Workgroup Consultation

CMP298

Updating the Statement of Works process to facilitate aggregated assessment of relevant and collectively relevant embedded generation

Overview: The current Statement of Works process can be inefficient and time-consuming where there are concurrent multiple applications. Network Operators have for a number of years 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). CMP298 seeks to introduce this process into the CUSC, which will sit alongside the current Statement of Works process.

Modification process & timetable

1. **Proposal Form**
   27 April 2018
2. **Workgroup Consultation**
   12 August 2021 – 10 September 2021
3. **Workgroup Report**
   21 October 2021
4. **Code Administrator Consultation**
   08 November 2021 – 29 November 2021
5. **Draft Modification Report**
   9 December 2021
6. **Final Modification Report**
   05 January 2022
7. **Implementation**
   10 working days after Authority Decision with 24 month Transition period

Have 5 minutes? Read our Executive summary

Have 20 minutes? Read the full Workgroup Consultation

Have 30 minutes? Read the full Workgroup Consultation and Annexes.

Status summary: The Workgroup are seeking your views on the work completed to date to form the final solution(s) to the issue raised.

This modification is expected to have a: Medium impact on Distribution Network Operators (DNOs), Transmission Owners (TOs), Embedded generators and the ESO

Governance route	Standard Governance Route with Workgroup	
Who can I talk to about the change?	**Proposer:** Grahame Neale Grahame.Neale@nationalgrideso.com 07787 261242	**Code Administrator Contact:** Paul Mullen Paul.j.mullen@nationalgrideso.com 07794 537028

How do I respond?	Send your response proforma to cusc.team@nationalgrideso.com **by 5pm on 10 September 2021.**

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Executive summary

The current Statement of Works process can be inefficient and time-consuming where there are multiple concurrent applications. Network Operators have for a number of years 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). CMP298 seeks to introduce this process into the CUSC, which will sit alongside the current Statement of Works process.

What is the issue?

Under section 6.5 of the Connection and Use of System Code (CUSC)[1], Distribution Network Operators (DNOs) have an obligation to not connect DG where they determine the DG to be a Relevant Embedded Small[2] or Relevant Embedded Medium Power Station[3] 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 that have or may have an impact on NETS is needed given increasing amounts of embedded generation.

Network Operators have for a number of years 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 NETS. This process needs to be incorporated within the CUSC.

[1] The CUSC is available to view here - https://www.nationalgridNGESO.com/codes/connection-and-use-system-code-cusc?code-documents

[2] "Relevant Embedded Small Power Station" is an Embedded Small Power Station that the User who owns or operates the Distribution System to which the Embedded Small Power Station intends to connect reasonably believes may have a significant system effect on the National Electricity Transmission System

[3] "Relevant Embedded Medium Power Station" is an Embedded Medium Power Station which is an Exempt Power Station, and does not intend to be the subject of a Bilateral Agreement

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

Proposer's solution:

Update CUSC Section 6.5 and definition of "Relevant" to facilitate assessment of relevant embedded small or medium power stations or 'collectively relevant' power stations on an aggregated basis in line with the "trials" that have been undertaken over the past few years and link the definition of "Relevant" to a defined level of MW.	Introducing the high-level process between National Grid ESO and DNOs for Appendix G updates (currently outlined in the BCAs for GSPs involved in the trials undertaken over the past few years.	Update CUSC exhibits currently used for the Statement of Works (and Project Progression) process to facilitate the aggregated application and assessment process to be introduced.	Retain existing Statement of Works & Project Progression process for where single applications are still required; however, make a small change to clarify that multiple projects can be applied for at the same time (i.e. bulk Statement of Works applications.

Implementation date:
10 working days after Authority Decision. However, there will be a 24 months transition period to allow existing Appendix G contracts to be transferred to the new Transmission Impact Assessment arrangements.

Summary of potential alternative solution(s) and implementation date(s):
No potential alternative solutions raised at this stage.

What is the impact if this change is made?

This change allows more efficient operation and management of the NETS as there would be more efficient DNO/ESO connection processes.

CMP298 will provide long term benefits to consumers (by, in the view of the Proposer, allowing more projects to connect and so provide more competition in the generation market). However, an alternative view is that whilst this change speeds up the current process, that does not necessarily equate to more projects connecting.

This change will have a high importance to DNO's and their individual customers who will get certainty of the Transmission implications earlier and whose connections could be accelerated by the modification.

CMP298 will also ensure consistency in treatment of new connectees across the country.

Interactions

Current thinking is that a new STCP will need to be introduced into the STC.

There will also need to be changes to the Connection Site Specification which will need to include the TO – ESO equivalent of the Appendix G and would become a "live" document and therefore updated more frequently.

The Workgroup also highlighted the potential interaction between CMP298 and GC0117. Currently, the Statement of Works and Confirmation of Project Progression processes are only applicable to 'Small' or 'Medium' generators; the proposed Transmission Impact Assessment process will mirror this. GC0117 is aiming to reduce the threshold for a 'large' generator to align it across the whole of GB, as it is currently different between the respective Transmission Owner areas. Should GC0117 be approved, this will mean fewer projects will be able to use the Statement of Works / Confirmation of Project Progression or Transmission Impact Assessment processes compared to today without further CUSC modification changes to create additional products and/or revise existing projects to accommodate the new, lower 'large' threshold. This is currently not in the scope of CMP298 due to GC0117 still being under development.

The Workgroup also briefly discussed whether or not there was interaction between CMP298 and CMP376, which is seeking to implement the queue management process in to CUSC including introducing a right for the Electricity System Operator (ESO) to terminate contracted projects which are not progressing against agreed milestones. The CMP298 Workgroup do not believe there is any interaction as the queue management process looks at terminating the Transmission or Distribution projects that have not met their agreed milestones rather than the ESO-DNO contractual arrangements.

There is no expected impact on the EBR Article 18 T&Cs.

What is the issue?

Under section 6.5 of the Connection and Use of System Code (CUSC)[4], Distribution Network Operators (DNOs) have an obligation to not connect DG where they determine the DG to be a Relevant Embedded Small[5] or Relevant Embedded Medium Power Station[6] 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[7]. This reflects single connections, viewed in isolation. However, aggregated

[4] The CUSC is available to view here - https://www.nationalgridNGESO.com/codes/connection-and-use-system-code-cusc?code-documents

[5] "Relevant Embedded Small Power Station" is an Embedded Small Power Station that the User who owns or operates the Distribution System to which the Embedded Small Power Station intends to connect reasonably believes may have a significant system effect on the National Electricity Transmission System

[6] "Relevant Embedded Medium Power Station" is an Embedded Medium Power Station which is an Exempt Power Station, and does not intend to be the subject of a Bilateral Agreement

[7] It is difficult to understand what the impact is and whether or not it relates to an expenditure of more than £10,000 until the study has been completed

assessment of DG that have or may have an impact on NETS is needed given increasing amounts of embedded generation.

Network Operators have for a number of years 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 NETS. Aggregated assessment enables the ESO to consider the cumulative effect of multiple embedded power stations which might not, on their own, carry a significant impact to the NETS but when viewed collectively will do so. Therefore, the CUSC needs to be updated to formally allow such an aggregated assessment.

What is the solution?

Proposer's solution

Update CUSC Section 6.5 and definition of "Relevant" to facilitate assessment of relevant embedded small or medium power stations or 'collectively relevant' power stations on an aggregated basis in line with the "trials" that have been undertaken over the past few years and link the definition of "Relevant" to a defined level of MW	Introducing the high-level process between National Grid ESO and DNOs for Appendix G updates (currently outlined in the BCAs for GSPs involved in the trials undertaken over the past few years	Update CUSC exhibits currently used for the Statement of Works (and Project Progression) process to facilitate the aggregated application and assessment process to be introduced.	Retain existing Statement of Works & Project Progression process for where single applications are still required; however, make a small change to clarify that multiple projects can be applied for at the same time (i.e. bulk Statement of Works applications.

Workgroup considerations

The Workgroup convened 10 times to discuss the perceived issue, detail the scope of the proposed defect, devise potential solutions and assess the proposal in terms of the Applicable Code Objectives.

Consideration of the Proposer's solution

Current Process

The ESO Workgroup Member set out the current process that is currently set out in CUSC 6.5 to manage single or 'bulk' applications of specific Distributed Generators at a Grid Supply Point (GSP). In this process, a DNO would need to follow a 'two step' process – Statement of Works (SoW) and Confirmation of Project Progression (CoPP) process where they believe their embedded generation (<30 MW or <10MW in Scotland and <100MW in England and Wales) will have an impact on the transmission network. These two processes are explained in the table below:

Statement of Works – a process to determine if a Distributed Generator (or Generators) has a transmission impact. It provides a letter which states a 'yes' or 'no' answer and does not provide detail as to what the impact is or how the impact can be managed.	**Confirmation of Project Progression** – a process to determine what impact a Distributed Generator (or Generators) has on the transmission network. Project Progression provides details of how the transmission impact can be managed with any associated costs and timescales for delivery provided via a Construction Agreement, or where a technical requirement only, the variation of the existing Bilateral Connection Agreement and associated technical Appendices.

These processes are also explained further in the "Evaluation of Transmission Impact Product Document", which has been produced by the ESO and the DNOs and is set out in Annex 3. This document has evolved considerably since CMP298 was originally raised particularly during 2020. It seeks to clarify the processes and products that the ESO and DNOs will follow and remove ambiguity in the terminology used.

The current SoW/CoPP process is defined as the "Statement of Works and Project Progression Product" in the "Evaluation of Transmission Impact Product Document".

Note that a full review of the current SoW/CoPP process is not within the scope of CMP298; however, formally allowing 'bulk' SoW/CoPP applications is within scope. The ESO have no plans to remove this process from the CUSC.

Rationale for new Process

The Workgroup noted the shortcomings of the current Statement of Works (SoW) process as it exists in its current form. There continues to be a tangible growth in Embedded Generation and the current SoW process can be time consuming and cumbersome. In addition, the current SoW process is not fit for purpose (for areas with large amounts of Embedded Generation) due to the fact that it can take up to 12 months to complete from an initial Distributed Generator's (DG) application to the respective DNO.

The Proposer is therefore proposing the introduction of a new product – a Transmission Impact Assessment. This creates a framework where information on the capability of the NETS is obtained in advance, allowing DNOs to make offers that the DG can accept and therefore provides DG connections with greater certainty. This provides visibility to the DNO of works and/or Site-Specific Technical requirements that are required in order to use the capacity identified for each Grid Supply Point (GSP). The DNO can then allocate and reallocate this capacity to DG on its network in line with documented processes and principles agreed between the ESO and the DNO. This is further defined in the "Evaluation of Transmission Impact Product Document" as the "Transmission Impact Assessment Product"[8]. Since, CMP298 was raised, the majority of DNOs have been trialling the more efficient aggregated assessment (widely known as the "Appendix G" process) and DNOs are seeing the benefits of this improved process. However, this is not detailed in CUSC and it is clear from previous Workgroup discussions that this is being applied inconsistently

[8] Also commonly referred to as the Appendix G process

across different geographic areas, which introduces additional operational overheads, particularly for Transmission Owners (TO's). Therefore, there is a need for the formalisation of this Transmission Impact Assessment (TIA) process in the CUSC to ensure consistency and universal application of the process nationwide to realise the full benefits of the improvements set out.

The TIA process is in line with the process that was agreed with the Open Networks in 2017. A sub-group of CMP298 met separately on 21 April 2021 and 19 May 2021 to ensure consistency between the TIA and the process agreed with the Open Networks and this has been reflected in the Evaluation of Transmission Impact Product Document.

The key components of this new TIA are set out below:

1) General

The TIA product creates a framework where information on the capability of the NETS is determined in advance (taking into account the contracted position on both the transmission and distribution networks), allowing complete offers to be made by DNOs for DG connections, setting out the transmission impact, within the DNO offer licence timescales and can be accepted by the DG without further reference to the ESO. This provides visibility to the DNO of works and/or Site-Specific Technical requirements that are required in order to use the capacity identified for each GSP. The DNO can then allocate and reallocate this capacity to DG on its network in line with documented processes and principles agreed between the ESO and the DNO.

Through this approach, it is possible for the NETS impact of a generator to be known by the DNO and so allow the DNO to proactively manage the Distributed Generation capacity at a specific GSP, whilst ensuring that the NETS capacity remains equally accessible for both distribution and transmission customers.

The TIA product consists of three parts;

1. **Initial setup** where the ESO provides a Planning Limit (a "cap"), a Materiality Trigger (a "checkpoint") and indicative works.
2. **Regular updates** (normally monthly or as otherwise agreed) from the DNO to the ESO on the utilisation of the Materiality Trigger.
3. **Technical Study Review**. The 'Materiality Trigger' set at GSP level requires submission of updated technical data from the DNO to the ESO to facilitate a technical review of the status of the NETS by the ESO. The DNO can submit a technical review request for a GSP at any point (i.e. the DNO does not need to wait for the Materiality Trigger to be fully used to request an uplift/increase) subject to accepting either any associated change to the BCA or Connection Offer from the ESO. The Materiality Trigger process needs to be explored further post Workgroup Consultation including the level of application the ESO will charge the DNO for carrying this out – the expectation is that this will not be a full Modification Application fee.

2) Planning Limit / Materiality Trigger

The two key components are the **Planning Limit** and the **Materiality Trigger** and both of these concepts are defined in the legal text for this change. These concepts are summarised in the table below

	Planning Limit (the "Cap")	Materiality Trigger (the "Checkpoint")
What?	The physical capability[9] of part of the NETS to accommodate generation connections, whether connected directly to the transmission or distribution networks i.e. a Cap	Acts as a checkpoint to monitor progress before the Planning Limit is reached and the safety/security of the NETS is placed at risk.
Who determines this figure?	Ultimately it is the ESO; however it is the Relevant TO that set the figure	Ultimately it is the ESO; however it is the Relevant TO that set the figure
Can DNOs continue to make Offers?	**Only up to the Planning Limit** - should the DNO reach the Planning Limit, all subsequent offers must become subject to a TIA	**Yes**; however, when the 'Materiality Trigger' is reached the DNO provides updated technical data to the ESO and continues to make offers under existing limits until the ESO advise of changes or the Planning Limit is reached.

What is the Process when the "Materiality Trigger" is reached?

- When the 'Materiality Trigger' is reached the DNO provides updated technical data to the ESO and continues to make offers under existing limits until the ESO advise of changes or the Planning Limit is reached.

- Once the ESO and the DNO agree revised contract terms, the Planning Limits and associated NETS works required are updated and the 'Materiality Trigger' is set.

The Proposer noted that how and when a DNO assigns, reassigns or manages capacity granted by the ESO to DGs connecting to its network is within the gift of the DNO. This does mean the DNO may need to use interactivity and/or queue management processes to assign capacity to DG if the DNO has insufficient capacity for all the offers the DNO has. The ESO will not approve the data provided by the DNOs (such as how available capacity is assigned) but will review the regular updates to ensure the rules agreed between ESO and DNOs are followed.

Whilst the capacity identified as part of the Planning Limit study is not for the DNO's exclusive use, the ESO will not be able to use or reduce any of the available capacity given

[9] i.e. the maximum power export that the NETS can accommodate (without further reinforcement)

to the DNO without first approaching the DNO and triggering an interactivity process. If the ESO triggers a revision of Planning Limits (e.g. as a result of connections/disconnections or works on the NETS), the DNO will assess if any DG are affected and notify ESO within 10 working days. If there is no impact on any DG (i.e. there is no interactivity), then the Planning Limits are updated. If there is an impact on any DG, then the interactivity process will be used to determine Transmission/Distribution queue positions.

Further details and worked examples are set out in Annex 3 of this document.

Key Discussion Points

- The Workgroup acknowledged that using the Planning Limit is a cornerstone to this process. However, the term Planning Limit means different things to different people as this is based on engineering judgement and there is no pan-agreed DNO application of how the Planning Limit is derived. The process for determining the Planning Limit is complex and the Workgroup agreed that a harmonised approach across all DNOs is not within the scope of this change.
- The Workgroup noted that the Planning Limit is not a number that can be contractualised in individual BCAs and "Total MW" would be a more appropriate number in an individual BCA but would still need the concept of Planning Limit. A Workgroup Member suggested using new terms such as "Holding Limit" (for the Planning Limit) and "Review Limit" (for the Materiality Trigger); however this was felt to add confusion rather than help clarify.
- Some Workgroup Members believed that the Planning Limits for each GSP should be published – this is discussed further in the "Implementation Approach" section of this document.

3) Application/Validation Fee

The Proposer's intention is to introduce new fees for the additional work that the Transmission Impact Assessment product places on the ESO. These fees are for:

1. **Initial creation of Transmission Impact Assessment or request to increase the Materiality Trigger**; and
2. **Validation of updated data on the utilisation of the Materiality Trigger** – the Proposal includes an obligation for the ESO to review the DNO's data to ensure the requirements of the TIA are met. The proposed process includes:
    - An obligation on the ESO to confirm acceptance or rejection within 2 working days noting that these changes would be deemed to be accepted if the ESO had not approved/rejected within 5 working days. A Workgroup Member noted that the intent of CMP298 is for the DNO to be able to make offers that the DG can accept without further reference to the ESO, and this validation undermines that intent. The Workgroup Member believes a better approach is for the proposed changes to be deemed to be accepted with an agreed disputes process by exception. The Proposer noted that there isn't currently a disputes process for this purpose.

Workgroup Consultation Question: Do you believe it is appropriate for the ESO to approve/reject the changes to Appendix G proposed by the Distribution Network Operators or is it sufficient that such changes are deemed to be accepted with a disputes process by exception. Please provide the rationale for your response.

A fee may be payable by the DNO should these requirements not be met. Details of this fee will be detailed in the ESO's Statement of Use of System Charges. The Proposer initially sought to charge DNOs a fee to validate the DNO monthly submissions. The majority of the Workgroup raised concerns that this was unreasonable as it would be the DNO carrying out the work. The Proposer noted these concerns and confirmed that the 'validation fee' would be a cost reflective value that would only be applied in instances where the DNO has not complied with the requirements of the product and that their only premise to "reject" is if something in Appendix G Schedule 2 has not been followed correctly and so these fees are entirely avoidable should the DNO have accurate data and follow the agreed process.

Workgroup Consultation Question: Do you believe it is appropriate for the ESO to charge the Distribution Network Operators an application fee and/or a validation fee for their data to ensure the requirements of the Transmission Impact Assessment are met?

Other Workgroup discussion points not in scope of CMP298

Regional Development Programme (RDP) product

The Workgroup noted that there are ongoing wider trials to solve specific challenges in particular DNO areas.

Workgroup Members were keen that this RDP product was also defined in the CUSC. The majority of the Workgroup challenged the ESO's position on not including the Regional Development Programme (RDP) product within CMP298 given this is what was originally intended and is what stakeholders are expecting.

However, the ESO Workgroup Member considered this to be out of scope of the CMP298 change and noted that RDP is not itself a product but a process which may result in connection requirements to be used in current products or the development of future products. As an example, the TIA product was an evolution of earlier trial products and could include additional requirements for the DNO to manage the embedded generation on their network such as providing enhanced visibility and control. Some Workgroup Members noted that they can see why it is difficult for the ESO to introduce it as there is a commercial and future Distribution System Operator ambition element to consider. They also noted that for the RDP trial, there is some constraint management and added difficulty to implementation. However, other Workgroup Members saw this as an opportunity to add the required wording into the CUSC whilst the RDP trials were progressing rather than wait until they had concluded or were sufficiently far down the track to provide certainty on the CUSC changes required. Workgroup Members enquired when the RDP way of working may be introduced into CUSC. The Proposer clarified that RDP is not a product (like SoW/CoPP or TIA) in itself, but a way of working to find solutions to network issues that can be formalised and delivered via the TIA product.

Bilateral Embedded Generation Agreements (BEGAs) and Bilateral Embedded Licence Exemptible Large Power Station Agreement (BELLAs)

The ESO Workgroup representative confirmed that BEGAs and BELLAs were not within the scope of CMP298 as such agreements are between the ESO and the embedded generator and neither follow the current SoW/CoPP processes. Furthermore, BELLAs are entered into for "Large" (but <100MW) sites and BEGAs provide direct access to the NETS

by providing the embedded generator with Transmission Entry Capacity (TEC)[10] and rights to operate in the energy balancing market.

A Workgroup Member noted that Network Operators need to continue to encourage their DG customers to apply as early as possible for the required transmission agreements.

Clock Start Date and Interactivity

In order to "clock start" a connection[11] application from a User to the ESO, the application must have been declared technically competent by the ESO and the application fee paid[12].The clock start date will be the latter of these two requirements and ESO will be required to provide an offer to the applicant within 3 calendar months (or 28 calendar days if no works required). Some DNO Workgroup Members noted they declare clock start upon receipt of an application if it is valid rather than when the DNO looks at it, and there is the provision to 'reset the clock' if the application is not valid.

In the earlier Workgroup discussions, some DNO Workgroup Members argued that the Clock Start Date was relevant to CMP298 as the Clock Start Date is used in the interactivity process. Interactivity occurs where an offer for connection to a customer is due to be made but the provision of this offer would affect the terms of another offer which is currently open for acceptance or is also due to be made. Interactivity can occur within a DNO's network (which will be managed by the DNO's interactivity processes), between DNOs and between Distributed and Transmission Generators (both of which will be managed by the ESO's interactivity processes). Both the Statement of Works and Project Progression and Transmission Impact Assessment products can be affected by interactivity and so the ESO and all DNOs have processes to manage interactive offers.

The Workgroup since noted that work to harmonise the processes for managing interactivity across transmission and distribution connections including demand connections) has been carried out separately via the Energy Networks Association and an agreed position has been reached. CMP370 has been raised to reflect this and this confirmed that no STC changes were required in this respect. Given the linkage between Clock Start Date and interactivity, review of the Clock Start Date is not within the scope of CMP298. However, a Workgroup Member noted that if a DG and Transmission Generator submitted a technically competent (and the application fee had cleared) application at the same time, the Clock Start Date for the DG application would be earlier than the Clock Start Date for the Transmission Generator application. This is because the Clock Start Date for the DG application is the date the application was received and the Clock Start Date for the Transmission Generator would be the date when it is assessed.

The current significant impact defined as expenditure of more than £10,000

CUSC Section 11 includes the following definition of "Material Effect", which equates such an effect to expenditure of more than £10,000

[10] A maximum capacity that a generator is allowed to export capacity into the transmission network
[11] Could be for a new connection, modification to an existing application or connection or a use of system application
[12] This is set out in the application form which are Exhibits to the CUSC (Exhibits B, D, F and Q)

"Material Effect"	an effect causing **The Company** or a **Relevant Transmission Licensee** to effect any works or to alter the manner of operation of **Transmission Plant** and/or **Transmission Apparatus** at the **Connection Site** or the site of connection or a **User** to effect any works or to alter the manner of operation of its **Plant** and/or **Apparatus** at the **Connection Site** or the site of connection which in either case involves that party in expenditure of more than £10,000;

CUSC 6.5.5.6 and 6.5.5.7 specifically notes that significant impact equates to expenditure of more than £10,000, which is line with the overall "Material Effect" definition within the CUSC.

The £10,000 has been used by DNOs to determine whether a DG is "Relevant" or not. However, some DNO Workgroup Members noted that this figure has remained unchanged for many years and it is a fundamental requirement of CMP298 to review an "inaccurate" figure to determine whether or not a DG is "Relevant" or not. However, the Proposer reaffirmed that the materiality threshold of £10,000 is not in the scope of CMP298 as the TOs would have built in an allowance for a number of works under this threshold and there could be unintended knock on consequences. The Proposer therefore suggested that a holistic approach would be needed including liaising with the TOs to work out what the significant impact threshold should be, and this should be progressed as a new modification.

The Workgroup also noted that, for the purpose of CMP298, whether or not a DG is "Relevant" would be defined based on a specified capacity size rather than a £ value. The Workgroup considered this to be a positive change as the MW threshold is clear and visible to the applicant in advance as opposed to the historic £10,000 threshold.

Consideration of generation connection Types A, B, C, D

The Workgroup discussed Requirements for Generators (RfG) types A, B, C and D as per the Terms of Reference.

The CUSC currently does not specifically recognise the RfG connection types A, B, C, and D, but it in fact refers to Small, Medium and Large. Some Workgroup members noted that the challenge is about the amount of embedded generation looking to connect, not the type of generation and therefore this is does not sit within the scope of CMP298.

Draft Legal text

The draft legal text including the new Schedules for this change can be found in Annex 4.

What is the impact of this change?

General

Rapid changes in the industry have led to high volumes of Embedded Generation of varying sizes collectively impacting on the NETS. To assess individual small Embedded Generation in high volumes is both resource intensive and impractical as assessing a new

DG whilst many are still in flight in the process leads to difficulty in creating a benchmark background.

Visibility and understanding of the Planning Limit and known transmission constraints provides the DNO with the ability to make complete offers to Generators (which can then be accepted by the DG) at each GSP, without the need for referral to the ESO. This provides DG customers with certainty of the transmission impact.

For Network Operators and Transmission Owners

CMP298 will also ensure consistency in treatment of new connectees across the country. Consistent processes and contracts and allow flexibility to resolve geographically specific issues. However, the Workgroup noted that the TO in northern Scotland are not currently in a position to offer the TIA as they believe this process is discriminatory as doesn't consider impact of "Large" embedded generation. A Workgroup Member raised an alternative view that the TO in northern Scotland not offering the TIA is potentially "discriminatory" for Users connecting in this area and will not allow the full benefits of this change to be realised. However, some Workgroup Members noted that this is not obligatory for DNOs to offer TIAs but agreed that it should be made clear to all Users why they are not offering TIAs at this time. The Evaluation of Transmission Impact Product Document has been updated accordingly.

DNOs and ESO would be consistent with their licence/code obligations if CMP298 is introduced e.g. DNOs will be able to meet their obligation to provide a connection offer within 65 working days.

The existing process is not providing the ESO and TOs with sufficient visibility of what DG is connecting to DNO networks. This impacts on both investment decisions and also system operability. In addition, the existing process is built around the assumption that the NETS will require transmission reinforcement works to accommodate increasing volumes of DG. However, CMP298 will allow ESO, DNOs and TOs to explore alternative options such as operation or technical measures to reduce the reinforcement required and hence reduce cost to consumers.

For DG

CMP298 will provide long term benefits to consumers (by allowing more projects to connect and so provide more competition in the generation market). It has a high importance to individual customers whose connections could be accelerated by the modification.

If CMP298 is introduced, DNOs would receive sufficient information in a timely manner to allow them to provide their customers with a full offer. Customers of DNOs have for some time expressed dissatisfaction with the timeliness of information on the NETS (both cost and timescales) of their connection applications. This results in them not getting the right information in a timely manner to make an investment decision.

Workgroup Consultation Question: Will the CMP298 Original Proposal impact on your business. If so, how?

Proposer's assessment against Code Objectives

Proposer's Assessment against CUSC Non-Charging Objectives	
Relevant Objective	**Identified impact**
(a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;	**Positive -** A more efficient process should help the efficient discharge of the ESO's obligations.
(b) Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;	**Positive -** more timely understanding of transmission impact such that embedded generation have information required to make investment decisions which helps to facilitate effective competition
(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	**None**
(d) Promoting efficiency in the implementation and administration of the CUSC arrangements.	**Positive -** This proposal recognises that the process will continue to be refined for some time and as such the suggested solution is one that will not require to be updated often - promoting efficiency in the implementation and administration of the CUSC arrangements.
*Objective (c) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).	

Workgroup Consultation Question: Do you believe that CMP298 Original proposal better facilitates the Applicable Objectives?

When will this change take place?

Implementation date:
10 working days after Authority Decision. However, there will be a 24 months transition period to allow existing Appendix G contracts to be transferred to the new Transmission Impact Assessment arrangements.

Date decision required by
As soon as possible but Open Networks were keen for a summer 2021 conclusion; however, this has not been possible given the time taken to agree the wording of the Evaluation of Transmission Impact Product Document and the Legal Text.

The Workgroup also agreed it was prudent for the CUSC and STC changes to be issued to the Authority at the same time so the Authority could make a decision with both the CUSC and STC changes in front of them.

Implementation approach

The Workgroup's initial view is that there would need to be a 24 month transition period to update the contractual arrangements. The Workgroup also noted that data on each GSP would be published by the ESO for stakeholders to access. There are resource implications therefore on the ESO, DNOs and TOs both on the contractual arrangements and creation and maintenance of the data to be published. Further thoughts on the contractual arrangements and data publication are set out below:

- **Contractual arrangements**

  The Workgroup noted that each GSP (unless clearly identified that a SoW is in place instead) would need a TIA in the format prescribed by CMP298 and agreed that for those GSPs which currently have an Appendix G, there would be need to a variation Agreement to move these GSPs to the new TIA requirements. This could be done via a Modification Notice or at the same time as the GSP specific Appendix G is updated.

  The Workgroup noted that the TOs would need to be involved in this process, predominantly on establishing what the Planning Limits would be, and there would a resource impact on the ESO, DNOs and TOs to carry out the required studies to define the Planning Limits and put in place contractual arrangements.

  The Workgroup therefore believed there would need to be a transition period for those GSPs already on an Appendix G. They noted that some GSPs would be on an Appendix G that is more in line with the new proposed TIA and agreed there would be less effort associated with these than GSPs on an earlier version of Appendix G. The Workgroup compiled the following table to try and establish how the process would work and gauge potential timings.

Scenario	How many?	Effort expected	Changes required	How	What additional data is required?
GSPs already on an Appendix G that is in line with the TIA process	12	Low	Simply move to the new TIA template	Modification Notice from ESO to DNO or at the same time as the GSP specific Appendix G is updated via a Modification Offer	TBC post Workgroup Consultation but data requirements will be minimal
GSPs on an Appendix G that not currently in line with the TIA process	~200	High	Data and study work needed from DNOs and TOs, which could take 7-9 months and a further 3 months to get the contracts in place	Modification Offer from ESO to DNO	TBC post Workgroup Consultation

- **Publication**

The Workgroup noted the importance of publishing which GSPs are on SoW/CoPP and which have a TIA. Appendix Gs are currently published by each DNOs but the Workgroup stated that a central list held by the ESO would be a more robust solution. The Workgroup proposed the following:

Grid Supply Point	Distribution Network Operator	Transmission Impact Assessment or Statement of Works/Confirmation of Project Progression	Active Power (MW))	Apparent Power (MVA)	Reactive Power (MVar)	Comments *– if TIA is for a site below the minimum MW threshold or why a TIA is not currently an option*
X	*X*	*[TIA or SoW/CoPP]*	*[X MW or n/a]*	*[X MVA or n/a]*	*[X MVar or n/a]*	

This data would need to be updated on a monthly basis and time stamped. Each DNO would need to as a minimum, every 6 months to tie in with Bi-annual Connection security processes verify that the data is correct.

Ideally, "Materiality Trigger" and "Planning Limit" would be added to this table; however, the Workgroup recognised that the "Materiality Trigger" and "Planning Limit" itself would not necessarily be of use to stakeholders as stakeholders want to understand what is available i.e. how close to the "Materiality Trigger" and "Planning Limit" the GSP is. However, at this time, the Proposer noted that the ESO are not in a position to manage such a "live" dataset.

Workgroup Consultation Question: Do you support the proposed implementation approach?

Workgroup Consultation Question: The CMP298 Workgroup have proposed that the ESO should publish a central list of which GSPs are on Statement of Works/ Confirmation of Project Progression and which are on Transmission Impact Assessment. They have also suggested what should be included and set a minimum timescale. Do you agree that this data should be centralised and hosted by the ESO and if so, do you have any comments on the proposed content and timing? Please provide the rationale for your response.

Interactions

☐ Grid Code	☐ BSC	☒ STC	☐ SQSS
☐ European Network Codes	☐ EBR Article 18 T&Cs[13]	☐ Other modifications	☐ Other

[13] If the modification has an impact on Article 18 T&Cs, it will need to follow the process set out in Article 18 of the European Electricity Balancing Regulation (EBR – EU Regulation 2017/2195) – the main aspect of this is that the modification will need to be consulted on for 1 month in the Code Administrator Consultation phase. N.B. This will also satisfy the requirements of the NCER process.

How to respond

Standard Workgroup consultation questions

1. Do you believe that the CMP298 Original proposal better facilitates the Applicable Objectives?
2. Do you support the proposed implementation approach?
3. Do you have any other comments?
4. Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?

Specific Workgroup consultation questions

5. Do you believe it is appropriate for the ESO to approve/reject the changes to Appendix G proposed by the Distribution Network Operators or is it sufficient that such changes are deemed to be accepted with a disputes process by exception? Please provide the rationale for your response.
6. Do you believe it is appropriate for the ESO to charge the Distribution Network Operators an application fee and/or a validation fee for their data to ensure the requirements of the Transmission Impact Assessment are met?
7. The CMP298 Workgroup have proposed that the ESO should publish a central list of which GSPs are on Statement of Works/ Confirmation of Project Progression and which are on Transmission Impact Assessment. They have also suggested what should be included and set a minimum timescale. Do you agree that this data should be centralised and hosted by the ESO and if so, do you have any comments on the proposed content and timing? Please provide the rationale for your response.
8. Will the CMP298 Original Proposal impact on your business. If so, how?

The Workgroup is seeking the views of CUSC Users and other interested parties in relation to the issues noted in this document and specifically in response to the questions above. Please send your response to cusc.team@nationalgrideso.com by **5pm on 10 September 2021** using the response pro-forma which can be found on the CMP298 modification page.

In accordance with Governance Rules if you wish to raise a Workgroup Consultation Alternative Request please fill in the form which you can find here.

If you wish to submit a confidential response, please note that information provided in response to this consultation will be published on National Grid ESO's website unless the response is clearly marked "Private & Confidential", we will contact you to establish the extent of the confidentiality. A response marked "Private & Confidential" will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the CUSC Modifications Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response. Please note an automatic confidentiality disclaimer generated by your IT System will not in itself, mean that your response is treated as if it had been marked "Private and Confidential".

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
CoPP	Confirmation of Project Progression
CUSC	Connection and Use of System Code
DG	Distributed Generator (a generator who is connected or planning to connect to a DNO or Independent DNO)
DNO	Distribution Network Operator
EBR	Electricity Balancing Regulation
ESO	Electricity System Operator
GSP	Grid Supply Point
NETS	National Electricity Transmission System
SoW	Statement of Works
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
TEC	Transmission Entry Capacity
TIA	Transmission Impact Assessment
TO	Transmission Owner

Reference material

None

Annexes

Annex	Information
Annex 1	Proposal Form
Annex 2	Terms of Reference
Annex 3	Evaluation of Transmission Impact Product Document
Annex 4	Legal Text