Alternative Connection Application and Offer Process Proposal

Decision Paper

31 May 2016

Northern Ireland Electricity Networks

SONI

Table of Contents

1. Executive Summary

This paper follows on from the recent consultation process undertaken by NIE Networks and SONI, the "Alternative Connection Application and Offer Process" Consultation Paper of 4 March 2016. 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 Utility Regulator (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 more than 1,200 MW of generation connection applications taking account of a congested grid which has a peak demand of circa 1,800 MW and is already heavily subscribed with circa 1,570 MW of renewable generation either connected or committed to connect. In order to move forward, NIE Networks and SONI have carried out a comprehensive consultation process with industry stakeholders, have considered a wide range of views and suggestions and have now arrived at this Decision Paper.

NIE Networks and SONI believe the approach adopted which reflects our respective licence and legislative obligations will ensure the most efficient use of remaining capacity on the grid, provide a mechanism which would allow further use of existing capacity through the concept of 'over-installation' and enable a level of 'zero export' projects to connect, all whilst maintaining system security.

The approach for the more immediate term is referred to as Phase 1 in this Decision Paper, and will allow a number of connection offers to be issued where capacity remains. It is expected that connection offers for Phase 1 will be issued between July and September 2016, based on applications received so far.

Given the responses received by industry, NIE Networks and SONI have also proposed the outline of an approach to deal with the longer term situation once remaining capacity is utilised in Phase 1. This approach is referred to as Phase 2 in this Decision Paper. Importantly, given the industry responses received in support of reintroducing planning permission as a pre-requisite for connection application, the fact that capacity will have been exhausted and the policy support required from the Department for the Economy (DfE) and the UR for significant further transmission investment, Phase 2 will require urgent input from policy makers and other key stakeholders.

This stakeholder engagement is required to define the requirements for legislative changes, the drivers for renewable energy targets and network investments in order to determine the optimum long term approach. Next steps for Phase 2 have been provided for information but these are dependent on stakeholder engagement.

In light of strong industry feedback in relation to the requirement for planning permission, the planning permission pre-requisite for transmission connection applications will remain.

In order to progress Phase 1, NIE Networks and SONI have worked closely to identify remaining grid capacity and to identify criteria which would allow connection applications to be filtered in a way that would allow projects that are more certain of proceeding to gain access to capacity. Important technical, economic and operational impact analysis has also been carried out by SONI, concluding that no immediate restriction is to be placed on further "uncontrolled" generation at this time, thereby enabling further Small Scale Generation (SSG) connections in Phase 1, and enabling over-installation and zero export projects to proceed, within the guidelines in this Decision Paper.

It has been determined that remaining capacity exists across the Transmission System for approximately 20% of the generation capacity that has been applied for at transmission and distribution level as of the date of issue of this Decision Paper. This comprises remaining network capacity in the East and will enable further Large Scale Generation (LSG) and SSG connection offers in this area. It also comprises remaining capacity for LSG connections at a number of existing or designated cluster substations located across Northern Ireland as a result of the Transmission System being planned for these cluster substations to be fully populated. Furthermore, in response to industry feedback, we have considered the applications for Phase 1 in two categories – (1) those that impact on MW capacity levels and (2) those with existing network connections that may be managed so as not to impact MW capacity levels or system security.

As connection offers will be considered for category (1) and category (2) simultaneously, a "Queue Integration Date" will be required in order to confirm queue positions for final design assessment and formal commencement of the offer process. The Queue Integration Date for Phase 1 will be 17 June 2016. At this time no "Batch Closure" date is being proposed as detailed in the consultation document, as to do so would unnecessarily exempt any further applications from Phase 2 while Phase 1 is being completed.

For category (1) projects that impact MW capacity levels, i.e. those seeking a Maximum Export Capacity (MEC) or an increased MEC at clusters or otherwise, we have concluded that only those applications received before the Queue Integration Date of 17 June 2016 with full planning permission or relevant consents will be considered in allocating remaining capacity at that point.

It is therefore important that all applicants in this category that have secured full planning permission, or those who do not require planning permission (e.g. permitted development) provide evidence and confirm this position to NIE Networks in writing by 17 June 2016. These applications will be assessed in the queue based on the later of the planning permission granted date (if required) and the connection application date. This will allow projects more certain of proceeding, based on the fact that relevant consents have been secured, to gain access to remaining capacity and will also enable a fair allocation of access granted to both transmission and distribution connection projects. The validity period for these offers will be reduced to 60 days.

For category (2) projects with existing network connections to be managed so as to avoid impacting MW capacity and system security, i.e. over-installation and zero export

projects, we have concluded that those applications received before the Queue Integration Date of 17 June 2016 will be considered and assessed to determine their impact on the system. This includes analysis of reverse power flows, fault level, thermal capabilities and compliance with the latest Distribution Code and Grid Code. These applications will be considered in connection application date order.

There is potential for applications to move into Phase 1 after 17 June 2016 based on satisfying the relevant criteria and there being spare capacity in the relevant parts of the network. It should be noted however that it is possible that the capacity of projects with full planning permission or relevant consents may exceed the very limited network capacity available.

In relation to over-installation applications there will be a limitation of 20% beyond MEC to the additional MW that may be installed at an individual site. In relation to zero-export applications, there will be an aggregate limitation of 25 MW for the additional level of zero export connections at this point in time.

It is our intention to engage with applicants and respond to queries during the period to the Queue Integration Date of 17 June 2016 to ensure that the position is well understood and to create an opportunity for applicants to decide whether to continue in the process. NIE Networks and SONI would like to take this opportunity to thank respondents for their participation in this consultation process and hope that this Decision Paper addresses the comments received and provides a pragmatic approach to utilising the remaining capacity on the network.

2. Introduction

2.1 Purpose of the Paper

NIE Networks and SONI issued a joint Consultation Paper on an "Alternative Connection Application and Offer Process" on 4 March 2016. The Consultation Paper outlined the proposed approach to the Connection Application and Offer Process given the influx of connection applications received since August 2015 following NIE Networks' change in application policy.

The purpose of this Decision Paper is to outline in some detail the approach to the Alternative Connection Application and Offer Process to be adopted by NIE Networks and SONI. It outlines a Phase 1 process that will be implemented in the more immediate and shorter term to optimise remaining grid capacity; and outlines a strategy for addressing connection applications in a longer term Phase 2 process where no further grid capacity remains.

2.2 Structure of the Paper

The structure of this Decision Paper is set out as follows.

Section 3 provides a background of the consultation process to date, an overview of industry views on the Consultation Paper and the next steps for NIE Networks and SONI.

Section 4 describes NIE Networks' and SONI's approach in the more immediate and shorter term to enable connection offers to be issued and grid capacity to be optimised in Phase 1.

Section 5 provides information on the supporting analysis carried out, including that carried out in response of the consultation responses received, to enable decisions to be made.

Section 6 explains how NIE Networks and SONI will implement Phase 1 including expected timelines.

Section 7 describes the conclusions that NIE Networks and SONI have come to in relation to a longer term approach that would enable remaining connection applications to receive a connection offer in a later Phase 2.

3. Consultation Process

3.1 Consultation Process to Date

Since the change to NIE Networks' connection application policy in August 2015 where the planning permission pre-requisite was removed for distribution connection applications, NIE Networks has received more than c.510 applications for connection to the Distribution System. The applications are mainly from renewable generators, amounting to a capacity of around 1,230 MW from a combination of Large Scale Generation (LSG) and Small Scale Generation (SSG) applications. NIE Networks and SONI have confirmed through engagement with industry stakeholders that this considerable influx of applications for connection to an already heavily congested network requires an Alternative Connection Application and Offer Process to be adopted.

The Utility Regulator (UR) granted an extension of time in relation to NIE Network's obligations to issue offers for an initial period, until 31 May 2016, on the basis that NIE Networks and SONI continue to develop an alternative process in a timely way.

Following an initial industry workshop on 16 December 2015, NIE Networks and SONI issued a detailed Consultation Paper on an "Alternative Connection Application and Offer Process"[1] on 4 March 2016, seeking the views of industry stakeholders on a proposed "Batch Process". A further mid-consultation industry workshop was held on 23 March 2016 to assist industry in their response to the consultation.

The consultation closed on 5 April 2016, following a short extension as requested by some industry stakeholders. A total of 33 submissions were received in response to the Consultation Paper, 3 of which were marked as confidential. A list of the parties that submitted non-confidential responses can be found in Appendix 9 and the responses can be found on the SONI's and NIE Networks' websites.[2]

NIE Networks and SONI would like to take this opportunity to thank respondents for their participation in this consultation process. The responses received covered a wide range of comments and suggestions that were very helpful and informative.

All non-confidential responses have been shared with the UR. NIE Networks and SONI have engaged with the UR and the Department for the Economy (DfE) in relation to the conclusions detailed in this Decision Paper.

[1] The Consultation Paper on the Alternative Connection Application and Offer Process can be found at: http://www.soni.ltd.uk/media/documents/Consultations/Alternative%20Connection%20Application%20and%20Offer%20Process%20Consultation%20Paper%2004032016.pdf or at http://www.nienetworks.co.uk/documents/Generation/Alternative-Connection-Application-and-Offer-Proce.aspx

[2] www.soni.ltd.uk and www.nienetworks.co.uk

3.2 Key Messages from Responses

The key stakeholder views that emerged from both the consultation responses and the workshops are:

- reinstate the requirement for planning permission as a pre-requisite for connection application to the Distribution System by making licence and legislative changes;
- there may be too many "speculative" applications for a Batch Process to work well;
- planning permission should be adopted as a criterion in the alternative process to demonstrate applicant commitment to their applications, and give some protection against capacity hoarding by more "speculative" projects;
- over-install and zero export applications should be considered separately;
- some interim solution should be adopted to enable connection offers to be released in the shorter term, noting the closure of the Northern Ireland Renewables Obligation (NIRO) support scheme;
- more detail is required on timelines to progress all connection offers remaining following an interim solution being implemented in order for applicants to consider if they wished to remain in the process; and
- the per MW sharing arrangement as suggested in the Consultation Paper should be reviewed, particularly for SSG projects, on the basis that it could have unintended consequences and be a major barrier to connection offer acceptance for SSG applicants.

3.3 Progress Since Close of Consultation Period

NIE Networks and SONI have given careful consideration to the responses received from industry in preparation of this Decision Paper.

NIE Networks and SONI have also continued with preliminary analysis of the likely connection methods and physical works associated with the various applications received.

In parallel to this, NIE Networks and SONI have also progressed assessments of capacity on the Distribution and Transmission System respectively both at a system wide and nodal level to determine the ability of the grid to facilitate further generation connections.

SONI has also carried out important technical, economic and operational impact analysis to determine the impact of industry suggestions in relation to over-installation projects and zero export projects on the system.

In addition, NIE Networks and SONI have sought legal advice as to how any other approaches to the proposed Alternative Connection Application and Offer Process suggested in the consultation responses might align with legislative and licence obligations under which NIE Networks and SONI must operate.

Following consideration of the responses and using the results of the supporting analysis performed since the consultation period closed, NIE Networks and SONI have prepared this Decision Paper detailing the conclusions made so far in this consultation process.

NIE Networks has also requested a further extension of time from UR in relation to NIE Network's obligations to issue connection offers to all applicants.

4. Approach to Phase 1 Connection Offers

4.1 Objective of Phase 1

On the basis of the feedback received and the analysis already completed, NIE Networks and SONI believe it is important to establish principles which would enable an initial "Phase 1" release of connection offers as soon as possible.

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. NIE Networks and SONI believe that Phase 1 aligns with important industry views, and our obligations under licence and under legislation.

Phase 1 fits well with the following overarching principles outlined in the Consultation Paper. NIE Networks and SONI consider that it:

- aids more efficient and timely issue of connection offers;
- allocates scarce network capacity efficiently;
- allows for equitable treatment of generation connection applications in that it allows the allocation of scarce remaining capacity to be fair for both transmission and distribution projects;
- provides clarity and transparency;
- maintains or improves system security; and
- makes efficient use of TSO and DNO resources.

Following feedback from industry, NIE Networks and SONI believe that in addition to the above principles, Phase 1:

- provides more certainty and predictability; and
- supports more flexible and innovative connection policy.

4.2 Applications to be Processed in Phase 1

In establishing the criteria by which a connection application can be eligible for a connection offer in Phase 1, NIE Networks and SONI must be mindful of their obligations under legislation and licence and the need to take account of safety related etc. matters. NIE Networks and SONI must also operate in such a way so as not to unduly discriminate between applicants. These factors, in conjunction with the high level principles outlined previously, have been considered in developing the approach for Phase 1.

Together with those obligations, the basis of Phase 1 is to couple the strong support from industry that generation projects with planning permission demonstrate more commitment and are much more certain to connect than those that do not have planning permission 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, NIE Networks and SONI 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[3] 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.

NIE Networks and SONI have arrived at these important conclusions following the analysis detailed in this Decision Paper.

4.3 Requests for New or Increased MEC

There was strong feedback from industry to the Consultation Paper that planning permission should be adopted as a criterion in the Alternative Connection Application and Offer Process to demonstrate applicants' commitment to their connection applications. There were also strong views that licence and legislative changes should be progressed to incorporate the requirement for planning permission as a pre-requisite to connection application and that transmission applicants should be able to access the Transmission System in an equivalent manner to distribution applicants.

Given this industry feedback and the lengthy time anticipated to implement the suggested licence and legislative changes, NIE Networks and SONI have developed an approach for requests for new or increased MEC in Phase 1 as follows.

NIE Networks and SONI will issue connection offers in Phase 1 to connection applicants seeking to connect new or increased MEC to the Transmission or Distribution System in the areas where there is capacity on the Transmission System, subject to planning permission or relevant consents having been secured. This will apply to both applications for connection to the Transmission and Distribution System so that the opportunity to avail of remaining capacity will not unduly discriminate between applicants for connection to the Transmission System and applicants for connection to the Distribution System.

[3] For more details on relevant consents see Section 6.2.

This will mean that access to the grid is granted to projects that are at an advanced stage of development and considered more certain of proceeding in line with industry responses. This approach also aligns with the principle of allocating scarce network capacity efficiently.

Connection applications for new or increased MEC in Phase 1 will be ordered and assessed based on the later of the:

- connection application date; or
- planning permission or relevant consents[4] granted date.

This approach means that parties seeking to connect to the Transmission System and parties seeking to connect to the Distribution System can access the Transmission System in an equivalent manner.

Hence, in light of strong industry feedback, the planning permission pre-requisite for transmission connection applications will remain.

4.4 Requests for Over-Installation and Zero Export Projects

Over-installation is the concept whereby an existing generation site installs generation capacity that exceeds the contracted MEC. In the feedback received to the consultation, industry thought that parties that already have a contracted MEC by way of a connection agreement, accepted connection offer or a live connection offer and are not seeking to increase their contracted MEC should not be treated or processed in the same way as parties seeking a new or increased MEC.

A number of respondents also thought that "auto-producer" or zero export schemes, particularly for businesses in the manufacturing sector, who wish to install generation to offset electricity usage and costs without export to the network should not be included in the proposed "Batch Process".

One key concern for NIE Networks and SONI in relation to treating over-installation and zero export projects differently to projects seeking new or increased MECs was the potential to disadvantage existing system users or other applicants seeking export capacity.

In addition, against the backdrop of a heavily congested network, zero export generation schemes and over-installation schemes particularly with uncontrollable generation, just like any other generation scheme, interact with other generation and load on the system both at distribution and transmission level. They therefore affect system power flows, network operation and potentially the power quality for all customers.

[4] For more details on relevant consents see Section 6.2.

It should also be noted that continued “load erosion” is already a challenge for SONI. Maintaining a stable and secure power system has become more challenging with increased energy efficiency measures across industrial, commercial and domestic sites, the penetration of small scale uncontrollable and weather dependent generation and the continued increase in domestic micro-generation installations.

Whilst it is evident that any additional load erosion will have some level of impact on the electricity network, SONI has sought to determine the impact of a relatively small amount of additional load erosion in the form of zero export projects and over-installation projects on the power system, particularly those that would be uncontrollable.

This flexibility in processing these types of connection applications, coupled with measures to control demand reduction, could allow zero export sites to generate for extended periods whilst still maintaining system integrity.

Hence, taking on board the strong support from industry to consider over-installation and zero export connection applications separately to applications seeking a new or increased MEC, NIE Networks and SONI have concluded that connection applications for over-installation projects and zero export projects can be processed in Phase 1. These applications will be assessed based on connection application date and do not require planning permission or relevant consents to be processed as they are not requesting further or any export access to the grid.

These connection applications are, however, subject to the conclusions of a number of technical, economic and operational studies which are detailed in Section 5 that have helped develop this approach to zero export and over-installation whilst limiting any potential network, operational and safety impact.

5. Supporting Analysis for Phase 1

5.1 Summary of Analysis

NIE Networks and SONI have performed various technical, economic and operational analysis to support the decisions for Phase 1 release of connection offers.

In relation to connection applications seeking new or increased MEC, analysis was carried out to determine the remaining capacity on the Transmission System and the remaining capacity at existing and designated clusters.

NIE Networks and SONI also set out to establish whether a different processing approach for over-installation and zero export projects could be applied, provided that the effect of any differing treatment would be negligible in terms of their impact on All Island curtailment, Transmission System fault level and system operation.

Introducing over-installation projects was also looked at from a Grid Code and Distribution Code perspective.

The following sections provide some detail of the analysis performed by SONI to support the rationale behind Phase 1.

5.2 Remaining Thermal Capacity on the Transmission System

Responses to the Consultation Paper in the main favoured the idea of utilising remaining capacity on the Transmission System as a priority. SONI has now completed analysis to assess where there is thermal capacity available on the Transmission System without the need for deeper system reinforcement works.

SONI is aware that the Transmission System to the West and North-West of Northern Ireland is already heavily saturated. The loss of the 275 kV double circuit from Coolkeeragh to Magherafelt remains the critical contingency in the area for which SONI must plan the Transmission System. In the event of the loss of this circuit, power flows on the underlying 110 kV network towards the load centre in the East of Northern Ireland. Generation connected and committed to connect in the West and North-West are therefore subject to Associated Transmission Reinforcements (ATRs) that are required to strengthen the Transmission System in this general area.

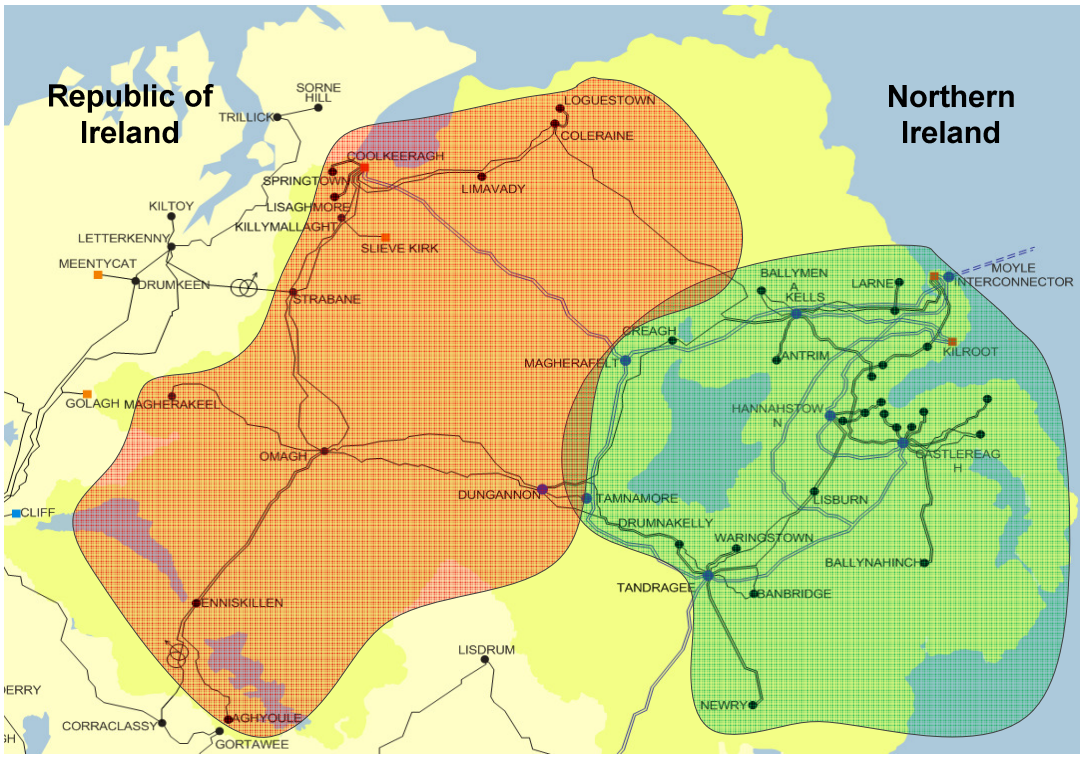

Figure 1: Shaded red area shows the Transmission System in the West and North-West and the shaded green area shows the Transmission System in the East

Therefore, this latest analysis focused on the thermal capacity that might be available generally in the East of Northern Ireland. SONI tested the thermal capacity of the Transmission System in the East by determining the transmission corridors that are most heavily loaded under credible onerous generation dispatches. These tests accounted for all generation that is already connected and that which is committed to connect across Northern Ireland.

Having identified the critical contingencies and corridors that have the potential to overload under certain system conditions, SONI carried out analysis to determine the level of generation, in addition to that already connected and committed to connect across Northern Ireland, that could be accommodated by the Transmission System in the East of the province before these critical corridors were at risk of overloading.

This analysis has concluded that there is some limited thermal capacity available on the Transmission System in the general region shaded in green in Figure 2. Although there is capacity generally available on the Transmission System in the area shaded, it is not available at all transmission nodes.

It is important to note that all connections, other than direct transmission connections, require not only transmission capacity but also distribution capacity to be available, at 110/33 kV Bulk Supply Points (BSPs) and, particularly for SSG connections, at 33/11 kV primary substations. Therefore capacity must be available at the primary substation, the BSP and on the transmission system before a connection offer can be made.

It is also important to recognise that this assessment only considered the thermal capacity available on the Transmission System. It did not consider any potential voltage or fault level issues on the Transmission System. This analysis will be carried out as part of the offer process and on an individual basis.

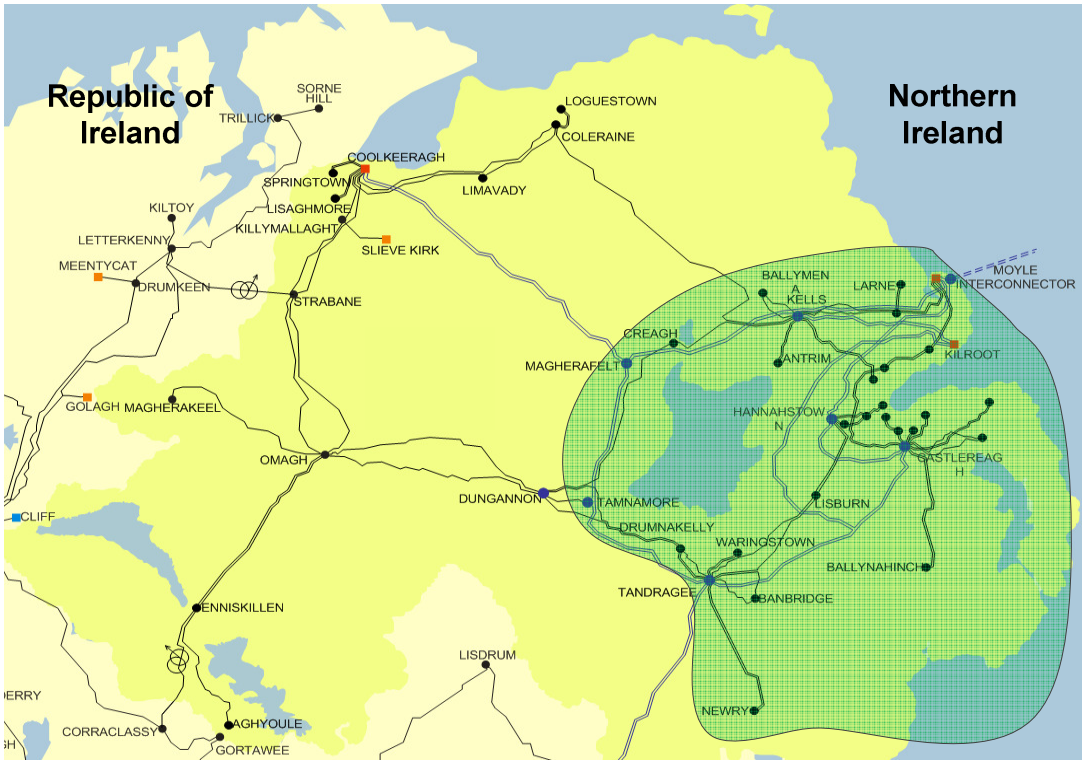

Figure 2: Area where capacity is generally available on the Transmission System (subject to some exclusions both on the Transmission and Distribution System)

Industry expressed views in response to the Consultation Paper that the capacity available at all nodes on the Transmission System should be published. The analysis performed concluded that the transmission capacity in the region indicated is interactive between different transmission nodes and is also dependent upon the technology assumed to connect. Therefore it is not possible to provide more detailed indicators of where the capacity remains.

As outlined in Section 4, remaining thermal capacity on the Transmission System will be allocated to applicants seeking to connect to the Transmission System and Distribution System provided they have secured planning permission or relevant consents.

As an initial view, NIE Networks and SONI have mapped all applications which have secured full planning permission or relevant consents against the available thermal capacity on the Transmission and Distribution Systems, by the date of issue of this Decision Paper. It is anticipated that there is capacity on the Transmission and Distribution Systems to release around 5 LSG connection offers and up to around 80-90 SSG connection offers.

It should be noted that the number of connection applications already received which have now secured full planning permission or relevant consents continues to increase. It is therefore possible that the number of projects with full planning permission or relevant consents may exceed the very limited network capacity available.

5.3 Remaining Capacity at Existing and Designated Clusters

NIE Networks and SONI have assessed the local thermal capacity that has not yet been allocated at existing and designated clusters for allocation in Phase 1. There is remaining thermal capacity at the cluster substations shown in Table 1.

Table 1: Cluster substations with remaining thermal capacity

Cluster Substation Name	Current Cluster Substation Status
Curraghamulkin	Pre-construction
Garvagh	Designated
Gort	In Construction
Kells	Designated
Magherakeel	Connected
Rasharkin	In Construction
Tremoge	In Construction

The remaining thermal capacity at these cluster substations will be allocated to connection applications for new or increased MEC in line with the principles outlined in Section 4.

It should be noted that the allocation of the remaining capacity at existing and designated cluster substations listed above may be subject to transmission voltage and fault level analysis.

For the avoidance of doubt, the remaining capacity at existing or designated clusters cannot be allocated to applicants seeking to connect elsewhere to the Transmission System, as the cluster concept and charging methodology applies to distribution connections only and to do so would increase the risk that any cluster investment made or to be made by the Northern Ireland consumer is not recovered. Therefore, remaining

capacity at existing or designated clusters can only be allocated to applicants seeking connections to the Distribution System that have secured planning permission or relevant consents and connection offers will be issued in line with the NIE Networks' Distribution Statement of Charges.

In the event that remaining existing or designated cluster capacity is not utilised by eligible connection applications submitted by the Queue Integration Date, NIE Networks will continue to allocate and offer capacity using the ruleset defined for Phase 1 beyond the Queue Integration Date until remaining existing or designated cluster capacity is exhausted.

5.4 Impact on All Island Curtailment

SONI has undertaken analysis to examine the impact of an over-installation in Northern Ireland on All Island curtailment.

Recent discussions between SONI and stakeholders have centred on the likely level of over-installation that could be regarded as reasonable, given that any over-installation will have an impact on patterns of power flows over the year. Therefore, the analysis considered a number of scenarios for different percentages of generation that is over-installed compared to MEC to determine the level of over-installation that would not materially impact on All Island curtailment.

Note that the study only considered the impact on curtailment and did not consider any transmission network impacts and as such transmission constraints were not evaluated.

For the purposes of this study it was assumed that 50% of existing and future controllable wind farm connections over-installed generation above MEC.

Of the 50% that were assumed to over-install, a further assumption was made that 50% of the generation that was over-installed was wind generation and 50% was solar generation.

These assumptions were made as at this time, SONI is unsure of the level of uptake and the types of generation technologies that would be installed.

A study year 2020 was chosen to determine the medium to longer term impact on curtailment.

Based on the results of this study, it is SONI's view that an over-installation policy of 20% beyond MEC in Northern Ireland should not have a major impact on All Island curtailment, provided that the output of these sites is limited to MEC at all times.

Therefore, SONI and NIE Networks will permit and process connection applications or modification applications where the total installed generation capacity does not exceed 120% of the MEC.

Note that this would bring Northern Ireland in line with the over-installation policy in Ireland where there already is such a policy. The Commission for Energy Regulation (CER) issued a decision paper[5] approving an over-installation policy for future and existing wind farms in Ireland of 20% beyond MEC.

This Decision Paper therefore means that there is a consistent over-installation policy across the island.

In addition to assessing the impact of over-installation on All Island curtailment, the impact of zero export projects was assessed. Again, given that the types of generation technology that could be installed as over-installation projects is unknown at this stage, an assumption was made for the purpose of the study that 50% of the zero export projects would be from solar generation and 50% would be from wind generation.

It was found that, at an aggregate level, 25 MW of zero export projects could be accommodated on the system whilst maintaining a minimal impact on All Island curtailment. Due to the assumptions used in this study, this figure is subject to the uptake of over-installation in uncontrollable generators and also the generation technologies seeking zero export projects. Therefore NIE Networks and SONI will monitor the level of uptake of zero export projects against the aggregate allowable capacity level for these projects.

The subsequent sections assess the impact of such an over-installation policy on Transmission System fault levels, system operation, Grid Code and Distribution Code.

5.5 Impact on Transmission System Fault Level

SONI has performed an assessment of the Transmission System fault level where generators can install up to an 20% generation capacity in excess of their MEC.

The fault level analysis was calculated in accordance with the UK Engineering Recommendation G74, based on the international Standard IEC60909. This methodology is the same as that used in the All Island Ten Year Transmission Forecast Statement (TYTFS) 2015.[6] The fault level analysis assessed the Transmission System under three phase and single phase fault conditions. Short circuit contributions from all synchronous and non-synchronous plant were applied in the models.

For the purposes of this study, it was assumed that there was a 20% increase in the capacity of all existing and future wind generation for the study year 2021 as a possible worst case scenario. The resultant Transmission System fault levels were compared with results in the TYTFS.

[5] CER decision paper can be found at the following link:
http://www.cer.ie/docs/000939/CER%2014047%20Decision%20Paper%20COPP%20Installed%20Capacity%20Cap.pdf

[6] The All Island Ten Year Transmission Forecast Statement 2015 can be found at:
http://www.soni.ltd.uk/media/documents/2015%20TYTFS%20Complete_Approved.pdf

The comparison demonstrated little system impact when there was a 20% increase in existing and future wind generation. The average increase in fault current represented an increase of less than 1% for the majority of Transmission System nodes.

For this reason, projects installing generation up to 20% beyond their MEC are considered to have minimal impact on Transmission System fault levels and hence minimal impact on existing users and other applicants.

5.6 Impact on Operational Capability with Increasing Uncontrollable Generation

As explained in the Consultation Paper, the technical challenges associated with operating the system with increasing levels of renewable generation for both NIE Networks and SONI need to be managed.

The power system requires sufficient synchronous generation capacity to both balance demand requirements and ensure system frequency and transient stability are maintained. In recent years, mainly due to increases in SSG and microgeneration connected to the distribution system, demand has been reducing. This is particularly noticeable in periods of low demand.

SONI has considered, at a high level, the impact of this demand reduction on the operation of the Northern Ireland Transmission System both currently and looking out to the future towards 2025. As part of this assessment, SONI considered the operational generation dispatch rules for Northern Ireland, trends for further increases in SSG and microgeneration.

The aim was to determine the impact on demand margins in Northern Ireland and the ability to maintain system stability in permitting 20% over-installation for uncontrollable generation and further zero export projects.

For the purposes of this study, it was assumed that the uptake rate of over-installation was 50% of existing and future SSG. Again, given that the types of generation technology that could be installed as zero export projects is unknown at this stage, an assumption was made for the purpose of the study that 50% of the zero export projects would be from solar generation and 50% would be from wind generation.

Following this analysis, SONI has concluded that it currently has the tools to manage the Transmission System during times of low system demand by implementing operational measures to mitigate the possibility of demand deficits in Northern Ireland which could otherwise put the system at risk.

However, having considered the potential changes to both generation and demand in Northern Ireland out to 2025, it is important to note that there are a number of influencing factors that could impact operational rules and the possibility of demand deficits. One of the key factors is the commissioning of the second North-South interconnector.

Therefore, SONI will continue to monitor and review the situation and the impact of the implementation of mitigation measures on an ongoing basis. SONI, with EirGrid, the Transmission System Operator (TSO) in Ireland, will monitor future developments in generation and demand portfolios and trends on an All Island basis and implement any further mitigation measures as required. In line with ENTSO-E Requirements for Generators (RfG), these mitigation measures may include increased controllability requirements for SSG.

As a result of this work, no restriction will be placed on further "uncontrolled" generation at this time from a system operation perspective, although this position will be subject to on-going monitoring, review and assessment.

This decision will enable offers to be made to:

- SSG connections in areas where there is sufficient Transmission and Distribution System capacity available;
- Over-installation projects, where there is sufficient Transmission and Distribution System capacity available, for small scale uncontrollable generators up to 20% beyond MEC; and
- Zero export projects up to an aggregate limit of 25 MW subject to certain operational constraints.

It should be noted however, that these additional zero export schemes will also need to take account of any local network saturation on the Distribution System and may require some site specific control arrangements to prevent further power flow issues on the Distribution System.

5.7 Impact on Grid Code and Distribution Code

SONI has assessed the impact of an over-installation policy on the Grid Code and is progressing discussions in this regard with the UR and industry through the SONI Grid Code Review Panel (GCRP). These discussions have focused on the defined term "Registered Capacity" both in relation to its definition and usage. Any subsequent changes to the Grid Code will be dealt with via the normal consultation process and subsequent approval by UR.

There may also be a need to make some changes to the Distribution Code to align with any Grid Code changes to facilitate over-installation. The potential for change is under review by NIE Networks at present and will be discussed at the next Distribution Code Review Panel (DCRP).

There may be a requirement to reference potential changes to both the Grid Code and the Distribution Code in any connection offers that are issued for over-installation projects.

5.8 Summary of Results

The analysis performed shows that:

- There is remaining capacity on the Transmission system in the order of 80 MW and it is located in the East of Northern Ireland;
- There is remaining capacity at existing and designated cluster substations in the order of 190 MW.
- Permitting an over-installation level of 20% beyond MEC has minimal effect on All Island curtailment.
- Permitting an over-installation level of 20% beyond MEC has minimal effect on Transmission System fault level.
- Permitting an over-installation level of 20% beyond MEC for small scale uncontrollable generation is manageable operationally however, the situation must be monitored and reviewed to ensure this conclusion remains valid.
- Permitting a further 25 MW of zero export projects on top of an over-installation level of 20% beyond MEC for small scale uncontrollable generation is manageable operationally; however, the situation must be monitored and reviewed to ensure this conclusion remains valid.
- Zero export schemes will need to take account of any local network saturation on the Distribution System and may require site specific control arrangements.
- Grid Code and Distribution Code changes will be required to facilitate over-installation projects.

6. Ruleset for Phase 1 Implementation

6.1 Eligible Applications

The categories of connection applications eligible for consideration in Phase 1 are as follows.

Category A: Requests for MEC only

Connection applications or modification connection applications seeking a new or increased MEC where:

- there is capacity available on the Transmission System and, where relevant, that there is capacity available on the Distribution System; and
- Planning permission or relevant consents has been granted for the MEC requested.

This includes connections into existing or designated clusters as set out in Section 5.3 and connections not into clusters. The latest Grid Code and Distribution Code requirements must be met.

Category B: Requests for Generation Over-Installation Only

Modification connection applications to existing connection agreements or valid connection offers requesting to over-install at renewable generation sites where:

- the MEC in the connection agreement or valid connection offer as relevant is to remain unchanged; and
- the total installed generation capacity does not exceed 120% of the MEC. For example, a 10 MW MEC can have up to 12 MW of generation installed.

The latest Grid Code and Distribution Code requirements must be met, including any proposed revisions to the Grid Code and Distribution Code required specifically for over-installation projects.

Category C: Requests for Zero Export Projects Only

Connection applications or modification connection applications seeking to connect a zero-export generator at a demand site where:

- The demand site is planning to install generation to offset electricity usage, will ensure no export to the system at any time and will comply with any restrictions on generator operation required to ensure grid integrity; and where

- The 25MW limit of total acceptable aggregate zero export connections across Northern Ireland has not been exceeded.

SONI has agreed this 25MW aggregate limit at this time, but will continue to monitor the suitability of this limit.

The latest Grid Code and Distribution Code requirements must be met.

Category D: Combination of Request for MEC with Generation Over-install

Connection applications or modification connection applications seeking a new or increased MEC and seeking to over-install generation where:

- there is capacity available on the Transmission System and, where relevant, there is capacity available on the Distribution System;
- Planning permission or relevant consents has been granted for the MEC requested; and
- the total installed generation capacity does not exceed 120% of the MEC. For example, a 10 MW MEC can have up to 12 MW of generation installed.

The latest Grid Code and Distribution Code requirements must be met, including any proposed revisions to the Grid Code and Distribution Code required specifically for over-installation projects.

6.2 Relevant Consents for Phase 1

In keeping with the relevant consents that were consulted upon with industry in 2014, the following specifies the relevant consenting for different types of projects that will be used by NIE Networks and SONI in processing connection offers[7] as part of Phase 1:

- The required level of consent for onshore projects[8] to progress a connection offer is full Planning Permission.
- The required level of consent to progress a connection offer for a Compressed Air Energy Storage (CAES) plant that requires a Mineral Prospecting Licence is obtaining that licence.
- The required level of consent for offshore projects to progress a connection offer is either an Exclusivity Agreement or an Agreement for Lease from The Crown Estate.

[7] Agreed consenting requirements can be found in the October 2014 Decision Paper at the following link: http://www.soni.ltd.uk/media/documents/Consultations/OffshoreConsentingRequirements/SONI-NIE%20Decision%20Paper%20on%20consenting%20requirements%20for%20offshore%20generation.pdf

[8] Onshore projects include generation projects such as conventional generators, wind farms, solar parks, biomass plants, energy from waste plants amongst others.

6.3 Assessment Order

The Phase 1 queue will therefore be a combination of Category A, B, C and D applications, with each type of application taking their place in the assessment queue as follows.

Applicants seeking connections to the Transmission or Distribution Systems and applicants seeking connection of large or small scale generators will enter the Phase 1 queue on the same basis.

Connection applications for new or increased MEC in Phase 1 (Category A and Category D applications) will be ordered, assessed and granted access to the network based on the later of:

- connection application date ('Date 1'); or
- planning permission or relevant consents[9] granted date ('Date 2').

where, for each application, the later of Date 1 and Date 2 will be the 'Key Date' and the application with the earliest Key Date will be first in the queue and so forth.

Connection applications for over-install or zero-export projects in Phase 1 will be ordered and assessed based on valid connection application date.

All applications must be assessed for the following reasons:

- to ensure that there is no detriment to the existing connections, committed connections or other applicants;
- to carry out analysis to assess the impact of the proposed connection on the system;
- to ensure that Distribution or Transmission System capacity limits or reverse power limits are not breached;
- To assess any mitigation measures or control arrangements (e.g. forward power control, reverse power control, fault level etc.) that may be required in the connection offer;
- To ensure that the aggregate limit for zero export projects is not exceeded.

6.4 Queue Integration Date

There is a need to set a Queue Integration Date for Phase 1 implementation to ensure that all parties have the opportunity to submit a connection application to either NIE Networks or SONI for inclusion in Phase 1, but also to have a "fixed" date at which to the queue order for Phase 1 connection offers will be established.

[9] For more details on relevant consents see Section 6.2.

NIE Networks and SONI have set a Queue Integration Date of **5pm on 17 June 2016**. All connection applications, along with the relevant application fee, must be submitted prior to the assessment point for inclusion in Phase 1, and planning status as of that time and date will be used to prioritise connection offers for Phase 1.

Note that in the event that remaining capacity on the Transmission System is not utilised by eligible connection applications submitted by the Queue Integration Date, NIE Networks and SONI will continue to allocate and offer capacity using the ruleset defined for Phase 1 until remaining capacity is exhausted. Further assessment points may therefore be established as required.

Therefore, connection applications can still be made after 17 June 2016, however, whether these are included in a possible Phase 1 extension, or in Phase 2, is dependent upon whether or not there is remaining grid capacity following the initial release of Phase 1 connection offers.

6.5 Projects with PCI Status

It should be noted that projects that have been awarded the Projects of Common Interest (PCI) status by the European Commission will also be awarded a position in the Phase 1 queue on the basis outlined in Section 6.3. However, due to PCI status within the European context, the processing of such projects through the Connection Application and Offer Process may need to be tailored to ensure compliance with European Regulations[10], provided that the treatment is not unduly discriminatory.

6.6 Processing Offers

NIE Networks and SONI will apply the existing Connection Application and Offer Process to release connection offers in Phase 1, rather than process these in any alternative "batch" process. This will facilitate release of these Phase 1 connection offers earlier than anticipated in the Consultation Paper.

For Phase 1 connection offers this decision therefore also means that the charging principles to be applied for Phase 1 connection offers will be in accordance with the latest SONI Transmission Connection Charging Methodology Statement[11] and the latest NIE Networks Distribution Statement of Charges[12].

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[10] Specifically compliance with Regulation (EU) No. 347/2013 on guidelines for trans-European energy infrastructure

[11] SONI Transmission Connection Charging Methodology Statement can be found at:

http://www.soni.ltd.uk/media/documents/Archive/SONI%20Charging%20Methodology%20Statement%20December%202009%20-%20Approved%2022%20December%202010.pdf

[12] NIE Networks Distribution Statement of Charges:
http://www.nienetworks.co.uk/documents/Connections/NIE-Distribution-Connection-Charging-Statement-30.aspx

To clarify, the proposed changes for per MW charging for shared assets, connection charge bonds and MEC Bonds for distribution connections as detailed in the consultation will not apply. This will alleviate some of the concerns expressed by respondents regarding these proposals for distribution connections, at least in the short term. For transmission connections, the methodology and charging principles for shared assets, and bonding regimes remains as per the SONI Transmission Connection Charging Methodology Statement.

6.7 Offer Validity Period

In the Consultation Paper, NIE Networks and SONI proposed reducing the validity period for any connection offer issued as a priority where network capacity was available, as is now the case for Phase 1 connection offers. This was to accelerate the allocation of capacity in Phase 1 so that Phase 2 could be addressed with minimal delay.

Based on the consultation responses received, which were generally supportive of a validity period of between 30 and 60 calendar days and in the interests of allocating and committing remaining capacity to generation projects in Phase 1, connection applications seeking new or increased MEC (Category A and D applications) will be issued offers with a validity period of 60 days. Note that Category B and C applications will still have the 90 day offer validity period.

6.8 Over-Installation Projects

In addition to the requirements of Category B and C projects specified in Section 6.1, connection applications or modification applications for over-install projects must:

- submit a connection application or modification application to NIE Networks or SONI as appropriate, including the appropriate connection application fee;
- provide all technical information required by NIE Networks and SONI to assess the impact of the project on the system;
- provide all information required by NIE Networks and SONI to manage the project operationally;
- not exceed a total installed generation capacity of more than 120% of the MEC. For example, a 10 MW MEC can have up to 12 MW of generation installed; and
- ensure that the MEC is not exceeded, and install an appropriate export limiting control system, with suitable backup G59 Reverse Power protection;
- In all cases, applications for over-install will be considered a “material” change and the whole installation will be subject to the latest Grid Code and Distribution Code for the over-installation.

Over-installation projects can comprise of a single technology or a hybrid of technologies, provided that the above conditions are met.

6.9 Zero Export Projects

Connection applications or modification connection applications seeking to connect a zero-export generator or Category C project must:

- submit a connection application or modification application to NIE Networks or SONI as appropriate, including the appropriate connection application fee;
- provide all technical information required by NIE Networks and SONI to assess the impact of the project on the system;
- provide all information required by NIE Networks and SONI to manage the project operationally;
- ensure that there is no export from the site, and install an appropriate Forward Power protection scheme (where required and specified by NIE Networks) and an export limiting control system, with suitable backup G59 Reverse Power protection; and
- comply with the latest Grid Code and Distribution Code.

6.10 Entry to the FAQ List

The ruleset for entry into the FAQ list will be the same as the criteria for compiling the Phase 1 queue as detailed in Section 6.3.

Hence, connection applications for new or increased MEC in Phase 1 (Category A and Category D applications) will be ordered, assessed and granted firm access to the network based on the later of:

- connection application date ('Date 1'); or
- planning permission or relevant consents[13] granted date('Date 2').

where, for each application, the later of Date 1 and Date 2 will be the 'Key Date' and the application with the earliest Key Date will be first in the queue and so forth.

This applies only to connection applications seeking a total MEC of greater than or equal to 5 MW.

[13] For more details on relevant consents see Section 6.2.

6.11 FAQ and ATR Information

All connection offers issued as part of Phase 1 will be issued with Firm Access Quantity (FAQ) and Associated Transmission Reinforcement (ATR) information. This applies only to connection applications seeking a total MEC of greater than or equal to 5 MW.

6.12 GOR Information

SONI has recently published the Northern Ireland Constraints Report 2016.[14] This report was published following engagement with industry to determine a reasonable assumption for the generation portfolio and build out rate in Northern Ireland. Feedback from industry was to not include any of the connection applications received since NIE Networks change in connection application policy in August 2015. SONI would like to engage with industry further to determine whether there is need for any further Generation Output Reduction (GOR) analysis for Phase 1.

6.13 Connection Application Fees

Connection application fees paid to both NIE Networks and SONI should be aligned to the NIE Networks Distribution Statement of Charges and the SONI Transmission Connection Charging Methodology Statement at the date of application. A table below has been included to help understand what application fee should be paid for different types of applications

Table 2: Cluster substations with remaining thermal capacity

Type of Application	**Application Fee is based on**
New export scheme	Total generation capacity
Zero export scheme	Total generation capacity
Over installation at an existing site	Additional generation capacity only

[14] The latest SONI GOR report can be found at: http://www.soni.ltd.uk/media/documents/Operations/SONI%20Northern%20Ireland%20Constraints%20May%202016.pdf

6.14 Refunds of Connection Application Fee

Table 3: Cluster substations with remaining thermal capacity

Connection Offer Process Stage	Application Fee Refund Applicable
No design assessments completed	Full application fee refunded
Initial design assessments and high level costing	Full application fee minus feasibility fee refunded
Final assessment and detailed costing	No application fee refunded
Connection offer issued	No application fee refunded

6.15 Expected Timeline for Issuing Offers

An outline of the expected timelines for issuing connection offers as part of Phase 1 is included in Appendix C. An indicative timeline for issuing offers as part of Phase 2 is also included.

It is important to note that the timeline provided for Phase 2 is very much dependent upon the outcome of further industry engagement with policy makers and that the outcome of this engagement is, at this point, unknown. Therefore, without prejudice, NIE Networks and SONI have provided an indication of the time that could be required to issue offers to applicants in a queue of several hundred MWs if a process similar to the Batch Process that was proposed in the Consultation Paper were implemented.

NIE Networks and SONI will update the timeline for Phase 2 when the Alternative Connection Application and Offer Process to be implemented is clearer following further engagement with the UR and DfE as part of the UR's review of electricity connection policy.

7. Approach to Phase 2 Connection Offers

As outlined in this Decision Paper, Phase 1 will utilise all remaining thermal capacity on the Transmission System. Therefore, Phase 2 will be processed in the context of there being zero capacity available on the Transmission System.

The consultation process to date on an Alternative Connection Application and Offer Process to date has been very informative. The views expressed by industry stakeholders through this process have helped NIE Networks and SONI to conclude that to implement the proposed "Batch Process" as presented in the Consultation Paper should not be implemented in the immediate term without further engagement with industry stakeholders and policy makers as to the optimum approach on the many elements of the proposed "Batch Process" that were consulted upon.

Key to this conclusion is the uncertainty in relation to the approval of investment on the Transmission System in light of uncertainty over renewable energy policy and targets in Northern Ireland. This view was echoed in some of industry's responses where it was requested that the high level principles of the Alternative Connection Application and Offer Process should include reference to energy policy and targets.

As explained in the Consultation Paper, the capacity on both the Transmission System and the Distribution System is scarce. Following completion of Phase 1, there will be no transmission capacity available. As a result, NIE Networks and SONI believe it is critical to develop an overall strategy whereby NIE Networks and SONI are able to plan and develop the Distribution and Transmission Systems respectively in an environment where there is more certainty around network investment and energy policy. This would in turn enable connection offers to be issued that are capable of acceptance.

Therefore, NIE Networks and SONI plan to engage further with the UR and DfE in relation to these uncertainties with the aim of developing an enduring connection strategy for Northern Ireland that would better meet the high level principles outlined in this Decision Paper and in the Consultation Paper. The feedback received from industry on the proposed "Batch Process" will be used in developing this strategy and an enduring Connection Application and Offer Process.

Another key element to this approach for Phase 2 is to give due consideration to the strong feedback received from respondents to implement the planning permission pre-requisite to connection application into licence and legislation. UR and DfE are responsible for any changes to licence and legislation that may be needed to implement this suggestion.

NIE Networks and SONI have advised the UR and DfE of the consultation responses on this matter and as part of the UR Forward Work Programme 2016/2017, will request that

UR consider this as part of their review of electricity connections policy.[15] Responses to this consultation will feed into the overall scope of this UR policy connection review.

For applicants who do not fall within the criteria to receive offers as part of the Phase 1, these applications will be processed following development and implementation of Phase 2, where Phase 2 will seek to address these following high level principles as outlined in the Consultation Paper:

- reduce interaction between connection offers;
- reduce rework of interacting offers when offers are rejected;
- allows for optimal development of the Transmission and Distribution Systems; and
- allows for efficient network investment by the Northern Ireland customer base.

In addition, it is hoped that Phase 2 will also provide more certainty and predictability as well as being cognisant of the direction of future energy policy in Northern Ireland.

[15] The UR Forward Work Programme 2016/2017 can be found at:

http://www.uregni.gov.uk/uploads/publications/Forward_Work_Programme_2016-17.pdf

8. Appendix A: Definitions

Batch	As proposed in the Consultation Paper.
Batch Process	As proposed in the Consultation Paper.
Closure Date	As proposed in the Consultation Paper.
Cluster	As per the NIE Networks Statement of Charges means one or more existing or proposed Authorised Generators which are or may be connected to a Designated Generation Cluster Infrastructure or an Approved Generation Cluster Infrastructure or a Constructed Generation Cluster Infrastructure and which are subject to charges in accordance with the principles set out in section 7 of the Statement of Charges. Such Authorised Generators are required to pay for sole use assets and to pay a contribution for assets shared with others (subject to paragraph 7.11 of the Statement of Charges).
Cluster Infrastructure	Transmission and distribution assets that are shared by all parties connecting to a Cluster i.e. the Cluster transmission infrastructure from the Point of Connection to the Transmission System to the 33 kV switchboard in the Cluster substation.
Customer	Means, as appropriate, an applicant for a new connection or a party who has accepted a connection offer.
Distribution Code	The Code of that name prepared pursuant to Condition 27 of the NIE Networks licence.
Distribution System	The electric lines within the authorised area, owned by NIE Networks (but not, for the avoidance of doubt, any lines forming part of the Transmission System) and any other electric lines which the Northern Ireland Authority for Utility Regulation may specify as forming part of the Distribution System, including (in each case) any electrical plant and/or meters used in connection with distribution.
Grid Code	The Code of that name prepared pursuant to Condition 16 of the SONI licence.

Large Scale Generation (LSG)	Generation that is typically > 2 MW
Least Cost Technically Acceptable (LCTA)	The Least Cost Technically Acceptable connection is the connection which: • complies with the Transmission and Distribution System Security and Planning Standards; and • complies with any other applicable standard, regulation and code; and • takes into account committed developments on • the Transmission System; and • is the least overall cost;
Maximum Export Capacity (MEC)	means the maximum permissible amount of electricity to be exported to the Distribution System as set out in the Connection Agreement;
Microgeneration	Generation that is typically < 12 kW
Queue Integration Date	17 June 2016
Registered Capacity	The normal full Load capacity of a Generating Unit in MW measured as at the Connection Point and in relation to a Wind Farm Power Station, the normal full Load capacity of the collection of one or more wind turbines, each being a Generating Unit, in MW measured as at the Connection Point of the Wind Farm Power Station.
Small Scale Generation (SSG)	Generation that is typically < 2 MW
Statement of Charges (SoC)	The statement produced in accordance with either Licence Condition 32 of the NIE Networks Distribution Licence or Licence Condition 30 of the SONI Transmission Licence.

Transmission System	The system of electric lines owned by NIE Networks and comprising high voltage lines and electrical plant and meters used for conveying electricity from a generating station to a substation, from one generating station to another, and from one substation to another within the authorised area (including such part of the North/South Circuits as is owned by the NIE Networks) (except any such lines which the Northern Ireland Authority for Utility Regulation may approve as being part of NIE Networks' Distribution System) and any other electric lines which the Northern Ireland Authority for Utility Regulation may specify as forming part of the Transmission System, but shall not include any Interconnector.
Valid Connection Application	As proposed in the Consultation Paper.

9. Appendix B: List of Respondents

33 responses were received to the Consultation Paper, 3 of which are confidential. The names of the non-confidential responses are shown below.

ABO Wind NI Ltd

Brookfield Renewable Energy Group

CES Energy Ltd

DP Energy Ireland Limited and Tidal Ventures Ltd

DW Consultancy Limited

Elgin Energy

Energia

ESB

Gaelectric Renewables Energy Developments Limited

Greenswitch

Hydro NI Ltd

Irish Solar Energy Association (ISEA)

Jenning's O'Donovan

Kingspan ESB

Lightsource Renewable Energy Holdings Limited

Major Energy Users Council

Montupet UK Ltd

Moyola Park Trustees

Northern Ireland Renewables Industry Group (NIRIG)

PowerCapital Renewable Energy

Pricewaterhouse Coopers LLP

Renewable Energy Systems Limited

SimplePower

SSE

Stream BioEnergy Limited

TCI Renewables

TLT NI LLP

Ulster Farmers' Union

Wind NI

Wind Prospect Ireland Limited

INDICATIVE PHASE 1 AND PHASE 2 TIMELINES (Subject to assumptions)

Item	Estimated End Dates	*Notes*
Consultation Close Date	**5th Apr 2016**	*33 responses received, strong support for PP reintroduction, legislative changes.*
Decision Paper Issued & uploaded to websites	**31st May 2016**	*Two phase approach adopted - Phase 1 to utilise remaining capacity.*
PHASE 1:		
Decision Paper customer notification	**1st June - 17th June**	*Notification of Decision paper and clarifications of content where required.*
Queue Integration Date	**17th June 2016**	*Queue status and eligible applications identified as of 17th June 2016.*
Customer Communications	**June to Aug 2016**	*Estimated Costs & Connection timelines. Opportunity to receive quote/withdraw.*
Connection Offers	**June to Sept 2016**	*Some Offer validity periods reduced to 60 days. FAQ/ATR assessment req'd for LSG offers.*
Connection Offer acceptances	**July to Nov 2016**	*Majority of acceptances will be known by end of October 2016*
PHASE 2:		
Headline Policy assessment	**July / Aug 2016**	*Key assessment from policy makers / key stakeholders - policy, legislation & costs.*
DATES BELOW ARE INDICATIVE ONLY AND WILL BE UPDATED FOLLOWING CONCLUSION OF CONNECTIONS POLICY REVIEW **INDICATIVE DATES BELOW ARE DEPENDENT ON POLICY ASSESSMENT OUTCOME AND COMPLETION IN AUGUST 2016 & AN ASSUMED 'BATCH' TYPE APPROACH**		
Update on policy assessment and next steps	**Aug / Sep 2016**	
Update of position	**Oct 2016**	*Key decisions on Batch processing and timeframes and policy position.*
Customer Communications	**Nov-16**	*Updated timeline & strategic policy views. Opportunity to remain/withdraw.*
Batch Closure	**Dec 2016**	*Batch Closure Date required to start Group definition.*
Groups defined/ initial nodal assessment*	**Feb 2016**	*Dependent on size of Batch at Closure date - assume several hundred MW remain.*
Final Nodal assignments & connection design	**Dec 2017**	*Estimated 9-12 months duration - (note: grouping has reduced this from years)*
Connection Offers - (no FAQ/ATR/GOR analysis req'd)	**From Oct 2017**	*Mainly SSG connection offers.*
Connection Offers - (FAQ/ATR/GOR analysis req'd)	**Apr 2018**	*Estimated 6 months if all LSG applications require assessment.*
GENERAL NOTES		
(1)Group definition* and initial nodal assignments will be largely dependent on volumes remaining in the process. Timeline assumes several hundred MW remain. Also assumes similar approach to Batch Process that was consulted upon.		
(2) Overinstallation and zero export applications will be processed througout this period as part of Phase 1 - subject to criteria defined in Decision Paper.		
(3) Connection Offers for LSG applicants who secure planning permission and are connecting to existing and designated Cluster substations will be issued until remaining cluster capacity is exhausted.		
(4) Connection Offers for applicants who secure planning permission and are connecting in an area where there is capacity on the Transmission System will be issued until remaining transmission capacity is exhausted.		