Code Administrator Consultation

CM080:
Transmission Impact Assessment Process

Overview:

This Modification seeks to provide a: "Transmission Impact Assessment" process which facilitates an aggregated assessment process that mitigates the need to apply for multiple individual connections saving time/admin and making it easier for NGESO to consider the cumulative impact of smaller individual connections. It also seeks to establish the "Evaluation of Transmission Impact" process which will make it easier for DNOs to understand when a connection application is required.

Modification process & timetable

1. **Proposal Form**
   08 December 2021
2. **Code Administrator Consultation**
   28 April 2022 - 20 May 2022
3. **Draft Modification Report**
   29 June 2022
4. **Final Modification Report**
   08 July 2022
5. **Implementation**
   10 working days following decision

Have 5 minutes? Read our Executive summary

Have 20 minutes? Read the full Code Administrator Consultation

Have 30 minutes? Read the full Code Administrator Consultation and Annexes.

Status summary: We are now consulting on this proposed change.

This modification is expected to have a: Medium Impact on Transmission Owners

Governance route	Standard Governance modification to proceed to Code Administrator Consultation	
Who can I talk to about the change?	**Proposer:** Terry Baldwin Terry.Baldwin@nationalgrideso.com 07814 778 118	**Code Administrator Chair**: Sally Musaka Sally.musaka@nationalgrideso.com 07814 045 448
How do I respond?	Send your response proforma to stcteam@nationalgrideso.com **by 5pm on 20 May 2022**	

Contents

Executive summary

This proposal requires an STC change for the following reasons:

1. To create the concept of an Evaluation of Transmission Impact (ETI) which has multiple routes to complete.
2. To create the concept and processes for the Transmission Impact Assessment (TIA) method to meet the ETI
3. To create the provision of ETI Trigger criteria per Grid Supply Point (GSP) so decisions can be made on the most appropriate ETI application route.

What is the issue?

The proposer believes that the current Statement of Works (SoW) process can be inefficient and time-consuming where there are concurrent multiple smaller connection applications. In order to overcome these the Network Operators have trialled and refined a more efficient aggregated assessment (widely known as the “Appendix G” process) of Distributed Generators (DG) that have or may have an impact on the National Electricity Transmission System (NETS).

The Proposer seeks to formalise the trial process into the STC (alongside CUSC modification CMP298 which introduces these arrangements in to the CUSC), which will work alongside the current Statement of Works process.

What is the solution and when will it come into effect?

Proposer’s solution:

To address this defect, the proposer believes that instead of a DNO applying for a statement of works for every single connection they can, where the ETI Trigger Criteria is met, request a TIA whereby they are assigned a block of available capacity to which they can connect multiple small and medium sized generation subject to a known amount reinforcing works needing to be carried out (if any).

The Proposer seeks to enable DNOs to correctly trigger an ETI, information is required from the TOs for each Grid Supply Point.

Implementation date:

The proposed implementation date is 10 working days after the Authority’s decision to approve.

What is the impact if this change is made?

CM080 will save all parties time/administration and will make it easier for NGESO to consider cumulative impact of groupings of otherwise less-significant individual connections.

This modification will also mitigate the need for the “Statement of Works Request” process of having to apply to multiple individual connections and will enable DNOs to provide faster and more accurate connection offers.

Interactions

☐Grid Code	☐BSC	☒CUSC	☐SQSS
☐European Network Codes	☐Other modifications	☐Other	

This modification is required to enable CUSC modification CMP298 to proceed.

What is the issue?

In the Proposer's view the current Statement of Works (SoW) process can be inefficient and time-consuming where there are concurrent multiple smaller connection applications. In order to overcome these the Network Operators have trialled and refined a more efficient aggregated assessment (widely known as the "Appendix G" process) of Distributed Generators (DG) that have or may have an impact on the National Electricity Transmission System (NETS).

This proposal seeks to formalise the trial process into the STC (alongside CUSC modification CMP298 which introduces these arrangements in to the CUSC), which will work alongside the current Statement of Works process.
The reason an STC change is required is to:

1. Create the concept of an Evaluation of Transmission Impact (ETI) which has multiple routes to complete.
2. Create the concept and processes for the Transmission Impact Assessment (TIA) method to meet the ETI
3. Create the provision of ETI Trigger criteria per Grid Supply Point (GSP) so decisions can be made on the most appropriate ETI application route.

Why change?

The Distribution Network Operators (DNOs) have an obligation not to connect DG where they determine the DG to be a Relevant Embedded Small or a Relevant Embedded Medium Power Station that may have an impact on the NETS. The definition of Relevant Embedded Small (and Relevant Embedded Medium) Power Station currently refers to individual power stations which may have a significant system effect on the NETS with such significant impact being identified as an expenditure of more than £10,000. Due to the rise in the volume of connected DG, which individually may not impact the NETS but may collectively, it is necessary to find an efficient method to administer the connections process thus preventing the requirement for bulk SoW applications. The TIA process is being proposed to work alongside the SoW process so either can be used.

There is currently a code modification (CMP298) going through the CUSC change process to enable this transition, however for the modification to work, the Transmission Owners will be required to submit additional information on available capacity at Grid Supply Points and determine the ETI Trigger Criteria for each GSP, which will in-turn determine if a TIA or SoW is required.

What is the solution?

Proposer's solution

In the Proposer's view the solution is that instead of a DNO applying for a statement of works for every single connection they can, where the ETI Trigger Criteria is met, request a TIA whereby they are assigned a block of available capacity to which they can connect multiple small and medium sized generation subject to a known amount reinforcing works needing to be carried out (if any).

To enable DNOs to know when to trigger an ETI, Trigger Criteria is required from the TOs for each Grid Supply Point.

ETI trigger Criteria table

- Any single or group of generators which falls below all the ETI trigger criteria can be connected without triggering an ETI.
- Any single or group of generators which is above any limit must be subject to a ETI, which can be completed by following either the SoW process or the TIA process.

GSP Name	DNO	ETI Trigger Criteria					ETI Method	TIA Data	
		Active Power (MW)	Apparent Power (MVA)	Reactive Power (Mvar)	Amperage (KA)	Voltage (kV)		Total MW	Materiality Trigger (MW)
Example	Western Networks	10	11	N/A	N/A	33			
Testington	Eastern Power	1	0.5	N/A	1	11	Transmission Impact Assessment (TIA)	150	26

Figure 1 Example ETI/TIA table

TIA process

Once a DNO applies for a TIA, the National Grid Electricity System Operator (NGESO) will validate the request and ask the relevant TO to calculate the Materiality Trigger available for the DNO's use. The Materiality Trigger available should be calculated as a function of the 'planning limit' however the calculation itself is left to individual TOs to decide.

Regular updates on the generation connected (in the form of 'Total MW') shall be provided to the TOs by the DNOs after validation by NGESO (minimum twice per year). The Total MW shall not exceed the Planning Limit and this shall be reflected in the Materiality Trigger provided by the TO to NGESO. Once the Total MW is equal to or greater than the Materiality Trigger then the DNO (via NGESO) shall either request an increase in the Materiality Trigger (and any associated construction works) by extending the TIA or request that the Statement of works process shall be applied.

Legal text

Please see the attached STC section D for the legal text changes.

What is the impact of this change?

Proposer's assessment of the impact of the modification on the stakeholder / consumer benefit categories	
Stakeholder / consumer benefit categories	**Identified impact**
Improved safety and reliability of the system	**Positive** Enables NGESO to consider cumulative impact of groupings of otherwise less-significant individual connections
Lower bills than would otherwise be the case	**Positive** Enabling DNOs to offer more accurate connection costs should reduce the uncertainty risk reducing the connection cost.
Benefits for society as a whole	**Positive** Reduced connection costs should result in lower bills for consumers.
Reduced environmental damage	**Neutral**
Improved quality of service	**Positive** Reducing the admin requirements will ensure a smoother customer journey for new connections.

Proposer's assessment against the Applicable Objectives

Proposer's assessment against STC Objectives	
Relevant Objective	**Identified impact**
(a) efficient discharge of the obligations imposed upon transmission licensees by transmission licences and the Act	**Neutral**
(b) development, maintenance and operation of an efficient, economical and coordinated system of electricity transmission	**Positive** This saves all parties time/admin and makes it easier for NGESO to consider cumulative impact of groupings of otherwise less-significant individual connections.
(c) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the distribution of electricity	**Neutral**
(d) protection of the security and quality of supply and safe operation of the national electricity transmission system	**Neutral**

insofar as it relates to interactions between transmission licensees	
(e) promotion of good industry practice and efficiency in the implementation and administration of the arrangements described in the STC	**Positive** It mitigates the need for the "Statement of Works Request" process of having to apply to multiple individual connections.
(f) facilitation of access to the national electricity transmission system for generation not yet connected to the national electricity transmission system or distribution system;	**Positive** This will enable DNOs to provide faster and more accurate connection offers.
(g) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.	**Neutral**

When will this change take place?

Implementation date
Within 10 days of the decision from the Authority.

Date decision required by
A decision is required from the Authority as soon as reasonably practicable. This modification is required to enable CMP298 to proceed.

Implementation approach
A staged implementation plan will need to be created by the Workgroup for how the TOs will supply the required information at the GSPs.

Interactions

☐Grid Code	☐BSC	☒CUSC	☐SQSS
☐European Network Codes	☐Other modifications	☐Other	

This modification is required to enable CUSC modification CMP298 to proceed.

How to respond

Code Administrator consultation questions

- Do you believe that CM080 Original proposal or WACM/WAGCM1 better facilitates the Applicable Objectives?
- Do you support the proposed implementation approach?
- Do you have any other comments?

Views are invited on the proposals outlined in this consultation, which should be received by 5pm on **20 May 2022**. Please send your response to stcteam@nationalgrideso.com using the response pro-forma which can be found on the modification page.

If you wish to submit a confidential response, mark the relevant box on your consultation proforma. Confidential responses will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CM	Code Modification
CUSC	Connection and Use of System Code
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
TIA	Transmission Impact Assessment
ETI	Evaluation of Transmission Impact
DG	Distributed Generator (a generator who is connected or planning to connect to a DNO or Independent DNO)
DNO	Distribution Network Operator
GSP	Grid Supply Point
NETS	National Electricity Transmission System
SoW	Statement of Works

Reference material

- CUSC modification CMP298

Annexes

Annex	Information
Annex 1	Proposal form
Annex 2	Legal Text