

Generator Connection Process

Allocation of Transmission FAQ in N Ireland & ITC Methodology to determine FAQs

Decision Paper

22 July 2013



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Summary

SONI and NIE recently concluded a consultation process regarding the determination and allocation of Transmission Firm Access Quantities (FAQ) in Northern Ireland. This process involved the publication of two consultation papers. The original consultation “Generator Connection Process; ITC Methodology to determine FAQs & Generator Output Reductions Analysis”, issued in October 2011, detailed the proposal to implement a policy of firm and non-firm transmission access in Northern Ireland for generator connections.

Following the responses to the October 2011 consultation and subsequent discussions, the SEM Committee welcomed SONI and NIE’s plan to consult again on proposed decisions regarding connection arrangements. The central issues that the second consultation focussed on was the establishment of the listing of connecting generators in Northern Ireland and the identification of the starting point for allocating transmission FAQs. The second consultation paper, issued in March 2013, proposed the establishment of a NI generator listing that will facilitate the introduction of transmission FAQ allocation, explained how parties should be added to the listing, responded to all related issues raised by the initial consultation and set out the processes proposed to be adopted by both NIE and SONI going forward regarding the connection of generation.

SONI presented the following report on the consultation to the June 2013 SEM Committee and the following decisions were endorsed:

Starting point of allocating FAQs

Existing generators and those with an accepted connection offer in Northern Ireland will be considered for FAQ allocation as follows:

- All wind farm generators already connected to the distribution or transmission network in Northern Ireland as of 31st of March 2012 are considered financially firm, that is, these generators will have a FAQ equal to MEC.
- All wind farm generators with an accepted connection offer as of 31st December 2010, that are awaiting connection, will be considered financially firm, i.e. have their FAQ equal to the MEC.
- All other parties currently in the connection process and all future new connections will have a FAQ allocated using the new ITC methodology.

Entry to the NI Generation Listing / Order in which applications are assessed in the ITC model

The “Connection Application Date” will be used to determine the order for the ITC list. To provide clarity on the definition of “Connection Application Date” SONI and NIE have defined the date to be used for ITC list sequencing as:

The date of receipt of connection application by either SONI or NIE subject to the conditions that the connection application in question is (1) fully complete and (2) supported by the prior granting of planning consent.

Same Date Applications

When more than one connection application has been received by the System Operators on the same date and the capacity is interchangeable any available capacity will be allocated on a pro-rata basis based on MEC. This will apply in the situation where the connection

applications are from the same or different applicants and where the applications relate to the same or different sites. When more than one application has been received on the same date and the capacity is not interchangeable, available capacity will be allocated using the normal rules of the ITC methodology.

Off-shore generation and CAES generation connection applications

In the March 2013 consultation SONI and NIE considered what level of permission is appropriate, prior to connection application and hence inclusion within the FAQ listing, for other forms of generation such as offshore and CAES, which will require a number of consents.

UREGNI have recently consulted upon the above issue for offshore generation as part of their consultation on offshore connection arrangements in NI. SONI / NIE will incorporate the outcome of UREGNI's consultation and associated decisions into these processes.

SONI and NIE believe it is important for CAES to have access to the NI generation listing and ITC model. As this is a unique situation SONI and NIE feel that it is reasonable for CAES to apply for Grid Connection as the Mineral Prospecting Licence provides the required level of assurance that the project will proceed. SONI will therefore accept a Connection Application from Gaelectric and consider CAES in the FAQ process for quotation purposes.

Moyle Assumptions in ITC model

SONI can confirm that both Moyle and EWIC are treated consistently for the purposes of establishing firm access.

Threshold for assessing FAQs

SONI/NIE understand the concerns in respect of defining the lower threshold of 5MW for assessing FAQs. We consider that this threshold will, in conjunction with UREGNI and the Industry, need to be reviewed in light of the increased volume of small scale generation seeking to connect to the distribution network. At this time, SONI/NIE will retain that a 5MW threshold for FAQ allocation.

Temporary Firm Access

Providing temporary firm access to the transmission network as suggested is unlikely to reduce financial risks for projects, given that temporary access could be removed at any time and therefore will not provide any financial certainty. Such a mechanism would most likely be difficult and costly to administer. SONI and NIE believe implementing temporary access would present a number of difficulties and therefore do not intend to introduce it.

Special Protection Schemes

SONI question the assertion that SPS could provide more capacity to the network. An SPS is designed to disconnect generation under certain network conditions. They do not provide any more physical capacity on the network. As stated previously, SONI and NIE will continue to investigate the use of SPS on a project specific basis but such generation will be treated no differently to any other generator.

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1 Introduction

On 25th October 2011, SONI as Transmission System Operator (TSO) in Northern Ireland (NI) and NIE as the Distribution Network Operator (DNO) published a paper for consultation entitled “Generator Connection Process; ITC Methodology to determine FAQs & Generator Output Reductions Analysis.”¹ The paper outlined SONI’s proposals to work with NIE to implement a policy of firm and non-firm transmission access in NI for generator connections. The proposed Incremental Transfer Capability (ITC) methodology to calculate the transmission Firm Access Quantity (FAQ) for each generator connecting to the transmission or distribution system was described in detail. This document also set out proposals to provide existing and potential new developers with an estimate of the likely incidences of generator output reductions at each node over a number of years and the modeling assumptions that SONI intends to apply to produce such data.

In summary the Oct ’11 consultation document set out the following proposals. The assumed starting point of the indicative ITC analysis would be on the basis that all existing generators, i.e. those already connected to the NI transmission or distribution networks, would have a FAQ equal to its Maximum Export capacity (MEC). Generators would be added sequentially to this ITC list based on the planning approval date and assessed in turn using the methodology outlined. SONI would perform full contingency analysis to determine the incremental transfer capability at each node on the transmission system. This would be used for the calculation of the FAQ that can be offered to all new connection applications or connection modifications on the transmission system and for new connection applications or connection modifications at connection points with an MEC of 5MW or more connecting to the distribution system. Finally, analysis of possible Generator Output Reductions (GOR) would be conducted annually in order to provide existing and potential developers with an updated estimate of the likely incidences of generator output reductions at each transmission node, across a number of years.

In the consultation responses to the Oct ’11 paper and in the resulting dialogue between UREGNI, NIE and SONI the central issue became the establishment of the listing of connecting generators in NI and the identification of the starting point for allocation of transmission FAQ. This was particularly important because there were parties connected or about to connect that, by the application of the proposed ITC process, were physically (electrically) non-firm but were being considered as firm in the Market. This matter was discussed at the October 2012 SEM Committee meeting and the SEM Committee welcomed the SONI/NIE proposal to proceed and consult again on proposed decisions regarding connection arrangements.

In this intervening period since the Oct ’11 consultation there has been further progress regarding off-shore renewable generation and discussions are ongoing with parties regarding the connection of other generation technologies. In the further consultation paper of Mar ’13 “Allocation of Transmission FAQ in N Ireland & ITC Methodology to determine FAQs”² SONI / NIE sought the views of respondents’ on how these categories of generator should be considered in the connection application process.

The purpose of the Mar ’13 paper was to propose the establishment of a NI generator listing that will facilitate the introduction of transmission FAQ allocation, explain how parties should be added to the listing, respond to all related issues raised by the initial consultation and set out the processes

¹ The Oct ’11 consultation paper can be found on SONI’s website at www.soni.ltd.uk

² The Mar ’13 consultation paper can be found on SONI’s website at www.soni.ltd.uk

proposed to be adopted by both NIE and SONI going forward regarding the connection of generation.

SONI do not believe it is appropriate or possible at this stage to conclude the discussions regarding generator output reductions as there is still a significant amount of ongoing debate by both Industry and UREGNI. These issues were not included in the consultation paper and SONI will conduct a further consultation responding to issues raised by respondents in the Oct '11 consultation paper and propose a way forward. SONI believe it is essential to deliver reports on Generator Output Reductions, in conjunction with EirGrid, on an all-island basis once all the decisions regarding relevant policies have been formally agreed and implemented.

The consultation process provided interested parties with the opportunity to express their views on a number of issues. In particular respondents were asked to indicate their views on:

1. The starting point of allocating FAQs.
2. Entry to the NI generation listing.
3. Order in which applications are assessed in the ITC model.
4. Off-shore generation and CAES generation connection applications.

This report provides an overview of the submissions received and outlines SONI and NIE's response to the issues raised. This document also outlines SONI and NIE's proposals having taken account of the comments received. These proposals apply to onshore wind, renewable and conventional generation. The situation with off-shore generation will be clarified by UREGNI on completion of their separate consultation.

2 Response to the Consultation

Seventeen submissions were received in response to the consultation, two of which were marked confidential. The Fifteen non-confidential responses are available on SONI's website. These were submitted by:

1. Northern Ireland Renewables Industry group (NIRIG)
2. SSER
3. The Electricity Storage Network
4. First Flight Wind (FFW)
5. Bord Gáis Energy
6. ABO Wind
7. B9 Energy offshore Developments Ltd.
8. Fair Head Tidal
9. Energia
10. Gaelectric
11. ESB Generation & Wholesale Markets
12. Renewable Energy International (REI)
13. Renewable Energy Systems Limited (RES)
14. DW Consultancy Ltd. (DWC)
15. TCI Renewables
16. Confidential
17. Confidential

Seven of the respondents listed above expressed their support, in full or partially, for the NIRIG response. All data relating to respondent numbers presented in this report are derived on the basis that unless any of these seven respondents have specifically noted otherwise, it is assumed that each supports the NIRIG position in full and is counted as doing so for the issues discussed in the later sections of this paper. The views expressed in the two confidential responses are included in the respondent numbers quoted throughout this paper although no comments have been extracted from these responses in order to ensure confidentiality is maintained. SONI and NIE have attempted to interpret each response in the manner it was intended and portray the numbers as accurately as possible.

SONI and NIE would like to thank all of the respondents who took the time to submit comments on the generator connection process. The comments received were very informative and SONI and NIE have given careful consideration to these in preparation of this final report. Almost all respondents welcomed the implementation of a firm access policy for NI. The following are some of the general comments received which indicate support for the proposed enhancements to the generator connection process.

“First Flight Wind supports SONI and NIE’s decision to broaden the Firm Access Quantity (FAQ) consultation to include consideration of other forms of generation in addition to onshore. The ability to apply for a connection and receive a place in the Incremental Transfer

Capability (ITC) queue is important to ensure that the development of the 600MW of offshore wind can progress according to its timetable and make a significant contribution towards Northern Ireland's 2020 renewables target"

"(GES) would like to support NIE and SONI's recognition of the need to consider various levels of consents and permissions that applies to different technologies, such as Compressed Air Energy Storage (CAES), which demonstrate a significant degree of commitment by the developer to its project"

"NIRIG is pleased to note that a number of the industry recommendations made in response to the previous consultation have been taken on board. In particular, we welcome the extension of the cut-off date for financially firm access for connected and contracted projects."

The remainder of this report individually deals with the specific issues raised in the submissions. The comments are divided into the following headings in an effort to structure the report most effectively.

- Section 3.1: Starting point of allocating FAQs
- Section 3.2: Entry to the NI Generation Listing / Order in which applications are assessed in the ITC model
- Section 3.3: Same Date Applications
- Section 3.4: Off-shore generation and CAES generation connection applications
- Section 4: Assumptions of ITC analysis
 - Section 4.1: Moyle Assumptions in ITC model
 - Section 4.2: Threshold for assessing FAQs
 - Section 4.3: Temporary Firm Access
 - Section 4.4: Special Protection Schemes
- Section 5: Conclusions and Next Steps.

In each section SONI/NIE's responses to the comments are shown.

3 Proposed decision regarding N Ireland Generator listings and the allocation of transmission FAQ.

3.1 Starting point of allocating FAQs

Based on initial ITC analysis it was clear that there was more generation connected to the NI transmission system than there was available physically firm capacity. In the October 2011 consultation SONI proposed, as a starting point for the ITC analysis processes to be established, that all existing generators, connected to the NI transmission and distribution system, should be considered to have a FAQ equal to its MEC, as referenced in the TUoS agreement under “Basis of TUoS Charging”.

There was disagreement in relation to this point in the original consultation. SONI / NIE sought guidance on this matter from Utility Regulator and they in turn felt this was a matter that should be brought to the attention of the SEM Committee. SONI / NIE made a presentation to the June 2012 SEM Committee meeting outlining the position regarding total physical FAQ available on the NI transmission network, the status of each of the generators; either connected, awaiting connection or proposing to connect and when firm access would be available. The SEM Committee, in the October 2012 meeting, welcomed proposals from SONI/NIE to publish a further consultation on proposed decisions relating to connection arrangements in Northern Ireland.

The NI transmission system, due to network limitations, cannot facilitate physical firm access for all existing generators and all generators currently in the connection process. If all existing contracts and all parties currently in the connection process were allocated a FAQ set equal to its MEC the total FAQs would significantly exceed the capacity presently available on the transmission network. To allocate firm access in excess of the capacity available on the transmission network is contrary to the SEM High Level Design Decision document, published in June 2005³ which stated that *“Where deep reinforcements are not completed and the generator is permitted to connect and export at the shallow connection date its access shall have an amount of capacity which is deemed physically firm and an amount deemed physically non-firm.”* The SEM ‘Generator Connection Policy’ decision paper⁴, published in September 2006, also states that *“The Regulatory authorities consider that firm access should be provided only from the actual completion date of deep reinforcements.”* Allocating FAQs where capacity is not available on the transmission system would lead to increased constraints costs which are then borne by demand users in the all-island market.

Consideration needs also to be given to the fact that there are a number of generators at various stages of the connection process. Some with an accepted connection offer, some with an offer that is not yet accepted and some without a connection offer. It is therefore obvious that the starting point of the process will have differing impacts on certain generators. It is also accepted that all parties presently in the listing (by whatever means listed) will not have physically firm access until planned transmission reinforcement has been completed.

Clearly, bearing in mind the lack of physical firm capacity available, it would not be sustainable to facilitate firm access for all generation presently connected and in the connection process. SONI / NIE proposed that existing generators and those with an accepted connection offer in NI should be considered for FAQ allocation as follows:

³ “SEM high level design paper “ 10th June 2005, AIP/SEM/42/05

⁴ “Generation Connection Policy” Decision paper, September 2006. AIP/SEM/114/06

- All wind farm generators already connected to the distribution or transmission network in Northern Ireland as of 31st of March 2012 are considered financially firm, that is, these generators will have a FAQ equal to MEC. The initial consultation was conducted in Oct 2011. This paper stated available FAQs and so all parties from 31 March 2012 have been aware that there was no firm access available on the majority of the NI transmission system.
- All wind farm generators with an accepted connection offer as of 31st December 2010, that are awaiting connection, will be considered financially firm, i.e. have their FAQ equal to the MEC.
- All other parties currently in the connection process and all future new connections will have a FAQ allocated using the new ITC methodology when this has been implemented.

To clarify, this means that all other NI generators who are presently involved in the connection process with either SONI or NIE will be allocated a FAQ on approval of the new methodology and processes. SONI and NIE consider this starting point as a fair and reasonable proposal that does not unduly discriminate against any party. The proposed starting point will initially result in the allocation of some financial firm access in excess of that currently physically available on the system however the completion of NIE's medium term plan for development of the transmission system would provide for these connections to have full firm access. The allocation of firm capacity to existing generators and those with an accepted connection offer beyond what is physically available is therefore a short-term issue.

A listing of generators on the basis of the above proposal is contained in Appendix A.

3.1.1 Consultation Responses

The majority of the comments that SONI and NIE received on this issue broadly supported the proposal.

One party encouraged SONI to consider the precedent implications of allocating financial firmness to generation that is not physically firm.

One party noted that this policy would result in inequitable treatment of generators that had submitted connection applications before December 2010 but had not accepted offers due to delays in the cluster process. Another party requested that firm access is extended to all projects with live connection offers in December 2010.

3.1.2 SONI / NIE Position

SONI/NIE previously amended this process to reflect the wishes of the majority and now consider the process detailed in the paper as a fair, reasonable and pragmatic way to proceed. As stated above, it will initially result in the allocation of some financial firm access in excess of that currently available on the system, however the completion of NIE's medium term plan for development of the transmission system would provide for these connections and some future connections to have full firm access. SONI and NIE feel this approach to a unique set of circumstances does not set a precedent as this scenario will not reoccur.

In response to firm access being extended to projects with live offers in December 2010, SONI and NIE feel it would not be sustainable to facilitate this quantity of generation considering the lack of physical firm access available.

3.2 Entry to the NI Generation Listing / Order in which applications are assessed in the ITC model

The Oct '11 consultation paper related to onshore generation projects only and applied the established principle of generation connection applications only being considered once Planning Approval for the generation project had been obtained.

The majority of respondents welcomed the principle of using connection application date to gain entry to the NI generation listing for onshore projects. There was however considerable disagreement between parties regarding the entry of offshore/CAES applications. See section 3.4 below. As stated previously, SONI/NIE continue to believe that it is a reasonable requirement for on-shore generators to have planning permission for their generation project before applying for a Connection Offer.

It was proposed in the Oct '11 paper that, going forward, on-shore generators will be added to the ITC list based on the planning approval date for their connection and assessed in turn, with the resulting FAQs allocated on this basis. SONI and NIE considered the comments received and agreed with the concerns raised regarding the use of planning approval date for assessing applications. The majority of respondents favoured using "Connection Application Date" for ordering applications in the ITC model. SONI and NIE then proposed that "Connection Application Aate" will be used to determine the order for the ITC list in the March 2013 consultation.

It is extremely important that this date is clearly defined. In the ITC methodology the "Connection Application Date" will be the date on which an application to connect to the transmission or distribution system is received by the relevant System Operator. The connection application date used for the purpose of ITC studies is not necessarily the date when all relevant information has been provided by the applicant which will allow a Connection Offer to be made. This definition of connection application date is slightly different from that contained in the TSO and DSO licenses however SONI and NIE feels that in order to provide connecting generators with FAQ information as early as possible in the connection process that using this date will be most beneficial. Only applicants that have submitted a connection application to the relevant System Operator will be included in the ITC analysis. The same rules will apply to all new connection applications and applications for a connection modification including those connecting as part of a cluster.

Given that any connecting generator can apply to the relevant System Operator for a connection as soon as planning permission has been granted it is possible that a list put together using planning permission date could be identical to one put together using Connection Application date as proposed.

The FAQ for any connecting generator will remain valid for the connection offer period, which is currently 90 days from issue of the offer. Should a generator fail to accept a connection offer within the connection acceptance period then the FAQ shall be reallocated under the normal ITC rules. In these circumstances should the generator continue with a new connection application this generator connection would be added to the ITC list based on the connection re-application date. The FAQ available in the original connection offered would no longer apply.

3.2.1 Consultation Responses

Nine of the respondents supported the proposal that connecting generators will be added to the ITC analysis list in order of the date of connection application, instead of the originally proposed

planning permission date for on-shore generation. A further three respondents supported the proposal that offshore generators will be added to the list in order of the connection application date following the granting of development rights from The Crown Estate.

Once more, there was disagreement between parties regarding the treatment of offshore generation /CAES in respect to the order in which they are assessed in the ITC model. It was clear that respondents representing onshore generation felt that offshore generation should not gain access to the generation listing until full planning permission is granted for the onshore elements of the proposed development. Similarly, the general sentiment from offshore generators was that the Crown Estate's lease was sufficient for the developments to enter the generation listing. Please see section 3.4 below.

One party said there was an understanding amongst industry that planning permission date would be used and has suggested that it used up to a defined date and connection application date is used from that point forward.

SONI and NIE were asked to provide some clarity around the date stamp for modified planning consents and applications. One party suggested that modifications to accepted connection offers should not lose their place in the queue. It was stated that the rules should be clear so that projects delayed because their connection has moved from an LCTA to cluster are not disadvantaged as a result. In a project where a change of System Operator is required, several respondents proposed that the reapplication should be considered as the same application.

One respondent questioned the rationale for defining the connection application date as the "date on which an application to connect to the transmission or distribution system is received by the relevant System Operator" and "not necessarily the date when all relevant information has been provided by the applicant which will allow a Connection offer to be made".

One party suggested that the connection date must be that date upon which both a duly completed grid connection application and corresponding grid connection application fee is made.

A respondent ask for clarity around wording in section 3.3.1 of the consultation paper "The same rules will apply to all new connection applications and applications for a connection modification including those connecting as part of a cluster."

3.2.2 SONI / NIE Position

SONI and NIE continue to accept that "Connection Application Date" will be used to determine the order for the ITC list for onshore generation. The issue of entry into the ITC model for other technologies / CAES storage is discussed in section 3.4.

To provide clarity on the definition of "Connection Application Date" SONI and NIE now define the date to be used for ITC list sequencing as:

The date of receipt of connection application by either SONI or NIE subject to the conditions that the connection application in question is (1) fully complete and (2) supported by the prior granting of planning consent.

In a project where a change of System Operator is required, the existing application will transfer to the relevant System Operator and the original Connection Application date will be considered for entry into the ITC model. However if the applicant increases the MEC of the application (whether a change in System Operator is required or not) then a reapplication for the incremental increase in

capacity will be required. The firmness of this increment will be determined using the same ITC methodology and will enter the model on the date of the connection reapplication. This approach will be applied for modifications to live applications, live offers and accepted offers.

If an application is modified for a reason outside the control of the developer then SONI and NIE may consider the application date for the purpose of the ITC model.

It should be noted that the same rules apply for parties who had applied for connection prior to December 2010 but had not accepted connection offers due to delays in the cluster process. Due to the limited availability of physical firm access SONI and NIE feel it would not be sustainable to facilitate financial firmness to this quantity of generation.

It should be noted that SONI and NIE do not feel it is reasonable for a party to apply to both System Operators for the same connection. If a party is unsure as to whether the optimal connection option would be a Transmission or Distribution level then a single application should be lodged with either System Operator. SONI and NIE will recognise the original application date as date for entry into the ITC model provided the MEC level does not increase.

3.3 Same Date Applications

When more than one connection application has been received by the System Operators on the same date and the capacity is interchangeable any available capacity will be allocated on a pro-rata basis based on MEC. This will apply in the situation where the connection applications are from the same or different applicants and where the applications relate to the same or different sites. When more than one application has been received on the same date and the capacity is not interchangeable, available capacity will be allocated using the normal rules of the ITC methodology.

3.3.1 Consultation Responses

All nine respondents who commented on this section of the consultation were in support of the proposal.

3.3.2 SONI / NIE Position

SONI / NIE therefore plan to allocate interchangeable capacity on a pro-rata basis as detailed above.

3.4 Off-shore generation and CAES generation connection applications

The Oct '11 consultation paper related to onshore generation projects only and applied the established principle of generation connection applications only being considered once Planning Approval for the generation project had been obtained. Three respondents stressed that a different approach is required for offshore connections. The main problems highlighted related to the planning application and connection application criteria. For this reason SONI / NIE broadened the scope of the consultation to consider other forms of generation as well.

Since the Oct '11 consultation development opportunities have been identified for three zones off the coast of N Ireland. The first offshore leasing round was conducted by The Crown Estate, with the rights to develop offshore renewable energy projects offered to three successful consortia announced in October 2012. The granting of these first development rights will lead to the necessity for grid connections for the offshore generation. The three development zones are as follows:

- An offshore wind area, off the south east coast of County Down, for a single development company to deliver up to 600 MW of wind generating capacity.
- A tidal development at Torr Head for 100MW.
- A tidal development at Fair Head for 100MW.

As these are the first offshore renewable projects in NI waters, new connection arrangements which deal with the relevant issues are presently being considered by UREGNI and have recently been consulted upon.

There is also another party (Gaelectric) wishing to provide generation from a Compressed Air Energy Storage (CAES) project.

The proposals set out in the original consultation were intended for onshore connections only and SONI/NIE continue to believe that it is a reasonable requirement for on-shore generators to have planning permission for their generation project before applying for a Connection Offer. The rationale for having this requirement is that it provides a level of reassurance that the project will proceed, hence justifying entrance to the generation FAQ listing. In addition it provides the developer with some level of transparency and certainty over accessibility to transmission capacity.

In this consultation SONI/NIE considered what level of permission is appropriate, prior to connection application and hence inclusion within the FAQ listing, for other forms of generation such as offshore and CAES, which will require a number of consents. One option suggested would be to require all necessary consents to be in place before a connection application may be submitted. However, if the purpose of having a requirement is primarily to test commitment to justify entrance to the FAQ listing SONI/NIE queried whether this threshold goes beyond that applied to on shore wind. SONI/NIE asked if such a threshold is considered unreasonable then what entry requirement would be reasonable. At present, the off shore developers have secured unique development rights from Crown Estates. Similarly Gaelectric and other companies have conducted detailed assessments of the geological potential for CAES on the island of Ireland. The geological potential for grid scale CAES is confined to a limited portion of the salt deposits of the Larne area. A Mineral Prospecting Licence covering this area was granted to Gaelectric by DETI in December 2011. This Licence lasts for two years and can be extended twice by a period of a further two years. A question for consideration is what level permission is appropriate for the legitimate submission and acceptance of a connection application.

UREGNI have recently consulted upon the above issue for offshore generation as part of their consultation on offshore connection arrangements in NI. SONI / NIE however wish to include all generation technologies in their revised processes and invited views on the most appropriate stage for all forms of generation to enter the FAQ allocation and connection application process. To ensure consistency of approach SONI / NIE will also consider the outcome of UREGNI's consultation, before making any overall decision on offshore generation.

3.4.1 Consultation Responses

All respondents writing on behalf of offshore projects proposed allowing entry into the NI generation listing based on Connection Application date following granting of exclusive development rights from the Crown Estate.

Seven respondents indicated that they will respond to UREGNI consultation on these issues.

There is a strong view that all applicants, offshore, onshore and CAES, should be treated on the same basis in terms of their entry to the connection application process and FAQ allocation queue. It was suggested that the same qualifying criteria must be upheld for all forms of generation in keeping with Condition 15 (Non-Discrimination) of the SONI TSO License. One party highlighted that many onshore projects have already spent considerable time in development and that significant finance has been committed in submitting the planning application. Allowing other forms of generation to gain access to the NI generation listing will result in projects which has not received planning permission as of October 2012 being leap-frogged by this sizeable amount of capacity. It is claimed that this will stifle development of all further development of onshore generation in NI. One party said it seems reasonable that offshore renewable projects should be permitted to submit a connection application, in order to receive SONI connection offer only. They would not support the proposal to link adding of offshore renewable projects to the ITC list by date of connection application, as this would unduly discriminate against onshore projects. It was also suggested that a process could be developed by SONI to determine the shallow connection method for offshore renewable connections. This would not require a connection agreement to be in place or transmission capacity to be prematurely secured.

Two parties highlighted the fact that energy storage, such as CAES, is not generation. One of these parties indicated that they bring benefits to a constrained network and is unlikely to exacerbate worst case power flows. It was suggested that if energy storage projects commit to an operating regime that does not exacerbate worst case grid system power flows, they should not form part of the ITC studies.

It was noted that the rationale for requiring planning permission prior to application is that it provides a level of reassurance that the project will proceed. Prior to the awarding of the Agreements for Lease for the three off-shore development zones, applicants were required to demonstrate the viability of their projects, together with their competence, resource and financial commitment to deliver them.

Offshore developers highlighted that it is not possible to begin consenting of the on-shore grid assets required by the cited off-shore projects, until these have been determined in the connection application process.

3.4.2 SONI / NIE Position

In general terms SONI and NIE do not see the connection process as discrete from ITC analysis and the allocation of FAQ. If a party is eligible to make a connection application then they should be eligible to enter the queue for FAQ allocation and, upon acceptance of terms, be considered in the queue on an ongoing basis until the generation is established and the associated transmission reinforcements have been completed to provide fully firm access. The difficulty arises because the Planning Permission hurdle and connection application date applicable for onshore generators is not easily transferable to other forms of generation as the consenting processes are entirely different.

SONI and NIE would be keen to reach a position where all generating parties can be treated equitably and, through both consultation processes, hope an accommodation can be reached. SONI and NIE does not believe the connection processes can be demonstrably different for off-shore but that, in recognising the differences between onshore, offshore and generating technologies, an equivalent or unique position in planning consent processes can be achieved by all generator developers to allow them to make a connection application.

SONI and NIE are also mindful that the connection of this renewable wind and tidal generation will require significant transmission network build and reinforcement and believe it is in everyone's interest to resolve this issue and move forward.

The CAES technology is a new concept for Northern Ireland as storage can be deemed as both demand and generation. The ITC model has to recognise storage and SONI and NIE will enhance the model to account for this. It is important for such a development to have access to the NI generation listing and ITC model. As this is a unique situation SONI and NIE feel that it is reasonable for CAES to apply for Grid Connection following approval of this consultation as the Mineral Prospecting Licence provides the required level of assurance that the project will proceed.

4 Assumptions of ITC analysis

The Oct '11 consultation paper described in detail the various assumptions which would be made in the proposed ITC model. There was a general acceptance amongst respondents that these assumptions were appropriate, not taking account of the issues discussed in Section 3. Almost all respondents agreed that the proposed ITC methodology should be implemented for calculating FAQs in NI. Many respondents welcomed this further harmonization with the EirGrid generator connection process. There was general support on the following issues:

Time Horizon

SONI proposed to provide ITC results per transmission node on an annual basis, possibly in October of each year, for a seven year horizon. NIE plan the network on a seven year horizon and therefore the necessary data files in the required format will not be available to calculate FAQs beyond seven years. Should industry arrangements change such that network planning data is available on a longer horizon then SONI will provide FAQs for that time period.

Transmission Reinforcements

The reinforcements required to provide a connection with firm access will be known as the Associated Transmission Reinforcements (ATRs). The details of the specific ATRs for a connection shall be set out in a report prepared by SONI, this report will be called the "SONI FAQ and ATR Report". SONI will prepare the report for each connection and it will be issued by the relevant System Operator along with the Connection Offer. The report will be individual to each connecting generator and will specify the specific reinforcements that are required to provide a generator with FAQ equal to MEC and when these reinforcements are scheduled to be complete, according to NIE development plans.

All-Island ITC model

Three respondents requested that ITC studies are carried out on an all-island basis. One respondent highlighted that if the TSOs are moving towards an all-island application of FAQs careful consideration must be given to the fact that there are different processing rules for applications in both jurisdictions. SONI agree that this appears to be a reasonable course of action and are prepared to consider developing a harmonized all-island approach to ITC analysis with EirGrid. Currently it is not possible to provide all-island results on a seven year horizon however the TSOs will investigate the resolution of any outstanding issues so that the different connection processes that apply in each jurisdiction can be harmonised to the extent that no party is treated less favourably.

Provision of data on FAQ

In section 3.3 and 4.1 of the Oct '11 consultation paper and also in step 4 of Figure 1 and Figure 3 of the original paper it was stated that the FAQ for a connection will be included in the Connection Offer. It is now proposed that rather than inserting the FAQ figure directly into the connection offer the FAQ will be included in the "SONI FAQ & ATR Report" which will be prepared by SONI and issued by the relevant System operator along with the Connection Offer. This is preferred on the basis that the FAQ is, in practice, a separate matter from the commercial/contractual arrangements that relate to the local connection. By providing a generator with a separate document alongside the connection offer it allows the generator to focus on each separately whilst still enabling him/her to make an overall assessment. This report will form part of the connection agreement package. The report will be referenced in the Connection Offer and Connection Agreement.

The main issues that were raised in relation to the ITC methodology are set out below.

4.1 Moyle Assumptions in ITC model

In the ITC methodology the Moyle interconnector is initially dispatched to reflect typical present transfers to and from GB. However, as levels of renewable generation increase, transfers on Moyle may be varied to ensure all renewable generation can be accommodated, as well as ensuring that all system security rules in relation to the use of conventional generation are observed. The ITC studies will see flows on Moyle ranging within the physical import and exports limits. SONI believes it is appropriate to treat the Moyle interconnector as outlined in the proposal and dispatch at various levels within the physical limitations. While EirGrid also include interconnection in ITC analysis we will liaise closely with EirGrid to ensure there is a consistency in our approach.

4.1.1 Consultation Responses

Seven parties stated their belief that the allocation of firm access should use realistic information about non-wind generation and that East-West and Moyle Interconnectors should be treated consistently by both SONI and EirGrid for the purpose of establishing firm access. It was also suggested that the Moyle Interconnector flows should reflect future market conditions. Eight respondents suggested that countertrading should take place to free up more capacity for renewable generators.

4.1.2 SONI / NIE Position

As regards non-wind generation that will be considered SONI's position remains as stated in Section 5.3 of the original Consultation paper "Conventional generation will be dispatched on a merit order basis. In order to maintain system stability and reflecting current operational practice, a minimum of three machines will be dispatched at all times in NI. It is assumed that this will change in 2016/17, with the commissioning of the new 400kV tie-line between Turleenan and Woodland, which will allow the minimum number of conventional machines required to be running in NI to reduce to two".

SONI have adopted the position identified and can confirm that both Moyle and EWIC are treated consistently for the purposes of establishing firm access.

Regarding countertrading SONI would advise that there are currently arrangements in place to allow for system operator countertrading of up to 200 MW on each interconnector. One of the aims of interconnector countertrading is to reduce the curtailment of priority dispatch plant within a regulatory approved pricing framework. There are a number of additional counter-trading options being considered by the TSOs in order to further reduce the curtailment of priority dispatch:

1. System Operator countertrading via a UK Power Exchange
2. Procure a third party service
3. Interconnector Trade exchange

4.2 Threshold for assessing FAQs

In the Oct '11 paper SONI suggested a threshold for allocating FAQs as those applications where the total MEC at a connection point on the distribution system is 5MW or more, highlighting that to consider every distribution generator connection application seems impractical. The majority of respondents were of the view that SONI should carry out impact analysis on the threshold level for assessing and allocating FAQs to distribution connection. SONI believes this is a reasonable way to proceed. Before undertaking such analysis it is imperative that SONI, NIE and UREGNI agree on the

scope of the analysis. The results of the impact analysis shall be communicated to industry for further consideration before application of any revised threshold. In the interim, given the desire to implement the proposed changes in the generator connection process as soon as practical, SONI believes it is appropriate to proceed on the basis of using 5MW as a threshold for distribution connections until such times as a lower level is deemed necessary.

4.2.1 Consultation Responses

Seven respondents accept that it is appropriate to proceed on the basis of using the 5MW threshold for the purpose of implementing the proposed changes. They also support the commitment to undertake the impact analysis and requested further information on when this will be carried out and if would be take place on a regular basis. One party noted that the impact analysis is needed as a matter of urgency as the substantial number of small projects applying for grid capacity is eroding the available firm capacity of the network for larger generators. Another respondent queried whether permitting <5MW generators to connect and “jump the constraints queue” is undue discrimination in favour of small scale generators.

4.2.2 SONI / NIE Position

SONI/NIE understand the concerns raised by respondents in respect of defining the lower threshold of 5MW for assessing FAQs. We consider that this threshold will, in conjunction with UREGNI and the Industry, need to be reviewed in light of the increased volume of small scale generation seeking to connect to the distribution network. The majority of this small scale generation is however less than 250kW and detailed consideration would need to be given to the management of a process to deal with what could be a significant number of connections. Also arrangements whereby control could be exercised over a significant number of generating sites would need detailed consideration. For this reason, at this time, SONI/NIE consider that a 5MW threshold remains appropriate.

4.3 Temporary Firm Access

Non-firm access is designed to promote efficient use of the network, in that parties without firm access can use the network when it is available and it is only when constraints occur that the party possibly faces an output reduction. Non-firm access ensures that network use is maximised without increased financial risk to customers. Providing temporary firm access to the transmission network as suggested is unlikely to reduce financial risks for projects, given that temporary access could be removed at any time and therefore will not provide any financial certainty. Such a mechanism would most likely be difficult and costly to administer. Implementing temporary access would present a number of difficulties and for these reasons its introduction is not proposed.

4.3.1 Consultation Responses

Seven parties believe that temporary firm access is a useful tool and it would only need removed when other generators connect. One party is of the view that this would be overly complicated to implement.

4.3.2 SONI / NIE Position

SONI maintain the view that providing temporary firm access is unlikely to reduce financial risks for the project and implementing it would be difficult. Therefore it is not proposed to implement temporary firm access.

4.4 Special Protection Schemes

As stated in the initial consultation paper certain generators have already been connected in conjunction with Special Protection schemes (SPS). The normal arrangement is that these generators will be disconnected for certain network operations to prevent overload of remaining circuits. For the purposes of the proposed ITC studies new SPS schemes will be ignored and, going forward, it is proposed that such generators will be treated no differently to any other generator. Going forward SONI and NIE will continue to investigate the use of such schemes on a project specific basis.

4.4.1 Consultation Responses

Seven of the respondents recommend that SONI/NIE continue to use existing and new special protection schemes to provide firm access for renewable generators. One party estimated that the use of SPS could provide at least an additional 150MW of firm access over the next five years and have requested SONI complete a cost benefit analysis on the use of SPS to provide firm access.

4.4.2 SONI / NIE Position

SONI question the assertion that SPS could provide more capacity to the network. An SPS is designed to disconnect generation under certain network conditions. They do not provide any more physical capacity on the network. As stated previously, SONI and NIE will continue to investigate the use of SPS on a project specific basis but such generation will be treated no differently to any other generator.

5 Conclusions and Next Steps

Following acceptance of these proposals SONI and NIE will amend the Transmission Interface Agreement (TIA) to reflect the new working arrangements. These amendments to the TIA will be submitted to UREGNI for approval.

Appendix A: FAQs at the starting point

Table A.1: FAQ FOR EACH EXISTING DISPATCHABLE GENERATOR IN NI

CONVENTIONAL GENERATOR UNIT	MEC (MW)	FAQ (MW)
BALLYLUMFORD UNIT 7	53	53
BALLYLUMFORD UNIT 8	53	53
BALLYLUMFORD CCGT 20	479	479
BALLYLUMFORD CCGT 10	98.4	98.4
BALLYLUMFORD UNIT 4	170	170
BALLYLUMFORD UNIT 5	170	170
BALLYLUMFORD UNIT 6	170	170
COOLKEERAGH GT 8	53	53
COOLKEERAGH C30	413	413
KILROOT GENERATING UNIT 1	240	240
KILROOT GENERATING UNIT 2	240	240
KILROOT GT 1	23.6	23.6
KILROOT GT2	23.6	23.6
KILROOT GT 3	42	42
KILROOT GT4	42	42
IPOWER AGU	47	47
CONTOUR GLOBAL	9	9

Table A.2: FAQ FOR EXISTING RENEWABLE GENERATORS AS OF 31ST MARCH 2012

WIND FARM	110kV NODE	MEC (MW)	FAQ (MW)
RIGGED HILL	COLERAINE	5	5
CORKEY	BALLYMENA	5	5
ELLIOT'S HILL	LARNE	5	5
BESSEY BELL	OMAGH	5	5
OWENREAGH	STRABANE	5.5	5.5
LENDRUM'S BRIDGE 1	OMAGH	5.94	5.94
LENDRUM'S BRIDGE 2	OMAGH	7.26	7.26
ALTAHULLION	LIMAVADY	26	26
TAPPAGHAN	OMAGH	19.5	19.5
SNUGBOROUGH	AGHYOULE	13.5	13.5
CALLAGHEEN	ENNISKILLEN	16.9	16.9
LOUGH HILL	STRABANE	7.8	7.8
BIN MOUNTAIN	STRABANE	9	9
WOLF BOG	LARNE	10	10
SLIEVE RUSHEN	AGHYOULE	54	54
ALTAHULLION 2	LIMAVADY	11.7	11.7
BESSEY BELL 2	OMAGH	9	9
OWENREAGH 2	STRABANE	5.1	5.1
GARVES	COLERAINE	15	15
GRUIG	COLERAINE	25	250
SLIEVE DIVENA	OMAGH	30	30
TAPPAGHAN 2	OMAGH	9	9
CROCKAGARRON	DUNGANNON	17.5	17.5
HUNTER'S HILL	OMAGH	20	20
SCREGGAGH	OMAGH	20	20
CURRYFREE	LISAGHAMORE	15	15
SLIEVE KIRK	KILLYMALLAGHT	27.6	27.6
CHURCH HILL	MAGHERAKEEL	18.4	18.4
CRIGSHANE	MAGHERAKEEL	32.2	32.2
TOTAL		450.9	450.9

Table A.3: FAQs FOR GENERATORS WITH ACCEPTED CONNECTION OFFERS AS OF 31ST DECEMBER 2010

SCHEME NAME	110kV NODE	MEC (MW)	FAQ (MW)
SLIEVE DIVENA 2	FALLAGHEARN	20	20
THORNOG	MAGHERAKEEL	10	10
LONG MOUNTAIN*	LONG MOUNTAIN	24	24
CARRICKATANE	KILLYMALLAGHT	22.5	22.5
CARN HILL**	CARNMONEY	13.8	13.8

LONG MOUNTAIN
CARN HILL

This refers to an accepted LCTA offer
Will be firm under all circumstances due to network location