Decision Paper on NIE Networks Providing Distribution Generation Offers with Non Firm Market Access

(For applicants 5MW and above)

Decision Paper

19 February 2021

Contents

Executive Summary

This decision paper summarises the feedback from industry on the NIE Networks and SONI consultation to change existing NIE Networks connection offer policy by providing distribution offers with non-firm market access to generators 5MW and above (referred to as the interim connections process).

The interim connections process will remove the requirement for full transmission firmness to be available in order for NIE Networks to issue a Distribution Connection Offer (to generators 5MW and above). At the appropriate time in the connections process, SONI will complete Firm Access Quantity (FAQ) analysis and issue this information to the connecting party. The FAQ calculated will be reflective of actual transmission firm capacity.

The interim connections process will go-live one month after the required changes in the NIE Networks' Statement of Charges for Connection to Northern Ireland Electricity Networks' Distribution System (SOCC) are approved by the Utility Regulator.

This paper contains information included in the Alternative Connection Application and Offer Process (ACAOP)[1] Decision Paper. It has been unchanged and included in this decision paper for completeness and ease of access to information.

[1] https://www.nienetworks.co.uk/documents/generation/alternative-connection-application-and-offer-p-(1).aspx

2 Introduction

2.1 Purpose of the Paper

NIE Networks and SONI issued a joint consultation paper on "NIE Networks Providing Distribution Generation Offers with Non-Firm Market Access (for applicants 5MW and above) on Friday 20 December 2019. The consultation paper outlined the existing Alternative Connection Application and Offer Process (ACAOP) and options for the introduction of non-firm connection offers.

The purpose of this decision paper is to outline the consultation process and the engagement that has happened since the consultation period closed. It will also discuss the outcome of this process and the implementation and timelines.

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 the industry views received and the engagement that has happened since the consultation period closed.

Section 4 describes the interim connections process for generators 5MW and above and the connections process for generators less than 5MW.

Section 5 describes the risks and dependencies associated with the introduction of the interim connections process.

Section 6 discusses the steps required following the publication of this decision paper to facilitate the interim connections process going live.

Section 7 explains the approach that will be taken for development of an enduring connections process.

3 Consultation Process

3.1 Consultation Process to Date

The existing ACAOP was developed through consultation with industry and stakeholders and implemented in 2016 to manage an influx of applications for connection to the distribution system. This influx occurred following a decision to remove planning permission as a prerequisite to apply for connection to the distribution system. Applications to connect to the transmission system were unaffected and there was no equivalent influx of applications to connect to the transmission system as planning permission remained a prerequisite for applications (and later a milestone for offer acceptance).

The ACAOP resulted in NIE Networks having to limit the issue of distribution connection offers on a firm basis, to those connection applications which did not drive the need for further transmission system reinforcement. Offers were also made for connection at Cluster sites. A position has now been reached under the ACAOP which requires that, while some residual capacity remains in the east of Northern Ireland and at cluster sites, NIE Networks will increasingly have to issue refusals to connect where there is no firm transmission capacity remaining.

The Strategic Energy Framework[2] provided direction on energy policy for the ten year period up to 2020. In particular the Electricity (RES-E) target of 40% has been an important consideration within the ACAOP and in particular with respect to network investment driven by renewable generation. Connection of any further renewable generation will have an impact on curtailment and constraints in the absence of further investment in the transmission system and further delivery of the TSO Delivering a Secure Sustainable Electricity System (DS3) Programme[2].

The Connections Innovation Working Group (CIWG) was established in 2018 to discuss the potential implications of connecting further generation to the distribution system on a non-firm basis. To support this discussion, analysis was carried out which sets out the potential impact on constraints and curtailment of connecting further generation with an assumed level of network reinforcements delivered[3]. CIWG members provided feedback suggesting [1] an appetite remains amongst industry to obtain a connection to the distribution system in the anticipation of further ambitious RES targets and [2] there is a need to consider options for what connection arrangements might be appropriate.

NIE Networks and SONI issued a joint consultation paper on "NIE Networks Providing Distribution Generation Offers with Non-Firm Market Access (for applicants 5MW and above) on Friday 20 December 2019. The consultation paper outlined the existing Alternative Connection Application and Offer Process (ACAOP) and options for the introduction of non-firm connection offers.

An industry workshop was held on 29 January 2020 and the consultation closed on 28 February 2020. A total of 6 responses were received, one of which was marked as confidential. Responses were received from:

1. Northern Ireland Renewables Integration Group (NIRIG) – approved by 21 members
2. RES
3. Indaver

[2] http://www.soni.ltd.uk/how-the-grid-works/ds3-programme/

4. ABO Wind
5. Scottish Power Renewables
6. Confidential

Non-confidential responses can be found on the NIE Networks and SONI websites.

NIE Networks and SONI would like to thank all respondents for their participation in this consultation process and the engagement which has followed.

There was no agreement between all the responses received to the consultation, and therefore further industry engagement was required following the closure of the consultation process. This engagement took place through the CIWG[3] and updates were provided to industry through the Renewables Grid Liaison Group (RGLG) and the Distribution Code Review Panel. This further engagement provided additional context to consultation responses received.

3.2 Key Messages from Consultation Responses

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

- Maintaining status quo would close NI to renewable development & would hinder achieving UK net zero target by 2050.
- Main issues with non-firm offers are that constraints are not compensated and there is less certainty around the progression of grid reinforcements (ATRs).
- Outstanding ATRs for existing generation should be progressed as a matter of urgency for them to receive firm access.
- If non-firm offers are to be issued, this should be as an interim measure.
- Publication of the new Northern Ireland RES-E targets is a suitable time to introduce a new process or review a process.
- Some respondents were in support of option 2A (non-firm offers with a MW limit).
- Inappropriate to introduce this policy until clear policy direction has been given.
- Introducing non-firm access in absence of certainty around the delivery of reinforcements may undermine ability to deliver new renewable projects.
- Levels of dispatch down is particularly relevant for the commercial viability of many projects – no evidence provided as to how levels of dispatch down would be managed and reduced with more RES-E connected.

3.3 Conclusions of Consultation Process

The key conclusions drawn from the consultation responses are:

- Sufficient feedback was received from industry.
- There is conflict within industry regarding timing of updated connection processes.
- A view was expressed that timing should align with publication of updated targets.
- If non-firm offers are issued it should be as an interim measure until new targets are published.
- Stability of connection process is important.

[3] CIWG Meetings have been held (via Zoom) on the following dates – 28/01/2020, 03/07/2020, 13/08/2020 and 12/11/2020

- Industry has concerns with the lack of progress of ATRs for existing non-firm generators.
- Limiting impact of increased curtailment and constraint on existing generators was a concern.

3.4 Progress Since Close of Consultation Period

NIE Networks and SONI have given careful consideration to the responses received from industry in the preparation of this decision paper. NIE Networks and SONI have also continued to engage with industry through the CIWG on the introduction of non-firm connections offers.

Engagement after the closure of the consultation period included NIE Networks confirming it could not progress option 2A (non-firm offers with a MW limit) as suggested in the consultation paper as it would lead to discrimination on technology grounds. A RES only connection policy would also inhibit the connection of facilitator technologies e.g. storage.

From the consultation responses, and engagement following the closure of the consultation period, it was clear that the rationale for favouring option 2A (non-firm offers with MW limit) was due to the impact further connections would have on the curtailment and constraint of existing generators.

The CIWG discussed at length the protection a MW limit would offer existing generators and in conclusion agreed it would not offer as much protection as initially thought due to the following factors:

- Curtailment is all-island and therefore connections of non-synchronous generation in the Republic of Ireland would also impact curtailment in Northern Ireland.
- SONI are obligated to issue connection offers, therefore if the MW limit was reached SONI would have to continue to issue offers.

Following this discussion, on 23 July 2020 NIRIG submitted an updated response from its members and NIRIG members also submitted letters of support to the updated NIRIG position.

The CIWG had identified the need to develop and introduce an enduring connections process that would optimise the connections process in Northern Ireland and facilitate the achievement of updated renewable energy targets (to be published by the Department for the Economy in Q4 2021). The NIRIG position was to support of this enduring policy being developed, but highlighted that no change in the interim was not acceptable. On this basis, and based on the unavailability of option 2A as proposed in the consultation paper, NIRIG were in support of NIE Networks providing distribution generation offers with non-firm market access immediately, as an interim measure, to allow new renewable connections.

4 Interim Connections Process

4.1 Distribution Connections Process (for generators ≥5MW)

The interim connections process for generators 5MW and above will replace the existing connections process as detailed in the Alternative Connection Application and Offer Process.

This process will no longer be based on the ACAOP Phase 1 ruleset, therefore there will no longer be the requirement for firm Transmission capacity to be available in order for a distribution connection offer to be issued. Distribution Connection Offer will be offered without the pre-requisite for a Transmission capacity assessment. Firm Access Quantity (FAQ) analysis will be carried out by SONI and an FAQ representative of available firm transmission capacity will be issued.

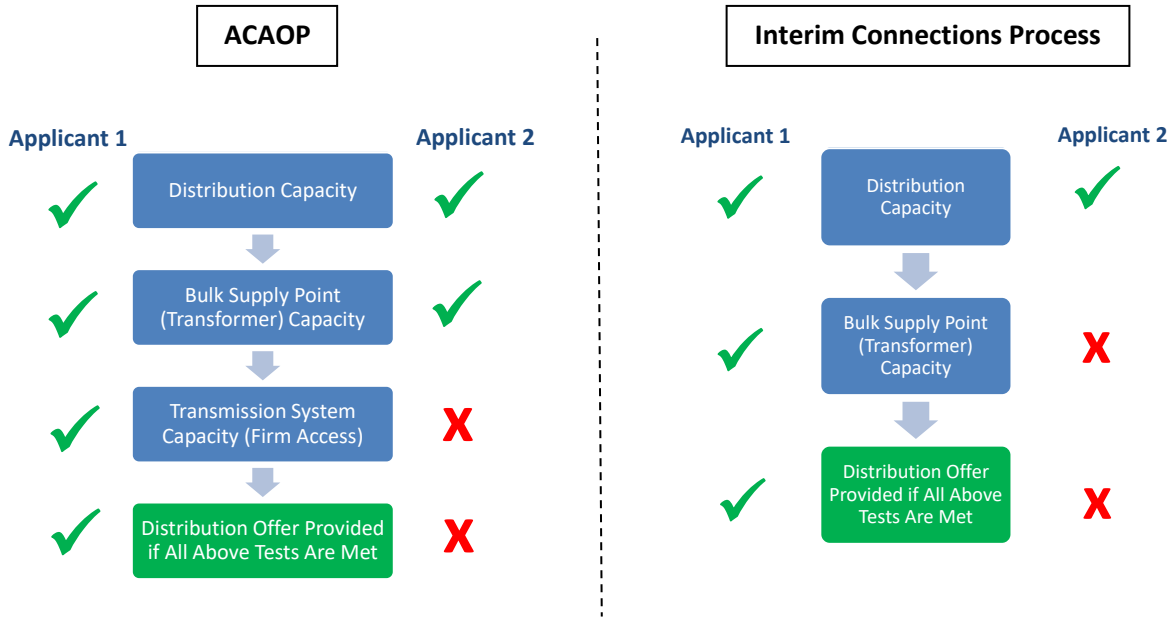

Figure 1 - Comparison of ACAOP and Interim Connections Process

A detailed flowchart of the process can be found in Appendix 1 of this document.

Existing Distribution queue principles and milestones[4] will remain in place as detailed in the NIE Networks Distribution Generation Application and Offer Process Statement.

At the same time as publishing this paper NIE Networks have submitted modifications to the NIE Networks' Statement of Charges for Connection to the Northern Ireland Electricity Networks' Distribution System (SOCC) to the Utility Regulator for approval. The interim connections process will become effective one month after approval of the updated NIE Networks' SOCC.

For the avoidance of doubt this interim connections process is applicable to all types of generation application (for generators ≥5MW) including; requests for new and increased MEC, over install and zero export connections.

[4] https://www.nienetworks.co.uk/documents/distribution-generation-application-and-offer-proc.aspx

4.2 Non Firm Offers

The ACAO acted as an efficient means of utilizing remaining limited firm transmission capacity. Having worked through this process it is likely that any generator ≥5MW now seeking to connect to either the distribution or transmission system would likely not have fully firm access i.e. they will not have an FAQ equal to their Maximum Export Capacity (MEC). This will impact on their level of compensation as per market rules[5] in the event they are dispatched down as a result of network constraints.

The level of firmness associated with a generator is assessed using the FAQ Methodology[6]. In order to be assessed for FAQ generators ≥5MW must have both a valid Connection Offer and confirmation of planning permission. These pre-requisites are necessary for generators seeking to connect to both transmission and distribution networks.

Generators will be assessed using the FAQ methodology based on the later of:

- Connection Application Date, or
- Planning Permission or Relevant Consent Date

On assessment the generator will be issued with an FAQ report. The FAQ report outlines any Associated Transmission Reinforcements (ATRs) required to provide the generator with firm access along with indicative delivery dates.

UR approval of SONI funding for its transmission reinforcement pre-construction activities and NIE Networks construction funding are both subject to demonstration of need against Transmission System Security and Planning Standards, cost benefit analysis as appropriate and supporting government policy regarding RES-E targets.

The Strategic Energy Framework[7] provided direction on energy policy for the ten year period up to 2020. In particular the Electricity (RES-E) target of 40% was an important consideration within the ACAOP and in particular with respect to regulatory approval for network investment driven by renewable generation.

While the 2020 renewable energy target of 40% of demand being met from renewable sources has been met it should be noted that SONI continue to bring forward transmission reinforcements through the approval process.

Some of the Associated Transmission Reinforcements (ATRs) identified to provide generators with firm access, may be projects that are already included in the Transmission Development Plan for Northern Ireland (TDPNI)[8] process, however in some cases a new connection may trigger the requirement for a new ATR to be developed through the SONI Process for Developing the Grid.

When the delivery of an ATR is complete the additional firm capacity that is created will be assigned to the relevant generators and the level of constraint payment can adjust accordingly.

[5] https://www.sem-o.com/rules-and-modifications/
[6] http://www.soni.ltd.uk/media/documents/Customers/Connections/Generator-Connection-Process-Decision-Paper-July-2013.pdf
[7] https://www.economy-ni.gov.uk/publications/energy-strategic-framework-northern-ireland
[8] Subject to Utility Regulator approval

4.3 Over Install

The ACAOP introduced the concept of over install for generation connections. Connection applications or modified connection applications for over install connections 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 G99 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 install is a focus area under the FlexTech project and these rules will be reviewed and amended as necessary through that process. It is the intention of the System Operators that once this work has been completed, the concept of over install will be inserted into the Grid Code and Distribution Code, both of which are subject to approval by the Utility Regulator.

4.4 Distribution Connections Process (for generators <5MW)

As discussed previously, the consultation and decision for NIE Networks to issue Distribution Connection Offers with non-firm market access applies to generators 5MW and above. The connection process for generators below 5MW will remain unchanged as to what is detailed in the ACAOP decision paper. Information has been included in this section of the paper for completeness and ease of access to information.

4.4.1 Uncontrollable Generation Connections

SONI continue to assess the impact of uncontrollable generation on their ability to operate the transmission system in real time. NIE Networks will continue to work with SONI through this process.

4.4.2 Export

Connection applications or modification connection applications seeking to connect an export generator must:

- submit a connection application or modification application to NIE Networks, 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; and
- comply with the latest Grid Code and Distribution Code.

4.4.3 Zero Export

Connection applications or modification connection applications seeking to connect a zero-export generator 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 G99 Reverse Power protection; and
- comply with the latest Grid Code and Distribution Code.

5 Risks and Dependencies

The introduction of any new process brings risk and uncertainty, and as highlighted in the consultation responses industry likes stability in a connections process.

In recent times NIE Networks has increasingly been issuing refusals to generators applying for connection to the distribution system due to lack of firm transmission capacity. Therefore, the introduction of this interim connections process may result in an influx of applications to NIE Networks for connection to the Distribution System.

There is also a risk of speculative applications being submitted, due to the omission of planning permission as a prerequisite of application; however, the planning milestone remains in an attempt to deter this happening.

This could result in NIE Networks being overwhelmed with connection applications in a short period of time following go-live of the interim connections process.

Condition 30(6) of the NIE Networks Electricity Distribution Licence requires NIE Networks to issue terms as soon as practicable, and in any event within 3 months from application. NIE Networks has identified a risk associated with a potential influx of connection applications being received on go-live of the interim connections process, resulting in NIE Networks being unable to remain compliant with licence Condition 30(6). This is an unacceptable risk to NIE Networks.

The only means available to NIE Networks at present to mitigate this risk is through Condition 30(7) of the licence. Condition 30(7) allows for the period of 3 months to be longer, however this is based on an application from NIE Networks, to the UR, following consultation with the person requesting the connection and such other persons affected or interested. These applications are to be assessed on an individual basis.

Should the need arise, NIE Networks will utilise the extension process allowed for in Condition 30(7) of the NIE Networks Electricity Distribution Licence. This process will involve NIE Networks consulting with the party requesting connection and other affected or interested parties. Applications for extensions will be submitted to UR on an individual basis for approval.

Each application for extension requires individual assessment and approval from the UR. Any party applying for a connection under the interim connections process will be deemed to have agreed to an extension of time for the production of terms for connection should an extension be required. This will be reconfirmed through engagement with the applicant regarding details of an extension as required.

Consistent application of this extension process is essential to maintain the integrity of the distribution queue principles. Distribution applicants enter the queue based on the date and time their application is deemed valid. This is the trigger for the 3-month period to begin.

Although there are many reasons for which NIE Networks could apply for an extension to the 3 month time period, the likely reason in this scenario is due to the influx of applications. Therefore when the extension process is applied to an application, all applications which follow will need to be treated appropriately to ensure queue integrity is maintained.

NIE Networks want to ensure this interim connections process is as robust as possible, in order to deliver the stability of the connections process that industry has requested. In order to do this NIE Networks will update its Statement of Charges for Connection to Northern Ireland Electricity Networks' Distribution System (SOCC) to take account of the interim connections process. This document is subject to approval by the Utility Regulator and will come into effect one month following approval.

The interim connections process will go live one month following the approval of the SOCC by the UR.

6 Next Steps

Alongside the publication of this decision paper, NIE Networks has submitted changes to its SOCC to the UR for approval.

One month following this approval the interim connections process will go live. NIE Networks will publish date information on its website when it is available.

NIE Networks will publish an updated Distribution Generation Application and Offer Process Statement on its website to be effective one month after the approval of the SOCC updates.

7 Development of Enduring Connections Process

As discussed previously, NIE Networks and SONI along with the CIWG members, have identified the need for an enduring connections process to be implemented in Northern Ireland. Responses to the consultation also stated that the appropriate time to introduce a new connections process would be when new targets have been published.

NIE Networks and SONI will work together with industry to develop an enduring connections process for Northern Ireland to optimise the connections process in Northern Ireland and facilitate the achievement of updated renewable energy targets (to be published by the Department for the Economy in Q4 2021).

This will be the topic of further engagement with industry through the CIWG and public consultation.

8 Appendix 1 - NIE Networks Distribution Offer Process for Generators ≥5MW