STC Modification Proposal Form

CM080: Transmission Impact Assessment process

Overview:

DNOs are obliged not to connect any new single embedded generation where it "may have an impact on the NETS" without undertaking a "Request for a Statement of Works" to NGESO. This process does not take into account the growing trend of smaller embedded generation connections.

A "Transmission Impact Assessment" process which facilitates an aggregated assessment process mitigates the need to apply to multiple individual connections saving time/admin and making it easier for NGESO to consider the *cumulative* impact of smaller individual connections.

Modification process & timetable

1. **Proposal Form** — 08 December 2021
2. **Workgroup Consultation** — 10 December 2020 - 10 September 2021
3. **Workgroup Report** — 10 December 2020
4. **Code Administrator Consultation** — 10 December 2020 - 10 September 2021
5. **Draft Final Modification Report** — 10 December 2020
6. **Final Modification Report** — 10 December 2020
7. **Implementation** — 10 December 2020

Status summary: The Proposer has raised a modification and is seeking a decision from the Panel on the governance route to be taken.

This modification is expected to have a: Medium impact

Transmission Owners

Proposer's recommendation of governance route	Standard Governance modification with assessment by a Workgroup

Who can I talk to about the change?	**Proposer:** Terry Baldwin Terry.Baldwin@nationalgrideso.com 07814 778 118	**Code Administrator Contact:** Ian Ascroft Ian.ascroft@nationalgrideso.com 07929 654061

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What is the issue?

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?

Distribution Network Operators (DNOs) have an obligation to not connect DG where they determine the DG to be a Relevant Embedded Small or a Relevant Embedded Medium Power Station and 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.

This caters for single connections, viewed in isolation. However, aggregated assessment of DG (either via TIA or bulk SoW submissions) that have or may have an impact on NETS is needed given increasing amounts of embedded generation.

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 also determine the ETI Trigger Criteria for each GSP, which will in-turn determine if a TIA or SoW is required.

What is the proposer's solution?

The proposed 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 correctly trigger an ETI, information is required from the TOs for each Grid Supply Point. The table below displays the required information and is suggested as a template to be entered into STCP 18-4.

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ETI trigger Criteria table

- Any single or group of generators which falls below all the TIA 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

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 => 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.

Draft legal text

The legal text will be drafted as part of the workgroup however the current proposed outline changes are as follows:

For the STC SECTION D: PLANNING CO-ORDINATION

- Rename section four from "Statement of works" to "Evaluation of transmission impact (ETI)" with Statement of works moving to a sub heading.

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- At the end of section four add Transmission impact assessment process requirements.

For STCP 18-4

- Rename STCP 18-4 from “Request for a Statement of Works” to “Evaluation of transmission impact (ETI) assessment”
- Update introduction to describe the two routes available
- Change 3.2 to Statement of works process.
- Add a section 3.5 detailing the Transmission Impact Assessment (TIA) process

What is the impact of this change?

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 insofar as it relates to interactions between transmission licensees	**Neutral**
(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.

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(g) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.	**Neutral**

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.

When will this change take place?

Implementation date

Date decision required by
[Insert the date which the decision is required from the Authority - or Panel (if self-governance]

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.

Proposer's justification for governance route
Governance route: Standard Governance modification with assessment by a Workgroup

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The legal text needs development by the working group as well as agreement on the details of how all TOs can follow the same process as there are some differences within the trial period

Guidance on governance routes		
Timescales	**Route**	**Who makes the decision (Governance type)**
Normal	Proceed to Code Administrator Consultation*	Authority (Standard Governance) or Panel (Self-Governance)
	Assessment by a Workgroup**	
Urgent	Proceed to Code Administrator Consultation	Authority (Standard Governance)
	Assessment by a Workgroup	
Fast-track	Straight to appeals window, then implementation	Panel (Self-Governance)

***** This route is for modifications which have a fully developed solution and therefore don't need to be considered by a Workgroup.
****** For modifications which need further input from industry to develop the solution.

Self-Governance Criteria

It depends on the material effect of the modification as to whether it should be subject to Standard or Self-Governance. If you are proposing that your modification should be subject to Self-Governance, you must explain how it meets the below criteria.
The modification is unlikely to discriminate between different STC Parties and is unlikely to have a material effect on:

- Existing or future electricity customers;
- Competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution or supply of electricity,
- The operation of the National Electricity Transmission System
- Matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies
- The STC Panel's governance procedures or the STC Panel's modification procedures

Urgency Criteria

If you are proposing that your modification is Urgent, you must explain how it meets Ofgem's Urgent criteria (below). When modifications are granted Urgency, this enables the us to shorten the standard timescales for industry consultations. Note that the we (Code Admin) must seek Authority approval for this option.
Ofgem's current guidance states that an urgent modification should be linked to an imminent issue or a current issue that if not urgently addressed may cause:

- A significant commercial impact on parties, consumers or other stakeholder(s); or
- A significant impact on the safety and security of the electricity and/or gas systems; or
- A party to be in breach of any relevant legal requirements.

Fast-Track Self-Governance Criteria

This route is for modifications which are minimal changes to the code. E.g. Typos within the codes. If you are proposing that your modification should be subject to Fast-Track Self-Governance, you must explain how it meets the below criteria.
The modification is a housekeeping modification required as a result of an error or factual change, such as:

- Updating names or addresses listed in the STC;
- Correcting minor typographical errors;
- Correcting formatting and consistency errors, such as paragraph numbering, or;
- Updating out of date references to other documents or paragraphs.

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Interactions

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

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

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

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