the indicative tariffs contained in SEM-11-036 were based on assumed revenue requirements (please refer to section 4 of SEM-11-036).

The difference in the models that generated the published G-TUoS indicatives in SEM-11-036 and the set now published in Appendix A are the following:

- Change in revenue requirement (from €60 million to €56.9 million);
- Change in MWs modelled (from 12,358.8 MWs to 12,038.3 MWs, 320 MWs less in more recent model). This arises due to projects being taken out of the model as the most up to date information available to the TSOs is that these projects will not connect during the charging period;
- Inclusion of additional ROI developments listed in Section 1.4 of the TFS; and
- Removal of some NI costs (i.e. costs that appeared in the NI Seven Year Statement as NIE unapproved). In the indicatives published in SEM-11-036 these NIE unapproved costs had been included in the cost file, but are now removed for the purposes of the final 2011/2012 G-TUoS tariffs.

In relation to the last bullet point, it is important to note that in the case of the SONI seven year statement, NIE facilitates its production by providing network files for the seven year period. These network files contain projects which are planned for delivery over the seven year period both those which are approved by the NIE Board and those which are as of yet unapproved. A separate section of the SONI seven year statement outlines the NIE unapproved network plans.

The TSOs have recommended to the SEMC that the cost files for the G-TUoS model should not include these unapproved network costs as they have not gone through the full planning process in NIE. The SEMC accepts this recommendation and has approved this amendment to the cost files. For clarity, the cost files used by the TSOs in deriving the final G-TUoS tariffs do not include NIE unapproved projects.

As noted above the final G-TUoS tariffs in Appendix A reflect the CER and NIAUR decisions on allowed 2012 Transmission revenues²⁴.

The following is the allowed revenues to be recovered from these tariffs:

ROI revenue =	€45.37 million
NI revenue =	€11.59 million
All island revenue =	€56.96 million

4.3 SEMC Decision on June 2011 Consultation SEM-11-037

The SEMC are of the opinion that the inputs used by the TSOs are reasonable and meet the SEMC's requirements outlined in SEM-10-081. Therefore the methodology proposed in SEM-11-037 is to be adopted. A final G-TUoS methodology is published alongside this paper (SEM-11-079).

As noted above the SEMC decided to implement the 'Dynamic plus Postage Stamping' methodology as the all-island G-TUoS methodology in SEM-10-081. The full details of the decision are outlined in section 4 of that paper. However, there were a number of outstanding issues outlined in section 5 of SEM-10-081 which required further consultation with stakeholders (SEM-11-037). They were:

Issue	G-TUoS methodology statement proposal	SEMC Decision
The basis for identifying the assets to be charged for locationally;	Section 3.1 of statement – identifying assets through use of the separate 7 years TSOs Transmission Forecast Statement.	As per proposal
The method for valuing the assets	Section 6.1 of statement – method used is Modern Equivalent Asset Value (MEAV)	As per proposal
The time period over which the selected assets are to be considered as being locational,	Section 6 of statement – assets will be considered locational 5 years pre-commissioning and 7 years post-commissioning. After this 12 year period the asset will not be part of the locational charge and will	As per proposal

²⁴ Please see the following links: [here](#) and [here](#).

both pre- and post-investment	therefore be postalised.	
The utilisation of locational circuits	Section 6.1 of statement – for example if Generator X is causing a flow of 10MW on a line with total capacity of 100MW and the flow from generator X is in the dominant direction of the flow on the line then this generator will pay 10% of the annual NPV replacement cost of the circuit.	As per proposal
Consistency of treatment between existing and new generators	Section 6 - assets will be considered locational 5 years pre-commissioning and 7 years post-commissioning. This will avoid a 'free-rider' approach where new Generators don't pay for usage of assets which are still being charged on a locational basis.	As per proposal
The methodology for fixing G-TUoS tariffs for a five year period	Not covered in statement - This issue has been separately consulted on in SEM-11-018.	As per section 4.1 above

Section 6.3 and 6.4 of SEM-11-037 outlines how assets that are delayed, cancelled or unexpected will be dealt with in the TSOs cost files which are used in the tariff process. The categories covered in SEM-11-037 were:

- Projects that are terminated;
- Delay which does not impact inclusion in the 5 year future horizon;
- Delay which pushes an asset outside the 5 year horizon; and
- Treatment of assets that are not forecast 5 years in advance (unexpected).

Finally, the SEMC has also decided that Interconnectors in the SEM will not be charged TUoS. The reasons for this are outlined in section 4 above. Essentially the SEMC is of the opinion that doing so would be in contravention of EU legislation and the actions of other member states.

4.4 Further refinements to G-TUoS methodology

As part of its decision, the SEMC believes that further refinements to the methodology need to be examined by the RA Project Team and TSOs in the coming months. Even though the SEMC accept that the broad principles and assumptions used by the TSOs

in deriving the tariffs are reasonable and as such the tariffs have been approved for application on 1 October 2011, there still needs to be a recognition of the concerns raised by a number of the respondents in respect of the detailed methodology. For this reason, the SEMC has decided that further work on examining possible refinements/improvements to the G-TUoS tariff methodology should be carried out.

The areas for further examination are as follows:

- i. Use of distributed slack bus for 1 MW function;
- ii. Expansion of or refinement of the four scenarios in discussion with and consistent with transmission planning, including consideration of the use of plant not dispatched setting tariffs;
- iii. Consideration of alternative approach for plants which do not appear in any of the four scenarios (may be resolved by (ii) above);
- iv. Consideration of adapting methodology to include lines built before year Y in cost recovery;
- v. Complete report of advantages average participation versus marginal participation;
- vi. Consideration of extending the evaluation of scenarios only in year Y+5 also to the intermediate years;
- vii. The SEMC to reconsider fixing of G-TUoS tariffs for 5 years or longer, i.e. fix tariffs in 1 October 2012 for the next five years or more;
- viii. In the absence of fixing G-TUoS tariffs, the appropriateness and rationale of including future network costs (either approved or unapproved) in the computation of present charges; and
- ix. Further consideration of the transmission planning criteria/methodology in use within both jurisdictions to ensure consistency in the G-TUoS model in the development of the all-island network cost file.

The SEMC is now requesting that the TSOs initiate work to examine these issues and report to the SEMC by end Q1 2012. The SEMC will then examine this report and determine the appropriate next steps, i.e. whether changes to the methodology will be made for the all-island G-TUoS tariff run for the next tariff period, 1 October 2012 to 30 September 2013.

5 SUMMARY & NEXT STEPS

The development of harmonised all-island transmission Generator charges was an objective stated in the original 2005 SEM high level design. The current project began in January 2009. There have been a number of consultations, questionnaires, workshops and interactions with stakeholders throughout the review process. The SEMC decisions outlined in section 4 above are in the interests of certainty and stability in the SEM, while also implementing the appropriate charging methodology for all-island G-TUoS to meet the objectives of this workstream.

In coming to these decisions the SEMC has kept in mind to need to balance the various weightings (cost-reflectiveness, efficiency, stability, transparency etc) to the greatest level possible. The SEMC must also be conscious of any potential adverse effects that changes to the G-TUoS methodology may have on the Demand side, e.g. the Demand/Generator ratio of 75:25 fluctuating. Decisions in the SEM must be taken in the interests of all consumers, not just Generators.

The decisions in section 4 cover:

- The outstanding issues from SEM-10-081 which were consulted upon on SEM-11-018. They were (i) calculation methods for all-island G-TUoS tariffs, (ii) fixed tariff options, (iii) non-firm G-TUoS charging and (iv) distribution connected Generators TUoS Threshold Level;
- Indicative all-island G-TUoS tariffs proposed by the TSOs to the SEMC for the tariff year 1st October 2011 to 30th September 2012 published in SEM-11-036. The final tariffs are published in Appendix A of this paper; and
- The G-TUoS methodology statement developed by the TSOs published in SEM-11-037. It should be noted that a final G-TUoS methodology is published alongside this paper (SEM-11-079).

A decision is also made in relation to the charging of TUoS to Interconnectors in the SEM. As noted in Section 4.4 above further refinements to the methodology need to be examined by the RA Project Team and TSOs. The SEMC has asked the TSOs and RAs to report to it by end Q1 2012.

The below locational/postage stamp G-TUoS tariffs are applicable to the tariff period 1 October 2011 to 30 September 2012. Indicative tariffs for the following tariff period (1 October 2012 to 30 September 2013) will be published for consultation with stakeholders in 2012.

Queries to this SEMC publication should be submitted to Jamie Burke (jburke@cer.ie) in the CER.

APPENDIX A: FINAL ALL-ISLAND G-TUOS TARIFFS 2011/2012

The locational/postage stamp G-TUoS tariffs are applicable to the tariff period 1 October 2011 to 30 September 2012 only. These final G-TUoS tariffs reflect the decisions outlined in this paper and the CER and NIAUR decisions on allowed 2012 Transmission revenues²⁵.

Station	Units	Contracted Maximum Export Capacity (MW)	Network Capacity Charge Rate €/MW/month	Equivalent €/kW/year
ROI Transmission Connected Non-Wind				
Aghada 220kV (including Longpoint)	AD1, AT1, AT2, AT4, AD2	959.00	€427.6959	€5.1324
Ardnacrusha	AA1, AA2, AA3, AA4	86.00	€418.8000	€5.0256
Aughinish (Seal Rock)	SK3, SK4	130.00	€445.6000	€5.3472
Dublin Bay Power (Irishtown)	DB1	415.00	€388.6917	€4.6643
Edenderry Power (Cushaling)	ED1	121.50	€395.2500	€4.7430
Edenderry Peaker (Cushaling)	ED3, ED5	116.00	€395.2333	€4.7428
Erne (Cathleen's Fall)	ER3, ER4	45.00	€390.1000	€4.6812
Erne (Cliff)	ER1, ER2	20.00	€390.1000	€4.6812
Whitegate CCGT (Glanagow)	WG1	445.00	€427.9250	€5.1351
Great Island 110kV	GI1, GI2	108.00	€329.8417	€3.9581
Great Island 220kV	GI3	108.00	€352.4917	€4.2299
Huntstown 1	HNC	352.00	€394.0083	€4.7281
Huntstown 2	HN2	412.00	€396.8333	€4.7620
Lough Ree Power (Lanesboro)	LR4	94.00	€384.1333	€4.6096
Lee (Carrigadrohid)	LE3	8.00	€444.3500	€5.3322
Lee (Inniscarra)	LE1, LE2	19.00	€440.5583	€5.2867
Liffey (Pollaphuca)	LI1, LI2, LI4	34.00	€339.6417	€4.0757
Marina	MR1, MRT	112.00	€400.8583	€4.8103
Moneypoint	MP1, MP2, MP3	862.50	€464.5333	€5.5744
Northwall 38kV	NW1, NW2, NW3	45.00	€393.9917	€4.7279
Northwall 220kV	NW4, NW5	227.00	€390.8083	€4.6897
Poolbeg (Shellybanks)	PB4	150.00	€389.5917	€4.6751
Poolbeg (Shellybanks)	PB5, PB6	310.00	€389.4333	€4.6732
Rhode (Derryiron)	RH1, RH2	103.60	€426.0167	€5.1122
Tarbert 110kV	TB1, TB2	108.00	€446.6417	€5.3597
Tarbert 220kV	TB3, TB4	481.40	€446.6417	€5.3597
Tawnaghmore Peaker	TP1, TP3	104.00	€365.3333	€4.3840

²⁵ Please see the following links: [here](#) and [here](#).

Turlough Hill	TH1, TH2, TH3, TH4	292.00	€404.0333	€4.8484
Tynagh	TYC	404.00	€420.3750	€5.0445
West Offaly Power (Shannonbridge)	WO4	141.00	€383.0750	€4.5969
ROI Transmission Connected Wind				
Athea		38.00	€504.7977	€6.0576
Ballywater		42.00	€357.7056	€4.2925
Boggeragh		57.00	€469.6066	€5.6353
Booltiagh (19.45 + 12.0 MW)		31.45	€433.9327	€5.2072
Castledockrill		41.40	€359.2101	€4.3105
Clahane		37.80	€516.4000	€6.1968
Coomacheo (@ Garrow)		59.225	€519.8706	€6.2384
Coomagearlaghy		81.00	€512.1770	€6.1461
Kingsmountain (@ Cunghill)		34.80	€357.3341	€4.2880
Derrybrien		59.50	€393.1342	€4.7176
Dromada		28.50	€504.7981	€6.0576
Glanlee		29.80	€512.1766	€6.1461
Golagh		15.00	€476.2205	€5.7146
Garvagh		58.225	€353.3740	€4.2405
Lisheen		55.00	€391.5051	€4.6981
Meentycat		84.96	€510.6704	€6.1280
Mulreavy		82.00	€390.0982	€4.6812
Bindoo @ Ratrussan		48.00	€331.5912	€3.9791
Mountain Lodge (@ Ratrussan)		30.62	€331.5912	€3.9791
ROI Distribution Connected Generators				
	Connected at			
Arklow Wind	Arklow	25.20	€372.0086	€4.4641
Ballycadden (1)	Lodgewood	14.45	€359.2101	€4.3105
Ballycadden (2)	Lodgewood	11.50	€359.2101	€4.3105
Gibbeet Hill	Lodgewood	14.80	€359.2101	€4.3105
Glanta Commons Wind	Ballylickey	27.95	€369.4136	€4.4330
Corkermore Wind	Binbane	15.00	€426.1656	€5.1140
Meenachullalan	Binbane	11.90	€426.1656	€5.1140
Carrigcannon	Boggeragh	20.00	€469.6066	€5.6353
Killavoy	Boggeragh	18.00	€469.6066	€5.6353
Gortahile	Carlow	21.00	€339.6361	€4.0756
Raheen Barr Wind	Castlebar	18.70	€377.8037	€4.5336
Cappagh White	Cauteen	16.10	€409.6212	€4.9155
Garracummer	Cauteen	36.90	€409.6212	€4.9155
Glenough	Cauteen	33.00	€409.6212	€4.9155
Meath Waste Energy	Drybridge	17.00	€347.6741	€4.1721
Caherdowney	Garrow	10.00	€519.8706	€6.2384
Taurbeg Wind	Glenlara	26.00	€425.8340	€5.1100
Dromdeveen	Glenlara	27.00	€425.8340	€5.1100
Carrowleagh	Glenree	34.15	€362.6409	€4.3517
Bawnmore	Macroom	24.00	€445.5334	€5.3464

Cark Wind	Letterkenny	15.00	€529.6106	€6.3553
Cullagh Wind	Letterkenny	11.88	€529.6106	€6.3553
Gartnaneane Wind	Meath Hill	15.00	€409.2441	€4.9109
Knockacummer	Knockacummer	87.00	€425.8396	€5.1101
Rathcahill	Rathkeale	12.50	€444.3151	€5.3318
Grouse Lodge	Rathkeale	15.00	€444.3151	€5.3318
Muingnatee	Reamore	15.30	€498.5030	€5.9820
Sorne Hill Wind	Sorne Hill	38.90	€529.6106	€6.3553
Lee Strand Co-op	Tralee	15.00	€498.5030	€5.9820
Tursillagh	Tralee	15.00	€498.5030	€5.9820
Muingnaminnane	Tralee	15.00	€498.5030	€5.9820
Knockawarriga	Trien	22.50	€528.8673	€6.3464
Tournafulla (2)	Trien	17.20	€528.8673	€6.3464
Beam Hill Wind	Trillick	14.00	€529.6106	€6.3553
Moanmore Wind	Tullabrack	12.60	€460.4579	€5.5255
Carnsore Wind	Wexford	11.90	€347.2698	€4.1672
Richfield Wind	Wexford	27.00	€347.2698	€4.1672
NI Transmission Connected Non-Wind	Connected at			
Ballylumford ST4	Ballylumford	170.00	€483.4314	€5.8012
Ballylumford ST5	Ballylumford	170.00	€483.4314	€5.8012
Ballylumford ST6	Ballylumford	170.00	€483.4314	€5.8012
Ballylumford GT7	Ballylumford	53.00	€481.8187	€5.7818
Ballylumford GT8	Ballylumford	53.00	€481.8187	€5.7818
Ballylumford GA, GB, GC	Ballylumford	479.00	€483.4314	€5.8012
Ballylumford GD	Ballylumford	98.40	€481.8187	€5.7818
Coolkeeragh Gas	Coolkeeragh	53.00	€512.3149	€6.1478
Coolkeeragh CCGT	Coolkeeragh	170.00	€512.3149	€6.1478
Coolkeeragh CCGT	Coolkeeragh	243.00	€514.7214	€6.1767
Kilroot 1	Kilroot	240.00	€477.2869	€5.7274
Kilroot 2	Kilroot	240.00	€477.2869	€5.7274
Kilroot 3	Kilroot	42.00	€477.2869	€5.7274
Kilroot 4	Kilroot	42.00	€477.2869	€5.7274
Kilroot Aux1	Kilroot	23.60	€477.2861	€5.7274
Kilroot Aux2	Kilroot	23.60	€477.2861	€5.7274
NI Transmission Connected Wind	Connected at			
Slieve Kirk 110kV	Slieve Kirk	27.50	€512.4608	€6.1495
NI Distribution Connected Generators	Connected at			
Snugborough	Aghyoule	13.50	€516.4229	€6.1971
Slieve Rushen	Aghyoule	54.00	€516.4229	€6.1971
Garves	Coleraine	15.00	€505.8742	€6.0705
Gruig	Coleraine	25.00	€505.8742	€6.0705
Crockagarron	Dungannon	15.00	€484.6212	€5.8155
Callagheen	Enniskillen	16.90	€523.0835	€6.2770
Altnahullion	Limavady	26.00	€508.3989	€6.1008
Altnahullion 2	Limavady	11.70	€508.3989	€6.1008

Curryfree	Lisaghmore	15.00	€512.3764	€6.1485
Churchill	Magherakeel	18.40	€512.8069	€6.1537
Cruigshane	Magherakeel	32.20	€512.8069	€6.1537
Thronog	Magherakeel	10.00	€512.8069	€6.1537
Tappaghan	Omagh	19.50	€512.8085	€6.1537
Slieve Divena	Omagh	30.00	€512.8085	€6.1537
Hunter's Hill	Omagh	20.00	€512.8085	€6.1537
Screggagh	Omagh	20.00	€512.8085	€6.1537
AGU	Various	21.00	€305.0254	€3.6603