

Single Electricity Market

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| Final REcommendation Report  Mod\_21\_12: Amendments to Availabile Transfer Capacity (ATC) definition |

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Reference Documents

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| **Document Name** |
| [Trading and Settlement Code](http://semopub/MarketDevelopment/MarketRules/TSC.doc) |
| [Mod\_21\_12](http://semopub/MarketDevelopment/ModificationDocuments/Mod_21_12%20ATC.docx): Amendment to Available Transfer Capacity (ATC) definition |
| [Mod\_21\_12\_v2](http://semopub/MarketDevelopment/ModificationDocuments/Mod_21_12_v2%20ATC.docx): Amendment to Available Transfer Capacity (ATC) definition |
| Modifications Committee Meeting 44 [slides](http://semopub/MarketDevelopment/ModificationDocuments/ATC%20modification2.pptx) |

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# MODIFICATIONS COMMITTEE RECOMMENDATION

## Recommended for Approval – Majority Vote

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| --- | --- | --- |
| **Recommended for Approval by Majority Vote (subject to legal drafting)** | | |
| Patrick Liddy | DSU Member | Approved |
| Iain Wright-Chair | Supplier Member | Reject |
| William Carr | Supplier Member | Approved |
| William Steele | Supplier Member | Approved |
| Gill Bradley | Generator Alternate | Approved |
| Ian Luney | Generator Member | Approved |

# Background

This Modification Proposal was raised by the TSO and received by the Secretariat on 11 September 2012. The proposal seeks to allow the TSO to curtail the flow on the Interconnector should an unforeseen Interconnector or transmission system event occur. The proposal was initially presented at Meeting 44 on 25 September 2012. The Committee voiced discontent at the proposal and the potential impact the proposal will have on the underlying principles of the SEM. The group were concerned about the impacts that the proposal, as written, would have on the Market Schedule and requested that the TSO revert with alternative implementation options at the next Meeting.

An alternative version of the proposal was raised on 10 October and, at the request of the proposer (TSO Member), included on the agenda of the Extraordinary Modifications Committee Meeting 45 on 24 October 2012. The alternative version of the proposal allows the TSO to change transfer capacity only prior to EA1 Gate Window Closure, before any trade had been established in the SEM. The proposal was recommended for approval at Meeting 45.

# PURPOSE OF PROPOSED MODIFICATION

## 3A.) justification of Modification

Introduction

One of the prime obligations of Transmission System Operators (TSOs) is to operate the power system within its jurisdiction in a secure manner. This includes managing the effects that inter-jurisdictional interconnector flows have on the power system. Full transfer capacity between jurisdictions may be limited at times, depending on interconnector equipment and the connecting transmission systems. The facility for TSOs to determine and set transfer limits on inter-jurisdictional flow to respect security standards is required to ensure the secure operation of the transmission system. For unplanned events, the ability to determine and apply new transfer limits resulting in the curtailment of interconnector transfers is an essential tool to enable system security to be maintained during periods when power system conditions result in situations which breach minimum system security standards.

EirGrid, as TSO, has developed an interconnector transfer capacity determination process[[1]](#footnote-1) for the East West interconnector which has been reviewed by the Regulatory Authorities and published. An Interconnector capacity calculation document exists for the Moyle Interconnector[[2]](#footnote-2) which documents the determination of transfer limits and will be developed to include a curtailment process to align with the East West process. Changes are required to the SEM Trading and Settlement Code to align with these documents required under EU regulations in this area.

Interconnector transfer capacity determination process

Performing cross border transfer capacity calculations is a fundamental part of the operation of an interconnected power system as indicated in Regulation (EC) No. 714/2009.

Regulation (EC) No. 714/2009 as stated in article 1:

*(16) The precondition for effective competition in the internal market in electricity is non- discriminatory and transparent charges for network use including interconnector lines in the transmission system. The available capacity of those lines should be set at the maximum levels consistent with the safety standards of secure network operation.*

Cross border transfer capacity calculations need to be carried out on a regular basis to support the capacity allocation auction processes and to ensure the secure operation of the power system. Calculations are required to be carried out at a number of different time frames from year ahead up to and including real time. The result of these calculations will be maximum export and import limits which, when taken together with any limits imposed by National Grid (resulting from GB power system limitations), will establish the transfer capacity allowable on Interconnectors in both directions. In accordance with the requirements of Regulation (EC) No. 714/2009 the TSO has produced a document describing the process for the determination of transfer capacity. The document has been reviewed by the Regulatory Authorities and published.

The terminology used by ENTSOE for transfer capacity referencing will be used by the TSOs to align with a standard European approach which requires the use of the term “Net Transfer Capacity” rather than the currently used “Available Transfer Capacity” when relating to the transfer capacity released to market participants. The resolution of this contradiction between ENTSOE conventions and the SEM T&SC definitions needs to be agreed and addressed.

An unexpected, unplanned change in the transmission system may require in a reduction in transfer flow to maintain system security, a flow curtailment. A curtailment would only be carried out as the ‘last resort’. Before reducing energy flow on the Interconnector the TSO will:

1. Utilise remedial actions including the re-dispatch of generation or demand side plant to relieve the security constraint, if possible
2. Counter-trade to reduce Interconnector flows, if available
3. Utilise SO/SO Emergency Assistance

In the event that these actions are ineffective the TSO will reduce the energy flow and re-declare the transfer capacity. This process is consistent with the requirements of EU Regulation (EC) No 714/2009 Article 16 (2). In the event of interconnector curtailment being required, the TSOs are proposing to produce and publish suitable reports that would provide details of each event and the actions taken.

The ability for System Operators to curtail interconnector flows is enshrined in regulation (EC) No. 714/2009 as stated in article 16:

General principles of congestion*[[3]](#footnote-3)* management

*2. Transaction curtailment procedures shall only be used in emergency situations where the transmission system operator must act in an expeditious manner and re-dispatching or countertrading is not possible. Any such procedure shall be applied in a non-discriminatory manner. Except in cases of force majeure, market participants who have been allocated capacity shall be compensated for any curtailment.*

*3. The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation.*

In seeking to clarify the term “secure network operation” it is useful to look at the definition of ‘Security’, as contained in Directive 2009/72/EC Article 2:

*28. ‘security’ means both security of supply and provision of electricity, and technical safety;*

As a result, any action taken to curtail interconnector flows must be seen as a “last resort” (i.e. where re-dispatching and counter-trading are not effective or cannot occur to restore the power system to a state where minimum security standards are maintained).

Changes required to the Trading and Settlement Code

The current provisions in the Trading and Settlement Code specifically prevent power system constraints which may reduce or remove the ability to transfer energy from being considered when calculating the interconnector transfer capacity:

*“5.42 Maximum Import Available Transfer Capacity shall relate to the physical capability of the Interconnector to deliver energy to the Transmission System, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.”*

*“5.53 Maximum Export Available Transfer Capacity shall relate to the physical capability of the Interconnector to off-take energy from the Transmission System, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.”*

*“Appendix K Table K.30 Number of Data Transactions*

*2. Only in the event that the relevant Interconnector has desynchronised unexpectedly, values and associated time for each change in Maximum Import Available Transfer Capacity or Maximum Export Available Transfer Capacity within the relevant Trading Day”*

The provisions of the Trading and Settlement Code conflict with those of Regulation (EC) No. 714/2009, which requires that:

*Annex 1 GUIDELINES ON THE MANAGEMENT AND ALLOCATION OF AVAILABLE TRANSFER CAPACITY OF INTERCONNECTORS BETWEEN NATIONAL SYSTEMS*

*1. General Provisions*

*1.3 Where scheduled commercial transactions are not compatible with secure network operation , the TSOs shall alleviate congestion in compliance with the requirements of network operational security while endeavouring to ensure that any associated costs remain at an economically efficient level. Curative re-dispatch or counter trading shall be envisaged in case lower cost measures cannot be applied.*

*1.4 If structural congestion appears, appropriate congestion- management methods and arrangements defined and agreed in advance shall be implemented immediately by the TSOs. The congestion-management methods shall ensure that any physical power flows associated with all allocated transmission capacity comply with network security standards.*

Paragraph 2.4 of the Trading and Settlement Code states : -

*“In the event of any conflict between any Party’s obligation pursuant to any Legal requirements and the Code, such conflict shall be resolved according to the following order of priority;*

1. *requirements under Applicable Laws*
2. *any applicable requirement, direction, determination, decision, instruction or rule of any competent Authority;*
3. *applicable license;*
4. *Grid Code applicable to the relevant unit concerned;*
5. *Metering Code applicable to the relevant unit concerned;*
6. *this Code (subject to paragraph 2.8 below) “*

As a result of this conflict and higher priority applied to EU regulations, the System Operators propose to raise a Modification to the Trading and Settlement Code which will amend paragraphs 5.42 and 5.43 and Appendix K 21 .

Commercial Issues

Regulation (EC) No 714/2009 Annex 1 part 2.13 states that the financial consequences of curtailing capacity falls to those who are responsible for such a failure.

*2.13 The financial consequences of failure to honour obligations associated with the allocation of capacity shall be attributed to those who are responsible for such a failure. Where market participants fail to use the capacity that they have committed to use, or, in the case of explicitly auctioned capacity, fail to trade on a secondary basis or give the capacity back in due time, they shall lose the rights to such capacity and pay a cost-reflective charge. Any cost-reflective charges for the non-use of capacity shall be justified and proportionate. Likewise, if a TSO does not fulfil its obligation, it shall be liable to compensate the market participant for the loss of capacity rights. No consequential losses shall be taken into account for that purpose. The key concepts and methods for the determination of liabilities that accrue upon failure to honour obligations shall be set out in advance in respect of the financial consequences, and shall be subject to review by the relevant national regulatory authority or authorities.*

Market Participants will be compensated for loss of capacity rights in the event of a transmission restriction being imposed on interconnector capacity in line with the compensation mechanism set out in the interconnector Access Rules.

## 3B.) Impact of not Implementing a Solution

Not implementing the modification reduces system security and would place the TSO in breach of the Trading and Settlement Code when applying EU regulation to maintain system security.

## 3c.) Impact on Code Objectives

The implementation of this Modification will fulfil the following code objectives;

1. to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner;
2. to provide transparency in the operation of the Single Electricity Market;
3. to promote the short-term and long-term interests of consumers of electricity on the island of Ireland with respect to price, quality, reliability, and security of supply of electricity.

The TSO’s interconnector transfer capacity determination process has been both reviewed by the Regulatory Authorities and published to ensure transparency. Additionally, in the event of interconnector flow curtailment being required, the TSO is proposing to produce and publish suitable reports that would provide details of each event and the actions taken.

Interconnector flow curtailment will only occur in exceptional circumstances (i.e. as a last resort) and would be applied in a non discriminatory manner.

Such events include:

* Interconnector faults (i.e. where the interconnector equipment cannot physically deliver or receive interconnector transfers).
* Loss of transmission or generation capacity in the SEM, such that the local transmission system cannot achieve the planned interconnector transfers and remain within operational security standards.
* Restrictions in transfer applied by National Grid due to GB limitations
* Capacity shortfalls, where generation is insufficient to meet demand and interconnector export transfers.

# Assessment of Alternatives

Two versions of the proposal were put forward. The Committee raised concerns that the original version introduced limitations to existing trade on the Interconnector and this was believed to be counter to the fundamental principles of the SEM. The Committee requested the TSO revert with alternative implementation options. A second version of the proposal was brought forward by the TSO to address the concerns raised by the Committee at the initial Meeting. The alternative version was amended to allow the TSO to change transfer capacity only prior to EA1, before any trade had been established in the SEM.

The TSO noted at the Meeting at which the proposal was voted on that the solution put forward is a temporary solution as it will, if utilised, produce an error in the SEM and BETTA systems. The TSO confirmed that an enduring solution to avoid such a scenario is being worked on and will be brought forward in the New Year.

# Working Group and/or Consultation

N/A

# impact on systems and resources

N/A

# Impact on other Codes/Documents

The existing provisions in the T&SC conflict with the ability of the TSO to comply with Regulation (EC) No. 714/2009 regarding the publication of a general description of the scheme for the calculation of the interconnection capacity for the different timeframes, based upon the electrical and physical realities of the network.

The *Process for Determining Transfer Capacity on the East West Interconnector and Moyle Interconnector Limited Interconnector Capacity Calculation* will also require updating, should the proposal be approved.

# MODIFICATION COMMITTEE VIEWS

## Meeting 44 – 25 September 2012

Proposer presented slides outlining the proposal to incorporate the interconnector transfer capacity determination process and remove the T&SC limitation for changes in the Maximum Export and Import Available Transfer Capacities (ATC) to causes associated only with the Interconnector equipment.

Supplier Alternate queried as to how this scenario is different to a Generator behind a constraint line. Supplier Alternate expressed the view that the underlying fundamental philosophy of the SEM is one of an unconstrained market and voiced concern over this change becoming effective in the current market. Supplier Alternate further advised that the proposed modification affects the IC User, by changing their financial position in the SEM, which is contrary to its principles.

Proposer drew attention to the TSO obligation of system security, and advised that what is being proposed is a last resort option.

Proposer advised that IC Users are trading between markets and are treated differently to generators, they are not bound by the Bidding Code of Practice (BCOP) and can bid different prices per trading period. Supplier Alternate reiterated that the proposal is serving to introduce a constraint element in the SEM by forcing an ATC redeclaration. Supplier Alternate queried as to whether IC Units would receive constraint payments. SEMO Member clarified that IC Units would not receive constraint payments, as the ATC redeclaration would trigger the MIUN calculator to recalculate MIUNs. IC Units would however be compensated from the point of view of capacity holdings. Supplier Alternate expressed the opinion that a variable should be introduced which ensures that IC Users are compensated for more than Capacity only. Observer clarified that EU legislation allows only for Capacity compensation.

Generator Alternate queried as to which party currently makes the declaration of ATC. SO Member advised that it is the IC Administrator on behalf of the IC owner in conjunction with the SO.

Chair reiterated SO Member’s question regarding what would be the implication if the proposal was not approved. Proposer advised that it would incur a breach of the Code. SO Member further clarified that if not approved, the TSO will still remain under obligation to ensure security of supply and that the licence takes precedence.

Supplier Alternate expressed concern that this EU Regulation forms a basis for 2016 and that it is not suitable for the SEM. Supplier Alternate further stated that this change affects what happens in the Market Schedule, thereby affecting the financial position of the IC User.

TSO observer noted that European Regulation is in place now and no derogation exists to 2016 and compliance on the TSO side is considered necessary at this point in time. TSO observer further noted that IC Users are treated differently from Generator Units in that trade takes place between two markets which are governed by EU Regulations and IC Access Rules.

Endesa observer raised a query regarding the term “relevant agreement”, advising that it is physical capability that imposes restriction, rather than the process. SEMO Member clarified that this is the existing wording currently in the T&SC.

TSO observer queried as to whether the Supplier Alternate was objecting to the TSO imposing restrictions on long-term Capacity that’s auctioned, or in the shorter timeframe. Supplier Alternate clarified no objection to this as the auction of Capacity is conducted outside of the SEM; therefore it is not pertinent to this discussion.

TSO observer agreed that auctions are conducted externally, however advised that the restrictions follow through to the SEM. The Supplier Alternate agreed that the issue was concerned with the reduction of already scheduled transfers rather than transfer restrictions applied before scheduled transfers.

Supplier Alternate expressed the view that Modification Proposals must comply with the T&SC objectives and that it is not the remit of the Modifications Committee to alter these underlying principles. Supplier Alternate advised that this is an issue for consideration by the RAs alone.

RA Alternate stated that the RAs will consider the proposal duly when the FRR is issued. Secretariat advised that dissenting views are always included in an FRR if consensus on a particular proposal is not reached. Secretariat further advised that it is then at the discretion of the RAs to make a decision based on the dissenting views and recommendation of the Modifications Committee.

SEMO Member advised that the proposal was raised to comply with EU Regulations, is promoting both short and long term objectives of the T&SC and is aiming to ensure security of supply, as stated in the referenced objective 1.3.7 in the modification.

Chair queried as to whether the TSO must comply with the EU Regulation in this manner. Proposer expressed the view that the TSO do not want any form of litigious proceedings to occur and that their preference is for a vote to take place, with an FRR issued to the RAs for final decision.

Observer stated Endesa Ireland’s preference for inserting “As determined in accordance with”, at the start of Clause 5.42.

RA Alternate advised of RAs’ concern around deletion of the following line; “but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System”.

Proposer advised the line was deleted as it becomes redundant, however had no objection in leaving it in the proposal if the RAs so wish.

DSU Member advised that if the TSO will not have alternative implementation options for presentation at the next Meeting, it is unnecessary for the Committee to place an action requesting the TSO to do so.

Proposer advised that it will be necessary for the definition of ATC within the T&SC to be modified in advance of the impending 2016 changes. Proposer further advised that rather than raising a proposal to address it now, it is more prudent for it to be included in the discussion of the necessary 2016 changes to the market. Supplier Alternate was in agreement.

## Extraordinary Meeting 45 - 24 October 2012

Proposer presented slides providing an overview of the proposal and why the amendment to the ATC definition is necessary. TSO Member advised that one of the prime obligations of TSOs is to operate the power system in a secure manner, which includes managing the effects that inter-jurisdictional IC flows have on the power system. Proposer advised that at Modifications Meeting 42, the primary concern was that the TSO would be limiting existing trades on the IC for system security reasons and this was believed to be counter to the fundamental principles of the SEM. Proposer advised that the proposal has been altered accordingly, now permitting the TSO to change transfer capacity only prior to EA1, before any trade has been established in the SEM. Proposer advised that in addition to this Modification Proposal, it would be necessary to develop a temporary curtailment process for situations arising post EA1 Gate Closure; curtailment refers to the reduction of IC flows after trades have been established. Proposer advised that the temporary curtailment process is expected to be a process whereby the dispatch of the IC only will be changed; thus the market position of the users will remain the same both in SEM and BETTA. Proposer further advised that this is not a fully satisfactory solution as an error will deliberately be produced in the SEM and GB systems; further advised that an enduring solution needs to be developed to avoid that scenario.

Chair clarified that the alternative version of the proposal is designed so that market schedule will not be affected.

Observer commented that the reduction of ATC before EA1 is not an emergency situation, as it will be reduced one day prior to when the event will occur, and further queried as to whether other options are being explored. Proposer advised that it is necessary to do so for anticipated security reasons and as part of the TSO planning process. Proposer further advised that European Legislation allows for this.

Chair drew attention to the underlying principles of the SEM and stated that the only reason for a reduction of the ATC should be for an outage or a physical fault on the IC. Proposer acknowledged the underling principles of the SEM, however that explicit reference to this was not evident in the rules. Chair commented that the rule change should not be specifically regarding ATC reduction, rather it could be reflected in constraints rules and imperfections costs. Generator Alternate expressed agreement with this and queried as to whether it had been considered. Proposer responded that interconnectors were not the same as other generators in the SEM as they facilitate trades between markets. Observer advised that it aligns as the reason for reducing ATC is because of transmission constraints. Generator Alternate commented that if the issue is purely constraints related, it is not necessary to modify the rules.

Observer advised that it may not always be a transmission issue, further advising that if the TSO do not have the ability to alter the flow on the IC and cannot reduce the ATC, this could result in load shedding on the island, which is unfavourable to customers. Chair queried as to how modifying the flow available on the IC is conceptually different from changing any other unit’s output on the system. MO Alternate advised that the other units being referred to are wholly within the SEM, whereas the interconnector connects SEM to GB. RA Member commented that once ATC is reduced prior to GC, traders are reimbursed for their capacity, further advising that the TSO are putting forward the proposal in order to be in a position to act to maintain security of supply when needed. Chair reiterated query as to why a rule change is warranted.

RA Member advised that the RA concerns would be to ensure that MIUN firmness exists for participants and therefore ATC reduction will not occur after GC so traders will be kept whole. RA Member further advised that the proposal can be regarded as consistent with Congestion Management Guidelines, emphasising that TSOs should only need to act in prescribed situations and these actions are taken by other TSOs across Europe in relation to ICs. RA Member noted that if the proposal was approved, it will be necessary to address any potential inconsistencies with the published Transfer Capacity determination document. Linked to this proposal and the need for TSO to act in certain circumstances for security of supply reasons is the ability for there to be in place efficient arrangements between TSOs for trading across ICs. SEM RAs / Ofgem / National Grid and EirGrid are working to ensure efficient cross border balancing arrangements will exist between SEM and BETTA markets..

Chair expressed the view that financial firmness would exist without this proposal and reiterated issue of different treatment of ICs. Proposer clarified that this issue has been incorrect since the inception of the market however when Moyle’s export restriction was 80 MW it wasn’t significant compared to the export capacity of EWIC of 500MW. DSU Member commented that the definition change is more reflective of what is currently happening. Chair expressed concern over the impact on users.

Supplier Member commented that the alternative version of the proposal is an improvement to the original proposal, however sought clarification regarding the issues of temporary and permanent solution timings. Proposer advised that if the proposal is approved, the interim curtailment solution should be in place within weeks, whereas the permanent solution should be brought forward in the New Year.

Observer advised that the interim process is between EirGrid, SONI and National Grid and that it will not affect IC users whose positions will not be affected.

CER Member advised that as long as the MIUNs are respected there shouldn’t be an issue with the interim solution.

Generator Alternate queried as to whether there will a Modification Proposal put forward for the permanent solution also. Proposer advised that a subsequent proposal will be necessary but that this proposal is currently a pressing matter as the TSO do not wish to be in breach of the Code. However, under this proposal MIUNs would be respected after gate closure and as such participants positions after gate closure are respected as firm. RA Member commented that further discussion on an enduring solution as mentioned by the proposer would be required and involve colleagues in GB such as Ofgem. RA Member expressed the view that both SOs are endeavouring to ensure the most efficient countertrading arrangements exist between SEM and its neighbouring market. Chair posed a question to CER Member querying if the RAs are content that this process will not be over-utilised. CER Member advised that the RAs are providing comments with the proposal as it stands today however RAs will reserve their right to come to a final view until the FRR is received and a SEM C decision made in line with process. Supplier Member commented that the proposal does impact on IC users as it increases risk due to new exposures. Supplier Member further advised that risk will be transferred to Suppliers while the cost is transferred to TUoS customers. DSU Member expressed the view that the proposal will have no tangible affect on customers as either way they pay through the Imperfections charge, or through TUoS.

RA Member referenced the provisions of the congestion management guidelines which refer to the Maximum Capacity must be made available on ICs but this is subject to conditions including the safety and security of the network.

Supplier Member expressed the view that there will be increased risk on Suppliers and that it will be necessary to incorporate this into their risk management strategy. Proposer advised that the curtailment aspect of the temporary solution will not affect the market schedule.

Observer advised that it is possible to examine the IC auction results to ascertain the level of interest thus far; further advising that there has been a reasonably good level of Participant engagement.

RA Member advised that the proposal clarifies the position from the SO point of view pre-Gate Closure. ???

Chair raised the issue of interconnector ramp rate changes enquiring why it had been necessary for the TSO’s to reduce the Moyle ramp rate when EWIC was to become active. Proposer stated it was a system security issue, If the ramp rate had been left at 10 MW / min the system could experience flow changes from the existing 600 MW / hour to 1200 MW/ hour which could present security problems. It was felt by the TSO acting prudently with no knowledge of the expected EWIC transfers to maintain a 10 MW /min limit for the Island until experience was obtained with EWIC when the rates would be reviewed. Proposer would investigate development of a process for ramp rate changes to inform the market.

## Dissenting View – Supplier Member (Chair)

In presenting the Modification Proposal, the TSO representative stated that this addressed only part of the picture and there would be another Mod brought forward in due course.  It is poor practice to make any decision based on incomplete information.  Three other issues must also be considered;

* The SEM market design is an unconstrained market, in which misalignment of the Market Schedule and Dispatch Schedule is recognised as imperfections.
* This exact same issue of interconnector ATC definition was vigorously debated at the original market design stage, although this current Modification Proposal is being linked to EU Regulation 714/2009
* The Grid Code has precedence over the TSC

Adjustment of interconnector ATC on the basis of wider system constraints violates the basic unconstrained principle of the SEM market.  Other units do not have their MSQs de-rated because of system constraints, even though their DQs may differ.  It was suggested that continuation of current arrangements would result in the deliberate creation of imbalances in the BETTA market, but this would not happen if Participant’s bids are accepted for the unconstrained market schedule on the basis of the technical capability of the interconnector, but dispatched on the basis of the real, constrained system with mitigation.  Counter-trading, as envisaged by Annex 1 (1.3) of the Regulation, would be one mitigation strategy whereby physical imbalances would be minimised.  It is therefore perfectly possible to operate the SEM on the basis of full technical capability of the interconnector assets, without creating physical imbalances as a result of contracts in the BETTA market as a result of system issues on the island of Ireland.  The existence of such system issues should not drive market constraints, in the same way that the physical limitations of the North-South tie-line are not reflected in the market.

Discrepancies between the physical reality of system constraints and the unconstrained market design has been addressed through the mechanism of imperfections.  There is no reason why system issues affecting interconnector flows should more onerously affect Interconnector Participants than those issues that constrain Generator Participants.  If the system is unable to accommodate unconstrained energy flows, then the cost of bringing the two into alignment should always be charged to imperfections.  Any other treatment is discriminatory.

Article 16(3) of the Regulation, “*The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation*.”, does not mean that market transactions should be constrained by system issues; the Article merely mandates that the technical (ie constrained) capability of interconnectors is fully exploited.  It does not mean that market arrangements should not be applied to compensate Participants for the difference between their security-constrained dispatch and unconstrained dispatch based on interconnector capacity, in the same way that these arrangements apply to Generators connected to the main system.  Thus the Grid Code in particular (since it is specifically addressed by the TSC) together with the wider legal obligations, allow the TSO to take whatever actions are necessary in support of secure operation of the system and there is no need to change the TSC to achieve this.

In summary, the TSO already has sufficient powers to operated the system as required to ensure its security and is unfettered in this regard by the TSC.  No change to the SEM rules is therefore required to facilitate safe operation of the system.  This Modification Proposal (21\_12 V2) would introduce a constraint on contractual interconnector flows as a result of system issues on the island of Ireland and would therefore fundamentally change the underlying concept of the SEM as an unconstrained market.  By its more onerous impact on Interconnector Participants compared with Generator Participants, the Proposal is unreasonably discriminatory and its supporting arguments fail to distinguish between physical operation of the system and operation of market arrangements that already include provisions that address system constraints.  As the TSO can already operate the system as required for safety and as the TSC already manages imperfections, no Code objectives are furthered by this Modification Proposal.

# Proposed Legal Drafting

5.42. Maximum Import Available Transfer Capacity shall relate to the physical capability of the Interconnector to deliver energy to the Transmission System, and, in each Trading Period:

1. shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector;
2. shall be determined in accordance with the applicable interconnector transfer capacity determination process;
3. its absolute magnitude shall not be reduced , for Transmission System reasons for any Trading Period after the EA1 Gate Window closure for the relevant Trading Day; and
4. shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System .

5.43 Maximum Export Available Transfer Capacity shall relate to the physical capability of the Interconnector to off-take energy from the Transmission System, and, in each Trading Period:

1. shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector;
2. shall be determined in accordance with the applicable interconnector transfer capacity determination process;
3. its absolute magnitude shall not be reduced , for Transmission System reasons for any Trading Period after the EA1 Gate Window closure for the relevant Trading Day; and
4. shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.

Table K.30 – Interconnector Available Transfer Capacity Data Transaction Submission Protocol

|  |  |
| --- | --- |
| Sender | Interconnector Administrator |
| Recipient | Market Operator |
| Number of Data Transactions | One containing:   1. In all cases, for the relevant Interconnector, Maximum Import Available Transfer Capacity and Maximum Export Available Transfer Capacity for each Trading Period in the relevant Optimisation Time Horizon. 2. Only in the event that the relevant Interconnector Available Transfer Capacity has unexpectedly changed, values and associated time for each change in Maximum Import Available Transfer Capacity or Maximum Export Available Transfer Capacity within the relevant Trading Day. |
| Frequency of Data Transactions | Daily and as updated |
| First Submission time | As available |
| Last Submission time | Unlimited, at least one Data Transaction shall be submitted by 10:00 on the day prior to the EA1 Gate Window Closure |

# LEGAL REVIEW

Complete

# IMPLEMENTATION TIMESCALE

It is proposed that this Modification as set out in Section 9 of this report be implemented on a Trading Day basis with effect from one Working Day after an RA Decision.

# Appendix 1: Mod\_21\_12\_v2 Alternative Version

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **MODIFICATION PROPOSAL FORM** | | | | | |
| **Proposer** | **Date of receipt** | | **Type of Proposal** | | **Modification Proposal ID** |
| **TSO** | **11 September 2012** | | **Standard** | | **Mod\_21\_12\_v2** |
| **Contact Details for Modification Proposal Originator** | | | | | |
| **Name** | | **Telephone number** | | **Email address** | |
| **Michael Preston (SONI)** | | **02890794336** | | **michael.preston@soni.ltd.uk** | |
| **Modification Proposal Title** | | | | | |
| Amendment to Available Transfer Capacity (ATC) definition | | | | | |
| **Documents affected** | | **Section(s) Affected** | | **Version number of T&SC or AP used in Drafting** | |
| **T&SC, Appendix K and**  **AP2** | | **5.42 & 5.43**  Appendix K 21 | | **11.0** | |
| **Explanation of Proposed Change**  *(mandatory by originator)* | | | | | |
| EirGrid, as TSO, has developed an interconnector transfer capacity determination process for the East West interconnector which has been reviewed by the Regulatory Authorities (CER and Ofgem) and published. The process was prepared in accordance with the requirement on EirGrid, in its role as Transmission System Operator (TSO), under EU Regulation (EC) No 714/2009 *(conditions for access to the network for cross-border exchanges in electricity)* Annex 1 (5.2) to publish a general description of the scheme for the calculation of the interconnection capacity for the different timeframes, based upon the electrical and physical realities of the network. This scheme was subject to review by the Regulatory Authorities.  The interconnector transfer capacity determination process will ensure that interconnector import and export capacities that are released to market participants are consistent with system security. The procedures will consider both interconnector equipment and the transmission system to determine the maximum transfers that can be securely permitted with the expected transmission system configuration and availability. At present the Trading and Settlement Code limits any changes in the Maximum Export and Import Available Transfer Capacities to causes associated only with the Interconnector equipment and the GB transmission system.  Until a further Trading and Settlement Code modification is produced to allow curtailment of established transfers this modification proposes to allow the TSO to change the transfer capacity prior to the EA1 gate before market transfers are established, for Transmission System reasons. The TSO will develop a temporary process to enact curtailment of flows without affecting the SEM settlement position of Interconnector users. | | | | | |
| **Legal Drafting Change**  *(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* | | | | | |
| As a result of this conflict and higher priority applied to EU regulations, the System Operators propose to amend the Trading and Settlement Code paragraphs 5.42, 5.43 and Appendix K 21 as follows:  5.42 Maximum Import Available Transfer Capacity shall relate to the physical capability of the Interconnector to deliver energy to the Transmission System, and, in each Trading Period:   1. shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector; 2. shall be determined in accordance with the applicable interconnector transfer capacity determination process; and 3. its absolute magnitude shall not be reduced , for Transmission System reasons for any Trading Period after the EA1 Gate Window closure for the relevant Trading Day, 4. shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System .   5.43 Maximum Export Available Transfer Capacity shall relate to the physical capability of the Interconnector to off-take energy from the Transmission System, and, in each Trading Period:   1. shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector; 2. shall be determined in accordance with the applicable interconnector transfer capacity determination process; and 3. its absolute magnitude shall not be reduced , for Transmission System reasons for any Trading Period after the EA1 Gate Window closure for the relevant Trading Day, 4. shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.     Table K.30 – Interconnector Available Transfer Capacity Data Transaction Submission Protocol   |  |  | | --- | --- | | Sender | Interconnector Administrator | | Recipient | Market Operator | | Number of Data Transactions | One containing:   1. In all cases, for the relevant Interconnector, Maximum Import Available Transfer Capacity and Maximum Export Available Transfer Capacity for each Trading Period in the relevant Optimisation Time Horizon. 2. Only in the event that the relevant Interconnector Available Transfer Capacity has unexpectedly changed, values and associated time for each change in Maximum Import Available Transfer Capacity or Maximum Export Available Transfer Capacity within the relevant Trading Day. | | Frequency of Data Transactions | Daily and as updated | | First Submission time | As available | | Last Submission time | Unlimited, at least one Data Transaction shall be submitted by 10:00 on the day prior to the EA1 Gate Window Closure | | | | | | |
| **Modification Proposal Justification**  *(Clearly state the reason for the Modification)* | | | | | |
| Introduction One of the prime obligations of Transmission System Operators (TSOs) is to operate the power system within its jurisdiction in a secure manner. This includes managing the effects that inter-jurisdictional interconnector flows have on the power system. Full transfer capacity between jurisdictions may be limited at times, depending on interconnector equipment and the connecting transmission systems. The facility for TSOs to determine and set transfer limits on inter-jurisdictional flow to respect security standards is required to ensure the secure operation of the transmission system. For unplanned events, the ability to determine and apply new transfer limits resulting in the curtailment of interconnector transfers is an essential tool to enable system security to be maintained during periods when power system conditions result in situations which breach minimum system security standards.  EirGrid, as TSO, has developed an interconnector transfer capacity determination process[[4]](#footnote-4) for the East West interconnector which has been reviewed by the Regulatory Authorities and published. An Interconnector capacity calculation document exists for the Moyle Interconnector[[5]](#footnote-5) which documents the determination of transfer limits and will be developed to include a curtailment process to align with the East West process. Changes are required to the SEM Trading and Settlement Code to align with these documents required under EU regulations in this area. Interconnector transfer capacity determination process Performing cross border transfer capacity calculations is a fundamental part of the operation of an interconnected power system as indicated in Regulation (EC) No. 714/2009.  Regulation (EC) No. 714/2009 as stated in article 1:  *(16) The precondition for effective competition in the internal market in electricity is non- discriminatory and transparent charges for network use including interconnector lines in the transmission system. The available capacity of those lines should be set at the maximum levels consistent with the safety standards of secure network operation.*  Cross border transfer capacity calculations need to be carried out on a regular basis to support the capacity allocation auction processes and to ensure the secure operation of the power system. Calculations are required to be carried out at a number of different time frames from year ahead up to and including real time. The result of these calculations will be maximum export and import limits which, when taken together with any limits imposed by National Grid (resulting from GB power system limitations), will establish the transfer capacity allowable on Interconnectors in both directions. In accordance with the requirements of Regulation (EC) No. 714/2009 the TSO has produced a document describing the process for the determination of transfer capacity. The document has been reviewed by the Regulatory Authorities and published.  The terminology used by ENTSOE for transfer capacity referencing will be used by the TSOs to align with a standard European approach which requires the use of the term “Net Transfer Capacity” rather than the currently used “Available Transfer Capacity” when relating to the transfer capacity released to market participants. The resolution of this contradiction between ENTSOE conventions and the SEM T&SC definitions needs to be agreed and addressed.  An unexpected, unplanned change in the transmission system may require in a reduction in transfer flow to maintain system security, a flow curtailment. A curtailment would only be carried out as the ‘last resort’. Before reducing energy flow on the Interconnector the TSO will:   1. Utilise remedial actions including the re-dispatch of generation or demand side plant to relieve the security constraint, if possible 2. Counter-trade to reduce Interconnector flows, if available 3. Utilise SO/SO Emergency Assistance   In the event that these actions are ineffective the TSO will reduce the energy flow and re-declare the transfer capacity. This process is consistent with the requirements of EU Regulation (EC) No 714/2009 Article 16 (2). In the event of interconnector curtailment being required, the TSOs are proposing to produce and publish suitable reports that would provide details of each event and the actions taken.  The ability for System Operators to curtail interconnector flows is enshrined in regulation (EC) No. 714/2009 as stated in article 16:  *General principles of congestion[[6]](#footnote-6) management*  *2. Transaction curtailment procedures shall only be used in emergency situations where the transmission system operator must act in an expeditious manner and re-dispatching or countertrading is not possible. Any such procedure shall be applied in a non-discriminatory manner. Except in cases of force majeure, market participants who have been allocated capacity shall be compensated for any curtailment.*  *3. The maximum capacity of the interconnections and/or the transmission networks affecting cross-border flows shall be made available to market participants, complying with safety standards of secure network operation*  In seeking to clarify the term “secure network operation” it is useful to look at the definition of ‘Security’, as contained in Directive 2009/72/EC Article 2:  *28. ‘security’ means both security of supply and provision of electricity, and technical safety;*  As a result, any action taken to curtail interconnector flows must be seen as a “last resort” (i.e. where re-dispatching and counter-trading are not effective or cannot occur to restore the power system to a state where minimum security standards are maintained). required to the Trading and Settlement Code The current provisions in the Trading and Settlement Code specifically prevent power system constraints which may reduce or remove the ability to transfer energy from being considered when calculating the interconnector transfer capacity:    *“5.42 Maximum Import Available Transfer Capacity shall relate to the physical capability of the Interconnector to deliver energy to the Transmission System, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.”*  *“5.43 Maximum Export Available Transfer Capacity shall relate to the physical capability of the Interconnector to off-take energy from the Transmission System, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.”*  *“Appendix K Table K.30 Number of Data Transactions*  *2. Only in the event that the relevant Interconnector has desynchronised unexpectedly, values and associated time for each change in Maximum Import Available Transfer Capacity or Maximum Export Available Transfer Capacity within the relevant Trading Day”*  The provisions of the Trading and Settlement Code conflict with those of Regulation (EC) No. 714/2009, which requires that:  *Annex 1 GUIDELINES ON THE MANAGEMENT AND ALLOCATION OF AVAILABLE TRANSFER CAPACITY OF INTERCONNECTORS BETWEEN NATIONAL SYSTEMS*   1. *General Provisions*     1. *Where scheduled commercial transactions are not compatible with secure network operation , the TSOs shall alleviate congestion in compliance with the requirements of network operational security while endeavouring to ensure that any associated costs remain at an economically efficient level. Curative re-dispatch or counter trading shall be envisaged in case lower cost measures cannot be applied.*    2. *If structural congestion appears, appropriate congestion- management methods and arrangements defined and agreed in advance shall be implemented immediately by the TSOs. The congestion-management methods shall ensure that any physical power flows associated with all allocated transmission capacity comply with network security standards.*   Paragraph 2.4 of the Trading and Settlement Code states : -   |  | | --- | | *“In the event of any conflict between any Party’s obligation pursuant to any Legal requirements and the Code, such conflict shall be resolved according to the following order of priority;*   1. *requirements under Applicable Laws* 2. *any applicable requirement, direction, determination, decision, instruction or rule of any competent Authority;* 3. *applicable license;* 4. *Grid Code applicable to the relevant unit concerned;* 5. *Metering Code applicable to the relevant unit concerned;* 6. *this Code (subject to paragraph 2.8 below) “* |   As a result of this conflict and higher priority applied to EU regulations, the System Operators propose to raise a Modification to the Trading and Settlement Code which will amend paragraphs 5.42 and 5.43 and Appendix K 21 . Commercial Issues Regulation (EC) No 714/2009 Annex 1 part 2.13 states that the financial consequences of curtailing capacity falls to those who are responsible for such a failure.  *2.13 The financial consequences of failure to honour obligations associated with the allocation of capacity shall be attributed to those who are responsible for such a failure. Where market participants fail to use the capacity that they have committed to use, or, in the case of explicitly auctioned capacity, fail to trade on a secondary basis or give the capacity back in due time, they shall lose the rights to such capacity and pay a cost-reflective charge. Any cost-reflective charges for the non-use of capacity shall be justified and proportionate. Likewise, if a TSO does not fulfil its obligation, it shall be liable to compensate the market participant for the loss of capacity rights. No consequential losses shall be taken into account for that purpose. The key concepts and methods for the determination of liabilities that accrue upon failure to honour obligations shall be set out in advance in respect of the financial consequences, and shall be subject to review by the relevant national regulatory authority or authorities.*  Market Participants will be compensated for loss of capacity rights in the event of a transmission restriction being imposed on interconnector capacity in line with the compensation mechanism set out in the interconnector Access Rules. | | | | | |
| **Code Objectives Furthered**  *(State the Code Objectives the Proposal furthers, see Section 1.3 of T&SC for Code Objectives)* | | | | | |
| The implementation of this Modification will fulfil the following code objectives;  to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner;  to provide transparency in the operation of the Single Electricity Market;  to promote the short-term and long-term interests of consumers of electricity on the island of Ireland with respect to price, quality, reliability, and security of supply of electricity.  The TSO’s interconnector transfer capacity determination process has been both reviewed by the Regulatory Authorities and published to ensure transparency. Additionally, in the event of interconnector flow curtailment being required, the TSO is proposing to produce and publish suitable reports that would provide details of each event and the actions taken.  Interconnector flow curtailment will only occur in exceptional circumstances (i.e. as a last resort) and would be applied in a non discriminatory manner.  Such events include:   * Interconnector faults (i.e. where the interconnector equipment cannot physically deliver or receive interconnector transfers). * Loss of transmission or generation capacity in the SEM, such that the local transmission system cannot achieve the planned interconnector transfers and remain within operational security standards. * Restrictions in transfer applied by National Grid due to GB limitations * Capacity shortfalls, where generation is insufficient to meet demand and interconnector export transfers. | | | | | |
| **Implication of not implementing the Modification Proposal**  *(State the possible outcomes should the Modification Proposal not be implemented)* | | | | | |
| Not implementing the modification reduces system security and would place the TSO in breach of the Trading and Settlement Code when applying EU regulation to maintain system security. | | | | | |
| **Working Group**  *(State if Working Group considered necessary to develop proposal)* | | | **Impacts**  *(Indicate the impacts on systems, resources, processes and/or procedures)* | | |
|  | | | There are no SEM IT system impacts. The new interconnector transfer capacity determination process affects TSO resources. | | |
| ***Please return this form to Secretariat by email to*** [*modifications@sem-o.com*](mailto:modifications@sem-o.com) | | | | | |

1. <http://www.eirgrid.com/media/Principles%20for%20determining%20Transfer%20Capacity%20on%20the%20East%20West%20Interconnector%2031%20July%202012.pdf> [↑](#footnote-ref-1)
2. <http://www.uregni.gov.uk/uploads/publications/110930_MIL_SONI_NG_Capacity_Calc_combined_Sept_2011.pdf> [↑](#footnote-ref-2)
3. Congestion is defined in Article 2 as:*(c) ‘congestion' means a situation in which an interconnection linking national transmission networks, cannot accommodate all physical flows resulting from international trade requested by market participants, because of a lack of capacity of the interconnectors and/or the national transmission systems concerned*  [↑](#footnote-ref-3)
4. <http://www.eirgrid.com/media/Principles%20for%20determining%20Transfer%20Capacity%20on%20the%20East%20West%20Interconnector%2031%20July%202012.pdf> [↑](#footnote-ref-4)
5. <http://www.uregni.gov.uk/uploads/publications/110930_MIL_SONI_NG_Capacity_Calc_combined_Sept_2011.pdf> [↑](#footnote-ref-5)
6. Congestion is defined in Article 2 as:*(c) ‘congestion' means a situation in which an interconnection linking national transmission networks, cannot accommodate all physical flows resulting from international trade requested by market participants, because of a lack of capacity of the interconnectors and/or the national transmission systems concerned*  [↑](#footnote-ref-6)