
Review of Electricity Distribution and Transmission Connection Policy Call for Evidence

A Submission by SONI Ltd.

January 2017



1. Executive Summary

SONI welcomes the opportunity to participate in the Utility Regulator's (UR) Call for Evidence on the Review of Electricity Distribution and Transmission Connections Policy in Northern Ireland.

This is a very timely intervention by UR because of the recent influx in applications for connection to the power system, the shortage of network capacity, uncertainty in the renewable generation industry and the complexity inherent in the industry structure. We are particularly encouraged by the endorsement of this review by the Department for the Economy (DfE). Their participation in the process will be vital to ensuring the best outcome for customers in Northern Ireland.

In our response to this Call for Evidence, SONI highlights the following key points:

- Connections policy should provide predictability and certainty; however it also needs to be adaptable to cater for the evolving nature of the customer and system requirements.
- It is important that transmission and distribution connections are treated equitably in order to facilitate competition in the generation and supply of electricity. TIA processes for distribution connections are not compatible with NIE Networks' licence obligations.
- Charges for transmission assets allocated to connecting parties must be consistent with SONI's Transmission Connection Charging Methodology Statement irrespective of the connection voltage.
- Connection arrangements must also be consistent with I-SEM capacity auction requirements and DS3 procurement processes, and not unduly disadvantage potential participants in NI.
- Transmission capacity is limited and the remaining available transmission capacity is being allocated by SONI and NIE Networks as part of the current Phase 1 process. On completion of Phase 1, there will be little capacity available for SONI to allocate, and limited demand available to absorb this generation, particularly without the second North-South interconnector. SONI has more limited circumstances under which it is exempt from issuing offers to requesting parties than NIEN¹ and the practicalities of making offers in these circumstances is difficult given SONI's remit.
- In order to create a level playing field across connection voltages, this gap in the Electricity (NI) Order 1992 and accompanying regulations should be addressed.
- Planning permission worked as an effective pre-requisite to the submission of a connection application prior to NIE Networks' policy change in 2015, and

¹ Articles 19 to 26 of the Electricity (Northern Ireland) Order relate only to holders of distribution licences

changes to the legal framework to facilitate the reintroduction of this requirement should be considered.

- Generation connection applications are becoming increasingly complex as generation sites try to maximise utilisation of connection assets and demand sites offset load. Visibility and control of a greater proportion of the generation mix will be key to future system security. It is SONI's intention to introduce a level of controllability down to 1 MW.
- A defined energy policy for Northern Ireland will be essential to ensure efficient development of a connections framework which is consistent with the wider needs of society.

SONI is happy to meet with UR to discuss the issues highlighted here, to support this review of the connections process and policy.

Contents

1. Executive Summary	2
2. Introduction	5
3. Key Points.....	6
4. Answers to Questions.....	8
Q1. Do you agree with these strategic priorities?.....	8
Q2. Do you agree that these are the main developments we should be mindful of? Are there any other developments which are important?	10
Q3. Is there a role for connections policy to promote effective network management? If so, what are the issues which need addressed and potential solutions as part of this review?.....	16
Q4. Should we review the distribution charging framework, with a view to making connection charges deeper? If so, how should this be designed? What are the benefits, costs and risks of doing so?	17
Q5. Should we review how the connections process and queue is managed? If so, what are the issues which need addressed and potential solutions?	19
Q6. Should we consider connections customer service, engagement and pricing transparency as part of this review? What are the issues which need addressed and potential solutions?	23
Q7. Are there other issues we should review? Which issue(s) are in your view the most material and why?	24
Appendix 1.....	26

2. Introduction

SONI welcomes the opportunity to participate in the Utility Regulator's (UR) Call for Evidence on the Review of Electricity Distribution and Transmission Connections Policy in Northern Ireland.

This is a very timely intervention by UR because of the recent influx in applications for connection to the power system, the shortage of network capacity, uncertainty in the renewable generation industry and the complexity inherent in the industry structure. We are particularly encouraged by the endorsement of this review by the Department for the Economy (DfE). Their participation in the process will be vital to ensuring the best outcome for customers in Northern Ireland.

SONI is the licensed Transmission System Operator (TSO) in Northern Ireland and has been part of the EirGrid Group since 2009. SONI is responsible for planning and operating the transmission system safely and securely to ensure a reliable supply of electricity.

SONI also operates the All-island wholesale electricity market with EirGrid (the TSO in Ireland) through the Single Electricity Market Operator (SEMO) which has been in operation since November 2007.

SONI is required under Article 12 of The Electricity (Northern Ireland) Order 1992 to develop and maintain efficient, co-ordinated and economical electricity transmission system.

We discharge this duty in relation to connections through offering terms to customers for new connections, or for modification of existing connections, to the transmission system. We also define the connection arrangements, including any reinforcement works on the transmission system required to facilitate connection to the transmission system and distribution system. In doing this we are responsible for:

- ensuring that new or modified connections to the transmission system are constructed in accordance with the terms set out in the accepted connection offer letter;
- ensuring that customers' equipment connected to, or to be connected to, the transmission system and distribution system complies with the Grid Code; and
- planning, designing and obtaining consents for any reinforcement works on the transmission system required to facilitate connections to the distribution system.

We work closely with NIE Networks in its role as Transmission Owner (TO) and Distribution Network Owner (DNO). The working arrangements between SONI as the TSO and NIE Networks as the TO and DNO are set out in the Transmission Interface Arrangements (TIA).

The transmission planning function was transferred from NIE Networks to SONI on 1 May 2014.

3. Key Points

In our response to this Call for Evidence, SONI would like to highlight the following key points. These are developed in more detail in Section 3 through our responses to the questions posed by the Utility Regulator:

- Connections policy should provide predictability and certainty; however it also needs to be adaptable to cater for the evolving nature of the customer and system requirements.
- It is important that transmission and distribution connections are treated equitably in order to facilitate competition in the generation and supply of electricity. TIA processes for distribution connections are not compatible with NIE Networks' licence obligations.
- Charges for transmission assets allocated to connecting parties must be consistent with SONI's Transmission Connection Charging Methodology Statement (TCCMS) irrespective of the connection voltage.
- Connection arrangements must also be consistent with I-SEM capacity auction requirements and DS3 procurement processes, and not unduly disadvantage potential participants in NI.
- Transmission capacity is limited and the remaining available transmission capacity is being allocated by SONI and NIE Networks as part of the current Phase 1 process. On completion of Phase 1, there will be little capacity available for SONI to allocate, and limited demand available to absorb this generation, particularly without the second North-South interconnector. SONI has more limited circumstances under which it is exempt from issuing offers to requesting parties than NIEN² and the practicalities of making offers in these circumstances is difficult given SONI's remit.
- In order to create a level playing field across connection voltages, this gap in the Electricity (NI) Order 1992 and accompanying regulations should be addressed.
- Planning permission worked as an effective pre-requisite to the submission of a connection application prior to NIE Networks' policy change in 2015, and changes to the legal framework to facilitate the reintroduction of this requirement should be considered.
- Generation connection applications are becoming increasingly complex as generation sites try to maximise utilisation of connection assets and demand sites offset load. Visibility and control of a greater proportion of the generation mix will be key to future system security. It is SONI's intention to introduce a level of controllability down to 1 MW.

² Articles 19 to 26 of the Electricity (Northern Ireland) Order relate only to holders of distribution licences

- A defined energy policy for Northern Ireland will be essential to ensure efficient development of a connections framework which is consistent with the wider needs of society.

4. Answers to Questions

In this section SONI provides responses to the questions posed by the Utility Regulator in its Call for Evidence.

Q1. Do you agree with these strategic priorities?

SONI generally agrees with the strategic priorities outlined in the Call for Evidence. They largely align with the underpinning principles of SONI and NIE Networks' Alternative Connection Application and Offer Process³. In this context, we would like to make the following observations in relation to the strategic priorities outlined in the paper.

1. Efficient and cost-effective connections

SONI agrees that network capacity should be allocated efficiently and in a way that maximises existing network assets and allows for optimal development and investment of the transmission and distribution systems in line with SONI and NIE Networks' legislative and licence obligations.

SONI also agrees that the balance between the cost of connection assets and the allocation of the cost of investment in system assets triggered by connections that is recovered through enduring use of system charging is important. The balance should ensure that the costs to connecting customers reflect the works required for their connection and the works they trigger on the wider network.

2. High levels of quality of service and transparency in the provision of connections

SONI agrees that connection policy should provide clarity and transparency for customers. However we believe that connection policy should also deliver a service with more certainty and predictability to allow customers seeking a connection to make informed decisions, for example, more certainty around investment in deeper network reinforcement works required for the connection.

SONI feels it is important that connection policy provides for equitable treatment of connection applications for both transmission and distribution projects. Changes to connections policy should only be implemented following consultation with key stakeholders to ensure the impact of the change can be assessed, managed effectively, implemented fairly and allow for consistency across the industry.

³ See SONI and NIE Networks' Alternative Connection Application and Offer Process Decision Paper that was issued on 31 May 2016.
<http://www.soni.ltd.uk/media/documents/Consultations/Alternative%20Connection%20Application%20and%20Offer%20Process%20-%20Decision%20Paper%2031052016.pdf>

Connection policy should also recognise that a blanket process or policy may not be suitable for all connection types and that consideration should be given to the differing nature and complexity of connection requests.

Connection policy must also reflect SONI's duty under our licence not to unduly discriminate.

3. Maintains or improves security of supply of electricity in Northern Ireland

SONI agrees that connection policy should allow for system security⁴ to be maintained or improved. However, if connections that support security of supply in Northern Ireland are to be prioritised, particularly in a situation where network capacity is scarce, a clear framework will need to be established that will enable SONI to act in accordance with our licence by not unduly discriminating.

Any prioritisation of connection applications would need to be predictable, transparent and compatible with the I-SEM Capacity Market and DS3 System Services procurement process. A defined energy policy for Northern Ireland will be essential to ensure efficient development of a connections framework which is consistent with the wider needs of society.

4. Timely, robust and flexible connections process

SONI agrees that connection policy should aid efficient and timely issue of connection offers and that it should be robust yet flexible enough to support the connections industry as it evolves. This will require connections policy to be 'forward-looking' and we suggest engagement with industry stakeholders to anticipate future needs which will allow for an enduring connection policy to be implemented.

The connections policy framework will also need to reflect the differences between the high volume of connections at lower voltages and the less frequent but considerably more complex connections at higher voltages. It will be important that both fit together to avoid distorting the market. In this context, we welcome the clarity that is provided by the current consultation on the process that UR intends to follow for all derogations.

It is important that scarce resources are used in the most efficient manner. Therefore the UR should be mindful of the impact of connection policy on the use of TSO and DNO resources. For example, two items that SONI and NIE Networks gave careful consideration to in developing the Alternative Connection Application and Offer process was the volume of connection applications and the interaction between these connection applications that could lead to significant resource requirements to manage the connections process. Additional detail is provided in our response to Question 2.

⁴ All Island Generation Capacity Statement 2016 is available on the SONI website:
http://www.soni.ltd.uk/media/documents/Operations/CapacityStatements/Generation_Capacity_Statement_20162025.PDF

Q2. Do you agree that these are the main developments we should be mindful of? Are there any other developments which are important?

SONI agrees with the recent developments in the connections policy area that have been identified in the Call for Evidence. We would like to elaborate on some of the developments that are particularly relevant for SONI and also highlight other developments for your consideration as part of this consultation.

Removal of Planning Permission for Distribution Connection Applications

This Call for Evidence follows on from the recent consultation process undertaken by SONI and NIE Networks in 2016 on the “Alternative Connection Application and Offer Process”. The consultation considered our proposal to deal with the unprecedented level of generation connection applications received after the change in NIE Networks connections policy which resulted from the UR Determination DET-572 of July 2015.

The change in policy has led to a situation where NIE Networks and SONI need to consider and process circa 1,700 MW of generation connection applications. This is in the context of an already congested grid with a peak system demand of circa 1,800 MW that is already heavily subscribed with circa 1,570 MW of renewable generation either connected or committed to connect.

As SONI was not party to the dispute or determination, and the planning permission pre-requisite for transmission connection applications was consulted upon and agreed with industry in 2014, the planning permission pre-requisite has not been removed for transmission connection applications.

There is now an inconsistency whereby the requirement for transmission connection applications to enter the connection application queue does not align with the requirement for distribution connection applications.

One of the key stakeholder messages arising from SONI and NIE Networks’ consultation process and supporting workshops was that the requirement for planning permission be reinstated as a pre-requisite for the distribution connection application process. Industry stakeholders felt this was an important step in the process, as projects with planning permission demonstrate more commitment and are much more certain to connect than those without planning permission.

This feedback from industry should be taken into consideration as part of this connections policy review.

SONI and NIE Networks’ Alternative Connection Application and Offer Process

SONI and NIE Networks consulted on their approach to an Alternative Connection Application and Offer process. Informed by the responses to this consultation, we issued

a joint Decision Paper on this on 31 May 2016⁵. This Decision Paper outlined the approach that SONI and NIE Networks were taking to address the unprecedented level of generation connection applications received after the change in NIE Networks connections policy which resulted from the UR Determination DET-572 of July 2015. It was decided that the applications would be addressed in two Phases.

The objective of Phase 1 is to release connection offers that will allow for optimal and efficient use of existing grid capacity by ensuring that projects more certain of proceeding are granted access to remaining scarce network capacity.

Hence Phase 1 couples the strong support from industry that generation projects with planning permission demonstrate more commitment and are much more certain to connect than those without, with the equally strong support to prioritise the issue of connection offers to applications where there is remaining grid capacity or where the application has minimal impact on the system.

Consequently, SONI and NIE Networks have concluded that the following connection applications are eligible for consideration as part of the Phase 1 connection offer release, subject to certain criteria being met:

1. Connection applications (new or modified) with full planning permission or relevant consents seeking a new or increased MEC where there is existing network capacity available; and
2. Connection applications (new or modified) for over-installation at wind farm and solar farms and zero export projects subject to a percentage limit on the level of generation over-installed at each site and an aggregate limit on the MW level of zero export projects that can be managed.

Since this decision, SONI has been working very closely with NIE Networks to enable around 200 MW of connection offers to be released.

Although this is positive, the connection application queue is still in excess of 1 GW, far in excess of demand for electricity in Northern Ireland. The mechanism for issuing connection offers beyond Phase 1 and assessing the benefits of further network development to accommodate these connections, particularly in advance of the construction of the second North – South interconnector, is currently unclear. In this context, the approach to assessing these outstanding applications must be taken into consideration as part of the UR consultation process.

Furthermore, SONI has more limited circumstances under which it is exempt from issuing offers to requesting parties than NIE Networks⁶. In order to create a level playing field across connection voltages, this gap in the Electricity (NI) Order 1992 and accompanying regulations should be addressed.

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<http://www.soni.ltd.uk/media/documents/Consultations/Alternative%20Connection%20Application%20and%20Offer%20Process%20-%20Decision%20Paper%2031052016.pdf>

⁶ Articles 19 to 26 of the Electricity (Northern Ireland) Order relate only to holders of distribution licences

Controllability of Generation down to 1 MW

SONI currently has the right and procedures in place to control the active power output of Power Park Modules (PPMs) of 5 MW and above, and the active power output of synchronous generating units of 10 MW and above as set out in the Grid Code. SONI currently does not have control of the active power output of PPMs less than 5 MW nor the active power output of synchronous generating units of less than 10 MW.

As the level of uncontrollable generation connected to the system grows there will be increasing challenges to maintaining security of supply. In particular there is increasing interest in zero export schemes, including those with total installed capacities of greater than 5 MW.

The two primary challenges for SONI in relation to the increasing levels of small scale uncontrollable generation from a real time system operations perspective are visibility and control.

Visibility and control of a greater proportion of the generation mix is key to future system security. European Network Codes will provide the ability for the TSO to request controllability of generation down to 100 kW.

Uncontrollable generation impacts on our ability to balance generation and demand on the system. If more uncontrollable generation connects to the system, there is a risk that system frequency cannot be maintained at times, leading to an unstable power system.

For example, in order to ensure we are able to comply with our statutory duties to maintain system stability and security, we have developed a set of operational rules⁷, which we review regularly. One of the operational rules that SONI applies is that a minimum number of synchronous generation units (typically thermal generation) must be online at any one time, this ensures that the system can react to a range of expected events without compromising the quality and quantity of electricity supplied. If the minimum synchronous generation plus the uncontrollable generation is greater than user electricity demanded, then the system frequency will increase. In this scenario, we would normally reduce generation on the system, but if the only generation available to reduce is either required for system security or is uncontrollable, then the frequency would exceed statutory limits and lead to an unstable power system and this could disrupt customer electricity supplies.

To ensure that we remain able to discharge our statutory duties, it is our intention to request a level of visibility and control of generators down to 1 MW. An All-island working group has been established to address the technical and communication requirements for visibility and control of generators less than 5 MW.

⁷ See Operational Constraints Update for November 2016 at: http://www.soni.ltd.uk/media/documents/Operations/OperationalConstraintsUpdateVersion1_45_November_2016.pdf

To facilitate this SONI will work with NIE Networks and the industry to bring forward modifications to the SONI Grid Code Review Panel, and following consultation with industry will seek UR approval of changes to the SONI Grid Code.

Complex Generation Sites and New Technologies

Through recent interactions with the industry it is clear to SONI that industry needs are changing. New and existing customers are seeking to:

- Install new generation technologies;
- Maximise the use of connection assets;
- Increase the yield from their generation site;
- Complement the output of one generation technology with another (we refer to these as 'hybrid' generation sites);
- Incorporate an element of energy storage to their generation site; and
- Reduce the reliance of demand sites on the grid for power supply.

Indeed, many customers are seeking to combine a few of the concepts listed above on the one site creating complex connection arrangements that don't naturally fit with current connections policy e.g. Grid Code requirements for these sites can be complex.

To accommodate the changing industry needs, SONI has introduced the concept of PPM into Grid Code. This covers any technology connected to the grid through a converter and in particular, solar generation and battery storage in addition to wind.

SONI and NIE Networks have also introduced an over-installation policy where generators can install generation capacity up to 120% of their Maximum Export Capacity (MEC) so that they can increase generation yield from their site.

SONI wishes to work with the industry to facilitate their changing needs, ensuring that we maintain system security and integrity whilst incorporating these more complex sites onto the transmission and distribution systems.

We are currently working to create Grid Code requirements for over-installation sites and hybrid sites.

We note that UR has set out its view on what constitutes the modification of a connection. SONI does not entirely agree with this interpretation and is concerned that it may be misleading. SONI has included our view on modification of a connection in Appendix 1.

Large Demand Customers

SONI is aware that in Ireland there is strong growth in new data centre facilities, and there is emerging interest in these types of developments in Northern Ireland too. Due to the nature of their business these customers generally require connections to the grid in much faster timescales than would be considered typical in Northern Ireland. The scale

of the facilities in terms of MW demand can increase over relatively short timelines up to the size equal to that of major power plants. Connection of large demand facilities is expected to lead to a need to reinforce the grid. The needs of these customers should be considered as part of the UR consultation process to ensure that Northern Ireland can benefit from economic development of this type.

Transmission Planning

To date, how we plan and develop the transmission network has been based around conventional plant, wind generation and interconnectors. The increase in solar generation, high levels of uncontrollable generation, zero export schemes and storage schemes mean that the transmission system is being used and stressed in a different way to how it was historically planned. Consideration should therefore be given to how network planning is evolving.

Cluster Policy

We recognise that the cluster policy as set out in the NIE Networks Statement of Charges for Connection to NIE Networks' Distribution System has been successful in facilitating Magherakeel, Rasharkin, Tremoge, Gort and Curraghamulkin clusters. It has enabled the efficient and economic development of the transmission and distribution systems.

However, the cluster policy was developed in the context of distribution connection applications requiring planning permission for their generation project in advance of applying for a grid connection and in the context of a renewables incentives scheme being available. This context has now significantly changed and we believe that the policy should be reviewed as part of this consultation process.

Should the cluster policy remain in place, it should be reviewed to reflect the fact that this involves the construction of transmission assets, which should be charged in accordance with the SONI TCCMS. This is particularly important following the transfer of the transmission planning function from NIE Networks to SONI, and should avoid distorting signals between connection voltages.

Contestability for Transmission Connections

SONI and NIE Networks have been working together closely to progress the various deliverables required for the introduction of contestable transmission connections. The introduction of contestable transmission connections creates a major change in how the connections businesses in both SONI and NIE Networks operate and indeed how both organisations work together.

Over the past year, significant progress has been made to enable SONI and NIE Networks to implement contestability for transmission connections. It is very important that contestability for transmission connections operates in an appropriate and robust

manner for both organisations and work is ongoing to finalise the complex contractual issues necessary to ensure that this happens.

Network Codes

The future connection policy will need to be sufficiently flexible to allow it to reflect any changes to Grid Code connection requirements that are driven by the European Network Codes. In parallel with this review of connection policy, SONI is currently working to implement these Network Codes. Of particular relevance to connection policy are the Requirements for Generators, Demand Connection Code and High Voltage DC Connection Code.

I-SEM Capacity Market and DS3 System Services

It is important that connection policy or any connections process is compatible with the I-SEM Capacity Market and DS3 System Services contracts and there are no unintended consequences on either of these markets. It is important to note that the capacity market and the system services contracts are All-island markets therefore a customer's ability to participate in these markets should be equivalent, regardless of their jurisdiction in which they are connected.

NIE Networks' RP6

We note that NIE Networks' RP6 covers the period up to 2024. There is a high probability that energy policy in Northern Ireland will evolve over this time, driven by many factors. Both RP6 and the connections policy should be sufficiently flexible to allow Northern Ireland customers to benefit from changes in energy policy in a timely manner.

Q3. Is there a role for connections policy to promote effective network management? If so, what are the issues which need addressed and potential solutions as part of this review?

SONI agrees that connection policy has a role to promote effective network management. This is a key component in ensuring an affordable, sustainable, effective power system that supports the economic growth of Northern Ireland. However it is not the only consideration and needs to be balanced against often competing objectives, for example where connection policy materially impacts delivering benefits elsewhere such as the outcomes of I-SEM.

The connection policy needs to be associated with long term energy policy. In that regard consideration of differences between demand and generation connections needs to be informed by the desire from policy makers for greater community participation and increasing decarbonisation agendas. This review has the opportunity to set out these policy objectives clearly and transparently. In addition the grounds for discriminating between demand and generator connections and the difference between embedded non-exporting generation connections and new generation connections can be clarified.

It is extremely important that connections policy does not prohibit effective network management. Indeed, Phase 1 of SONI and NIE Networks' Alternative Connection Application and Offer Process promoted optimal and efficient use of existing grid capacity by issuing connection offers to projects more certain of proceeding where there was remaining network capacity. This approach was strongly supported by the industry.

Through our consultation process in 2016, it was evident to SONI that there is a growing trend and aspiration to make better use of the assets we have on the system today. Generators are keen to make use of existing or planned connection assets by augmenting the capacity factor of their generation sites by installing additional generation behind the same connection point without increasing their MEC. The generation can either be a single technology or mixed technologies behind a single connection point. We refer to these sites as "over-installation" projects. In Northern Ireland, an over-installation policy of 120% was introduced by SONI and NIE Networks in May 2016. This allows for better use of connection assets.

We also discuss this issue in our response to Question 2, under the heading of Transmission Planning.

Q4. Should we review the distribution charging framework, with a view to making connection charges deeper? If so, how should this be designed? What are the benefits, costs and risks of doing so?

Charging principles for transmission are harmonised on an All-island basis so as not to distort the wholesale market. It is equally important that distribution charging does not distort the wholesale market.

Rebates

As part of the introduction of the Single Electricity Market, transmission connection policy was harmonised across the two jurisdictions. The SONI TCCMS⁸ was updated as part of that process and consequently sets out the process whereby a party that is connected to the transmission system and who has funded transmission connection assets is due a rebate when these connection assets are subsequently used by another party connecting to the transmission system within a specified period of time.

Currently, the legislation does not allow the same rebate principles between to apply to distribution connected parties, except at domestic level.

Feedback from industry has indicated that this is a source of frustration for many developers. For example, if a distribution connected party has paid significant costs for connection assets to get connected and another party subsequently connects making use of these connection assets, the second party effectively gets the use of these at no cost to themselves. This would also knock on to the O&M charging where the first party would pay the full O&M charges for the 'shared' connection assets, while the subsequent connecting party pays no O&M towards the 'shared' connection assets.

This scenario can lead to a distortion of the wholesale market and as such SONI believe that rebates at distribution should for part of UR's review of connections.

This issue becomes even more complex for distribution connections that need to make use of transmission assets. We expand on this further in our response to Question 7.

Capacity Bonds;

Under the TCCMS, transmission connection offers require that a MEC bond (if generator customer) and/or a Maximum Import Capacity (MIC) bond (if demand customer) is put in place on offer acceptance. This is so that the limited capacity on the transmission system is not 'hoarded' by any one particular party to the detriment of other parties seeking to connect. This principle applies at transmission level on an All-island basis.

⁸ See SONI Transmission Connection Charging Methodology Statement at: <http://www.soni.ltd.uk/media/documents/Consultations/SONI%20Transmission%20Connection%20Charging%20Methodology%20Statement%20-%20Effective%201%20Sept%202016%20-%20Approved%20by%20UR.pdf>

Equivalent MEC Bonds are not currently requested to be put in place by the DNO in their distribution connection offers to customers. In this context, this potentially makes it more favourable for a party to seek connection at distribution level rather than transmission level even though distribution connections also make use of the capacity available on the transmission system. This does not align at distribution level on an All-island basis either as distribution connected parties in Ireland are requested to put MEC Bonds in place.

Consideration should be given to equalising this difference, in order to facilitate competition in the wholesale market.

Q5. Should we review how the connections process and queue is managed? If so, what are the issues which need addressed and potential solutions?

As explained previously, although Phase 1 of SONI and NIE Networks' Alternative Connection Application and Offer Process has enabled around 200 MW of connection offers to be issued, the connection application queue is still well in excess of 1 GW. The mechanism for assessing connection applications and issuing offers (if capacity can be provided) beyond Phase 1, particularly in advance of a planning determination and construction of the second North – South interconnector.

For this reason it is essential that the connection application and offer process is addressed as part of this connections policy review. The duties and exemptions from those duties should be harmonised across connection voltages in order to create a level playing field for generators competing in the wholesale market.

Transmission System Investment

It is SONI's responsibility to plan and develop the transmission system to facilitate connection of generation and demand growth in accordance with the Northern Ireland Transmission System Security and Planning Standards.

As explained in the response to Question 2, there is very limited capacity available on the Transmission System for the connection of generation in Northern Ireland. SONI has already identified that 110 kV transmission corridors need to be strengthened to facilitate the generation already committed to connect. Some of these transmission projects are complete or in the process of being delivered, but some of the projects are not yet at the delivery stage. Even when the transmission projects that are in the process of being delivered are completed, the level of generation already committed to connect will still exceed the firm⁹ capacity available on the transmission system. This means that firm access for generation connected and committed to connect projects is already severely limited until the additional proposed reinforcements receive the relevant funding approvals and are implemented.

Following completion of Phase 1, there will be no further transmission capacity available, and if network capacity were to be built within Northern Ireland, the demand available to absorb further generation is limited. Connecting additional generation will only increase pressure on the transmission system, which is already heavily congested from connected and committed generation.

The Strategic Energy Framework, which is currently under review, states a target of 40% of electricity consumption in Northern Ireland from renewable resources by 2020. With

⁹ Firm access is a measure of the transmission capacity available to generators connecting to either the Transmission System or the Distribution System. It is permissible to connect a certain level of generation in excess of firm capacity so long as it is possible to constrain its output to avoid overload or an impact on voltage performance.

the renewable generation that is connected and committed to connect in Northern Ireland, it is anticipated that the 40% target will be met.

Energy policy provides a framework for the connections market. It is SONI's role to plan and develop the transmission system to facilitate connections and UR approves the investment plans. A defined energy policy for Northern Ireland will be essential to ensure efficient development of a connections framework which is consistent with the wider needs of society. .

Effectiveness of Planning Permission as a Pre-requisite

One of the key stakeholder messages arising from SONI and NIE Networks' consultation process and supporting workshops was that the requirement for planning permission was a very successful policy and as such should be reinstated as a pre-requisite for the distribution connection application process. It is important that this feedback is taken into consideration as part of this connections policy review and any legislative changes required to implement this should be considered.

Proposed "Batch Process"

In SONI and NIE Networks' consultation on the Alternative Connection Application and Offer Process, we proposed the "Batch Process" as a potential solution to the influx of connection applications received. We suggest that the responses from industry participants to the SONI and NIE Networks' consultation are used to inform this review of connections policy. Through the views expressed by industry stakeholders in relation to the proposed "Batch Process" we realise that further engagement with industry stakeholders and policy makers is essential in order to develop the optimum approach to an enduring application and offer process. We suggest that this engagement is resumed through this UR consultation process. Copies of these responses have previously been provided to UR and are available on SONI's website.

Non-Firm Offers

SONI believes that there could be merit in exploring whether the industry would accept non-firm connection offers. A non-firm connection offer would have no Associated Transmission Reinforcements (ATRs) identified and therefore no route to gain firm access on the transmission system. It could mean that a generator would not have guaranteed access to export power onto the transmission system. Non-firm generation capacity has market implications and the additional generation on the system could potentially impact on constraint and curtailment levels under the current SEMC pro-rata generator output reduction arrangements. Therefore, the SEMC may need to be involved in any change implemented in this regard. The terms of SONI's licence may need to be reviewed to ensure that it permits the issuing of non-firm offers.

First-Ready, First-Served Regime

One idea discussed within the Call for Evidence is the idea of a ‘First-Ready, First-Served’ regime. The idea behind this is to “...create enforceable milestones to incentivise a connecting customer to initiate and secure planning permission within a certain period of time after a defined connection offer acceptance date.” The Call for Evidence also notes that the use of this system may be an alternative to re-introducing a requirement for planning permission before an application is submitted.

Without further detail of the milestones envisaged, it is difficult to comment on the appropriateness of this regime. At present, there is more than 1,700 MW of generation applications waiting for a connection offer. The majority of these projects do not have planning permission, and peak demand for electricity in Northern Ireland is well below this volume. Therefore there is a high level of uncertainty about whether many of the projects in this situation will ever be financed or constructed. As a result, it seems fair to say that planning permission would be one of the key milestones in this regime. It has been suggested that one possible approach may be to ‘wipe the slate clean’ with regards to applications that fall outside Phase 1. This is unlikely to make much of a difference to the queue of applications unless planning permission is reinstated as part of the approach. In our view, without this measure it is highly likely that the majority of projects will reapply as soon as possible in order to secure a place in the queue.

If the “First-ready, First-served” concept is considered appropriate for Northern Ireland, thought will need to be given to the practicalities and assumptions used in its implementation. For example, in other parts of the UK where this regime is in place, there are clear timescales associated with many of the milestones. The associated timescales in this regime are often reliant on external factors such as the planning authority, and this is workable where statutory timelines are in place for a planning decision. This currently is not the case in Northern Ireland, as different councils take varying approaches to planning and as a result projects can be under consideration for years before planning is granted or refused.

SONI as the TSO, and NIE Networks as the DNO, are responsible for offering connections, but these must align with system availability and constraints. There is a significant risk that a ‘First-Ready, First-Served’ regime could be unworkable if the milestones and weightings applied to projects are not well thought out in terms of being able to apply a consistent approach. An inconsistent approach could result in claims that the system operators have unduly discriminated against projects. Evidence based decision making needs to be made as a result of robust transmission and distribution system planning, underpinned by connection studies. If the regime is not well designed, it could lead to a constant cycle of changing assumptions and study updates which does not lead to effective system planning, with cost consequences for connectees or the wider customer base.

Offer Timelines

Under Condition 25 of the SONI Transmission Licence, SONI is required to issue a connection offer to any person as soon as practicable and in any event not more than three months from after receipt by the Licensee of an application containing all such information as the Licensee may reasonably require for the purpose of formulating the terms of the offer (save where the Authority consents to a longer period). The same connection offer timelines apply to NIE Networks under its Distribution Licence.

Under the current industry arrangements, SONI is responsible for planning the Northern Ireland transmission system, while NIE Networks (under its Transmission Licence) own, construct and maintain the transmission system. Therefore, to enable SONI to make a connection offer to any party SONI must submit a construction application to NIE Networks who will issue SONI with a construction offer. This process is covered by the TIA. SONI therefore is not in control of the full three month offer timeline, in fact the offer timeline in NIE Networks' transmission licence does not align with the timelines set out in the TIA.

The nature of transmission connections is that they tend to be increasingly complex with few 'standard' or 'straight forward' connections. Unlike distribution connections that are in the main relatively standard, with standard connection equipment readily available (and therefore the costs being more readily determined), transmission connections tend to be more bespoke in both their design and costing. This adds to the time required for both the SONI and NIE Networks to produce a transmission connection offer. Therefore the three month offer timeline is becoming increasingly challenging to meet, making it difficult to manage customer expectations.

We would like to see a review of the offer timelines for transmission connection works and a robust mechanism put in place where the complexity of each transmission application could be assessed up front, and depending on the complexity, a more realistic timeline could be advised to the applicant for the subsequent connection offer. This mechanism could still use the current method of seeking an extension to the three month timeline from the UR, as is currently possible under the SONI licence.

In addition the SONI offer timelines as set out in licence and the TIA processes for distribution connections requiring transmission works are not compatible with NIE Networks offer timelines as set out in its distribution licence obligations. For example, if NIE Networks receives an application for connection to the distribution system and they believe that transmission works are required then NIE Networks must apply to SONI for the transmission assessment. This in turn triggers the SONI three month timeline, effectively doubling the time required for NIE Networks to issue an offer to the applicant.

In addition to the response above, it is important that the developments and issues outlined in our response to Question 2 of this response are also considered in the context of the connections process and queue management.

Q6. Should we consider connections customer service, engagement and pricing transparency as part of this review? What are the issues which need addressed and potential solutions?

Quality of service is one of the strategic priorities set out in the Call for Evidence. SONI agrees that this is an important consideration; however, it is also important to recognise that the definition of 'service' may be very different depending on the complexity of the connection.

Customer service targets in their truest sense are highly applicable to high volume, low voltage connections (e.g. households) where key performance indicators are straightforward and more easily measured. As a result, incentivising and putting specified timescales onto these low voltage connections may be a viable option for improving customer service. However, distribution and transmission connections at higher voltages and more complex projects are bespoke and this important difference needs to be acknowledged and any targets should focus on matters that are within the company's control.

Q7. Are there other issues we should review? Which issue(s) are in your view the most material and why?

In addition to our responses to Questions 1 to 6 of the Call for Evidence, we would like to raise the following items for review as part of the connections policy review.

Legislation for Transmission

Currently, legislation set out in The Electricity (Northern Ireland) Order 1992 and the regulations prepared under it are limited at transmission level, and in a lot of instances relate solely to distribution. We would like to see this important issue addressed with equivalent rights and obligations for transmission and distribution licence holders and connectees. SONI will support UR and the DfE in resolving this issue.

Rebates

It is SONI's view that connection charges for any transmission assets must be consistent with SONI's TCCMS, regardless of whether this transmission work is required by a distribution or transmission connection.

In particular, the TCCMS sets out the process whereby a party that is connected to the transmission system and who has funded transmission connection assets is due a rebate when these connection assets are subsequently used by another party connecting to the transmission system within a specified period of time.

If the second-comer was a party connecting to the distribution system, the DNO would apply to SONI to assess the impact on the transmission system and determine any associated costs of chargeable transmission works to facilitate this distribution connection including the use of existing transmission connection assets. In this scenario, an element of cost to cover a rebate would apply to the DNO as set out in the TCCMS and the TIA. However, uncertainties remain around how the rebate can be passed from the DNO to the distribution party given current legislation.

As part of the UR consultation process, it would be beneficial if clarity could be provided on this rebate issue so that parties connecting to the distribution system that use existing transmission connection assets are treated the same as any other party connecting to the transmission system and sharing those transmission connection assets. Connection charges should not provide any incentive to connect at a voltage that would not be technically optimal.

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Demand Side Units (DSUs) and Aggregated Generating Units (AGUs)

The volume of distribution connected generation that is also part of DSUs and AGUs competing in wholesale market has increased dramatically since policy was last reviewed.

Managing these DSUs and AGUs is becoming more challenging from a controllability perspective. Additionally, these applications all require a substantial amount of time to process, test and monitor these units. This becomes even more complex as AGU and DSU Operators seek to add and subtract different generating technologies and individual sites to their portfolios. These increasing complexities may require the development of additional tools to manage these in real time.

In the case of DSUs, there are ongoing issues with regards to the distribution network being able to accommodate the individual sites being able to operate as part of the DSU. NIE Networks currently carry out an analysis for each site and if required, issue an instruction set that dictates as to when these sites can be dispatched as part of a DSU.

SONI would suggest that a review of the DSU and AGU setup in Northern Ireland is undertaken to remove any distortion in the wholesale market that may exist in respect of DSUs and AGUs.

Appendix 1

As explained in response to Question 2 of this Call for Evidence, many customers are seeking to maximise existing connection assets and, in some cases, are proposing complex connection arrangements behind the connection point.

SONI would like to raise some concerns around the UR's interpretation of the term "modification to a connection" that could be misleading if taken out of context. Any modification to a connection must be done in a manner that ensures the ongoing safe, secure and efficient operation of the network.

A 'connection' does not constitute the physical connection method alone. The connection assets, and indeed system assets, are designed based on the information provided by the applicant in relation to what is connected behind the connection point as this influences the effect of the connection on the connection assets and system assets. This suite of information and assets together form the basis upon which access rights are provided through the connection agreement.

Connection agreements are put in place to ensure that we remain able to operate the system in a secure and stable manner. These contracts place both technical and commercial obligations on the connectees and modification to them would constitute a modification to the connection agreement entered into under Condition 25 of our licence.

Grid Code is also important. Changes to the equipment behind the connection point may render the original connection agreement invalid as the contractual documents and grid code compliance tests are based on the planning data provided under these codes. It is essential that the Connection Code, Planning Code and Operating Code are considered in this context. These documents are prepared under SONI's licence.

Therefore, SONI, and NIE Networks as the case may be, must be informed of any change to what is connected behind the connection point by way of a modification application.

This process is set out in Grid Code, and in the connection agreement for transmission connections.