Final Modification Report

CMP328:
Connections Triggering Distribution Impact Assessment

Overview: This Modification proposes to put in place a process to be utilised when any connection triggers a Distribution Impact Assessment (DIA). Ensuring, in the view of the Proposer, that the process in place for such connections best reflects the necessary contractual relationship of parties involved.

Modification process & timetable

1. **Proposal Form**
   28 November 2019
2. **Workgroup Consultation**
   19 February 2021 - 19 March 2021
3. **Workgroup Report**
   16 September 2021
4. **Code Administrator Consultation**
   27 September 2021 – 18 October 2021
5. **Draft Modification Report**
   21 October 2021
6. **Final Modification Report**
   10 November 2021
7. **Implementation**
   TBC

Have 5 minutes? Read our Executive summary

Have 20 minutes? Read the full Final Modification Report

Have 30 minutes? Read the full Final Modification Report and Annexes.

Status summary: Final Modification Report. This Report has been submitted to the Authority for them to decide whether this change should happen.

Panel Recommendation: The Panel held their recommendation vote on 29 October 2021. The CUSC Panel by majority recommended that the CMP328 Original, WACM1 and WACM2 better facilitated the CUSC objectives than the current CUSC.

This modification is expected to have a: Medium impact Distribution Network Operators (DNO), ESO, Transmission Owners and Transmission Users.
Note: This proposed Connection and Use of System Code (CUSC) Modification would only apply to those who connect in the future. It will have no impact on those already connected.

Governance route	Standard Governance - This modification has been assessed by a Workgroup and Ofgem will make the decision on whether it should be implemented.	
Who can I talk to about the change?	**Proposer:** Joanna Knight Joanna.Knight@sse.com Phone: 07342 028473	**Code Administrator Chair**: Paul Mullen paul.j.mullen@nationalgrideso.com Phone: 07794537028

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Executive summary

This Modification proposes to put in place a process to be utilised when any connection triggers a Distribution Impact Assessment (DIA). Ensuring, in the view of the Proposer, that the process in place for such connections best reflects the necessary contractual relationship of parties involved.

What is the issue?

Currently within the CUSC there is no mechanism or specific process covering arrangements for Transmission connections that could have an impact on the Distribution system. ESO have utilised the Third-Party Works (TPW) process for this purpose. However, the Proposer believes that the TPW process is not fit for this purpose.

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

Proposer's solution:

Creation of a new Distribution Impact Assessment Process with the following key characteristics:

DIA process applies to all new connecting assets >= 1MVA unless agreed otherwise* including, but not limited to, those from Independent DNOs, DNOs, TOs, Offshore TOs and Interconnectors (as well as Generation and Demand ** The final decision on whether a DIA is required will sit with the DNO but clear reasoning for this decision will be provided to the ESO to pass to the Transmission User*	**Embedded Users that hold Transmission Entry Capacity (TEC) and those that do not hold TEC are included in DIA assessment. However, Embedded TEC Users will not see their access rights constrained under this process**	**Transmission User* choice as to whether or not to trigger the DIA after Original Offer has been signed or run in parallel with the normal Offer process** **via the ESO*
Contractual Arrangements will be between the ESO and Transmission User, and the ESO and the DNO. The ESO will trigger the DIA on behalf of the Transmission User and the DNO will send an Offer (rather than a DIA Conclusions Report) to the ESO	**The DIA works will be published by the DNOs on their Distribution Works Register (the existing Embedded Capacity Register)**	**This change does not seek to amend nor remove the existing TPW process**

Implementation date for CMP328 Original Proposal: 6 months after Authority decision* – more details in the "When will this change take place?" section later in this document.

Summary of potential alternative solution(s) and implementation date(s):

Alternative Solution(s)	Details	Implementation Date
WACM1	Enhance the current TPW Works process	1 month after Authority decision
WACM2	As per the Original but use applicability criteria rather than blanket 1MVA threshold; and DNO will send a DIA Conclusions Report (rather than an Offer) to the ESO	12 months after Authority decision

Workgroup conclusions: The Workgroup concluded by majority that each of the Original, WACM1 and WACM2 better facilitated the CUSC Objectives than the Baseline (the current CUSC).

Workgroup Members voted that the Original was the best option with 1 vote cast for each of WACM1 and WACM2.

What is the impact if this change is made?

In the view of the Proposer, this change will provide a significant benefit to Transmission Users as it will establish a process with agreed timescales and costs known upfront for the Transmission User. Additionally, this change will allow for a linear process with a single point of contact for the transmission User and a single company to deal with, utilising existing contractual arrangements and reducing the risk that contracts will cut across each other. Some Workgroup Members noted that the 1MVA threshold, proposed in the CMP328 Original, could lead to unnecessary DIAs being raised. This has been somewhat mitigated as the Proposer, following this feedback, have amended their Original Proposal to allow flexibility for DNOs as to whether a DIA is needed (even if it meets the MW/MVA criteria).

However, the Proposer of WACM2 favours an approach based on technical parameters with associated qualifying thresholds at each GSP. Under this approach, the ESO would need additional processes in place to ensure publication of such thresholds on a regular basis and each DNO would need processes to ensure their limits for each criteria are available and kept up to date. The DNO Workgroup Members raised concerns on the amount of work they would need to do to populate the data for each GSP in the first instance (and maintain it) and noted they already have data obligations to provide Week 24 and "Appendix G"[1] data requirements.

[1] This is data about distributed generators connecting to the distribution system and is being progressed through CMP298. CMP328 is looking at data on the distribution network itself so would be additional requirement to "Appendix G" data

The Proposer of the WACM1 does not believe there is a need for a new DIA process and believe "enhancing" the current TPW process will suffice – this view is not shared by the majority of the Workgroup.

Interactions

Interactions have been identified related to DCUSA and STC – these are detailed further in the "Interactions" section of this document.

This modification has no interactions with EBR Article 18 Terms and Conditions.

What is the issue?

Currently within the CUSC there is no mechanism or specific process covering arrangements for Transmission connections that could have an impact on the Distribution system. Impacts are primarily direct physical impacts including but not limited to Fault Level rating, Thermal rating, Voltage control, Power Quality, Control and Protection systems. Impacts are also commercial where explicit transmission access rights that the Distribution system owner or embedded Users may have is impacted, and where commercially sensitive data, is held only by the ESO and the relevant CUSC Users and only publicly available in part. Without this modification there is not an appropriate process in place as a means of a transmission User facilitating connections that trigger Distribution impact assessments that covers both physical impacts and explicit transmission access rights impacts.

The ESO are currently using the TPW process have proposed further enhancing the TPW process to address concerns raised. The Proposer does not believe that the TPW process is fit for this purpose.

The Proposer also considers that an appropriate charge is levied, and appropriate timescales are set for the impact assessment to be carried out by the DNO. However, a Workgroup Member noted that DNOs have the ability to apply a charge under the current TPW process if they so wish.

What is the solution?

Proposer's solution

Creation of a new Distribution Impact Assessment Process with the following key characteristics:

DIA process applies to all new connecting assets >= 1MVA unless agreed otherwise* including, but not limited to, those from Independent DNOs, DNOs, TOs, Offshore TOs and Interconnectors (as well as Generation and Demand	**Embedded Users that hold Transmission Entry Capacity (TEC) and those that do not hold TEC are included in DIA assessment. However, Embedded TEC Users will not see their access rights constrained under this process**	**Transmission User* choice as to whether or not to trigger the DIA after Original Offer has been signed or run in parallel with the normal Offer process** **via the ESO*

** The final decision on whether a DIA is required will sit with the DNO but clear reasoning for this decision will be provided to the ESO to pass to the Transmission User*		
Contractual Arrangements will be between the ESO and Transmission User, and the ESO and the DNO. The ESO will trigger the DIA on behalf of the Transmission User and the DNO will send an Offer (rather than a DIA Conclusions Report) to the ESO	**The DIA works will be published by the DNOs on their Distribution Works Register (the existing Embedded Capacity Register)**	**This change does not seek to amend nor remove the existing TPW process**

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 Objectives.

Workgroup Discussion on Proposer's solution

DIA process applies to all new connecting assets >= 1MVA including, but not limited to, those from Independent DNOs, DNOs and Interconnectors (as well as Generation and Demand)

The Workgroups prior to the Workgroup Consultation discussed whether this change would apply solely to Tertiary connections. Although the trigger for the Modification was the commencement of Tertiary connections, the Workgroup agreed that the DIA process needs to work for any transmission connection that may have an impact on the distribution system. The Workgroup noted that Statcom providers are CUSC Users and therefore would also be in the scope of CMP328.

Eligibility criteria for the DIA process would be similar to the criteria used by the Statement of Works/Project Progression process – i.e. projects with >= 1MVA which may have an impact on the distribution network (>£10,000 of works on the distribution network). however, the DIA process would apply to all transmission demand applications as well as generation/storage applications.

The requirement for the DIA process to be followed would therefore be known in advance of an application. In comparison, the requirement to follow the TPW process is less transparent as the need to ensure TPW are completed is only formally known when the transmission connection offer is produced and the exact works to be undertaken are known.

Embedded Users that hold Transmission Entry Capacity (TEC) are included in DIA assessment alongside Users that do not have TEC included in the DIA assessment. However, Embedded TEC Users will not see their access rights constrained under this process.

The Workgroup asked for industry views in their Workgroup Consultation as to whether or not Users with TEC and Users without TEC should be included within any DIA assessment. Most respondents believe those embedded Users who have Transmission Entry Capacity (TEC) should be included in the DIA assessment (but more to acknowledge they are in the background and not to reduce their access rights). There was a mix of views as to whether those without TEC should be included in the DIA assessment. The Proposer agreed that Embedded Users that hold TEC are included in DIA assessment alongside Users that do not have TEC but Embedded Users with TEC would not see their access rights constrained.

Transmission User choice as to whether to trigger the DIA after Original Offer has been signed or run in parallel with the normal Offer process

The Proposer confirmed that it will be a choice for the Transmission User as to whether to trigger the DIA after the Original Offer has been signed or run in parallel with the normal Offer process. There was a mix of views expressed in the Workgroup Consultation on this topic. Based on this feedback, the Workgroup agreed that this is a choice for the Transmission User. However, the Workgroup also noted that practically there is insufficient time to complete the DIA within the 90-calendar day Offer window so in practice if the Transmission User requested the DIA as part of their original Connection or Modification Application, the Transmission User will receive an indicative Offer with contractual re-openers to update the Offer when the outcome of the DIA is known.

Contractual Arrangements - ESO will trigger the DIA on behalf of the Transmission User

The following tables sets out how the contractual arrangements would work where the DIA process is run after the Original Offer has been signed. Table 1 relates to the CMP328 Original whilst Table 2 relates to the WACM2. The key difference is that the DNO would make an Offer to the ESO which is replicated back to the DNO in the CMP328 Original, whilst in CMP328 WACM2, the DNO would send a DIA Conclusions Report to the ESO which is translated into an Offer to the DNO.

Table 1 - CMP328 Original Contractual Arrangements

Step	Details
1	Transmission User applies* to ESO and pays the DIA fee. **In practice and as is the case with discussions re: Connections, the Transmission User will invariably have had discussions with the ESO and impacted DNO(s) prior to any formal application*
2	ESO apply using the "DIA Application Form" as set out in Annex 10 of this document to DNO(s) within 15 working days of request and pay the DIA fee as set out in the respective DNO's charging statement.
3	Once DIA fee cleared and technical data received, the clock starts and DNO(s) send DIA Offer (as set out in Annex 10 of this document) to ESO

	within 65 business days and ESO to accept within a further 180 calendar days (unless there is Interactivity)
4	Once in receipt of the Offer, ESO, within 5 working days, send the DIA to the TOs/Affected TOs/Other Affected TOs and ask TOs/Affected TOs/Other Affected TOs (+ pay application fee) to see if any additional works required and Transmission Owner(TO)/Affected TOs send TOCO/ATOCO to ESO within 2 months of the TOCO/ATOCO Clock Start Date as per current STC process.
5	ESO then reflect DNO and TO requirements in their offer to the Transmission User and DNO and give them 90 calendar days to sign Offer. This Offer will include contractual milestones in Appendix J of the Construction Agreement and any restrictions on availability or site-specific or operational requirements in the Bilateral Connection Agreement.
6	If the DNO and Transmission User sign their respective contractual documents, ESO countersign and would then sign the TOCO/ATOCO with TO/Affected TO. The DIA works will be published by the DNOs on their Distribution Works Register (the existing Embedded Capacity Register). A whole system register may be an appropriate mechanism in the future.
7	Reconciliation (to Transmission User) of DIA application fee carried out by ESO – will need actual TO and DNO costs. This assumes that the DIA application fee paid was indicative rather than fixed. For clarity, the DNO application fee (paid by the ESO to the DNO) would be fixed but the application fee paid by the Transmission User to the ESO could be fixed or indicative).
8	The Transmission User will not be able to connect until the works identified in the DIA are completed.
9	The DNO will confirm the final values of any DNO works (in line with their current processes) via updating the DIA Offer, which the ESO will reflect in updated contracts to the Transmission User.

Table 2 – WACM2 Contractual Arrangements

Step	Details
1	Transmission User applies* to ESO and pays the DIA fee. **In practice and as is the case with discussions re: Connections, the Transmission User will invariably have had discussions with the ESO and impacted DNO(s) prior to any formal application*
2	ESO apply using the "DIA Application Form" as set out in Annex 10 of this document to DNO(s) within 15 working days of request and pay the DIA fee as set out in the respective DNO's charging statement.
3	Once DIA fee cleared and technical data received, the clock starts and DNO(s) send DIA Conclusions Report (as set out in Annex 10 of this document) to ESO within 65 business days
4	Once in receipt of the DIA Conclusions Report, ESO, within 5 working days, send the DIA to the TOs/Affected TOs/Other Affected TOs and ask TOs/Affected TOs/Other Affected TOs (+ pay application fee) to see if any additional works required and Transmission Owner(TO)/Affected TOs send TOCO/ATOCO to ESO within 2 months of the TOCO/ATOCO Clock Start Date.
5	ESO then reflect DNO and TO requirements in their offer to the Transmission User and DNO and give them 90 calendar days to sign Offer. This Offer will

	include contractual milestones in Appendix J of the Construction Agreement and any restrictions on availability or site-specific or operational requirements in the Bilateral Connection Agreement.
6	If the DNO and Transmission User sign their respective contractual documents, ESO countersign and would then sign the TOCO/ATOCO with TO/Affected TO. The DIA works will be published by the DNOs on their Distribution Works Register (the existing Embedded Capacity Register). A whole system register may be an appropriate mechanism in the future.
7	Reconciliation (to Transmission User) of DIA application fee carried out by ESO – will need actual TO and DNO costs. This assumes that the DIA application fee paid was indicative rather than fixed. For clarity, the DNO application fee (paid by the ESO to the DNO) would be fixed but the application fee paid by the Transmission User to the ESO could be fixed or indicative).
8	The Transmission User will not be able to connect until the works identified in the DIA are completed.
9	The DNO will confirm the final values of any DNO works (in line with their current processes) via updating the DIA Conclusions Report, which the ESO will reflect in updated contracts to the DNO and the Transmission User.

Further commentary, where appropriate is provided below:

Step 1 - Some Workgroup Members noted that ideally the DIA application fee would be standard across all DNOs; however, this would inevitably vary across DNOs given local conditions but the DIA application fee would be published in the DNOs respective Charging Statements. The ESO confirmed that ultimately any DIA costs (application, reinforcement or enduring) would be passed on to the transmission User. Annex 4 of this document, which was produced by the Proposer, shows how the DIA fee would be managed and is in line with the tables above.

The Workgroup noted that, under the TPW process currently in use and the proposed enhancements, these costs are bilaterally managed between the Transmission User and the DNO via the commercial contract that is created between them for the works but use of DNO Charging Statement would be expected.

Some Workgroup Members asked how many DNOs would be involved in each DIA i.e. would there be a process akin to that in STC where there are Host and Affected TOs. There is no such "**Boundaries of Influence**" currently published and some Workgroup Members expressed concern that it needs to be clear (and published) if any such DNO equivalent "Boundaries of Influence" exists. One Workgroup Member noted that there are existing issues between DNOs on running arrangements; however, in absence of any agreed and published DNO "Boundaries of Influence", it would not be appropriate to charge the Transmission User multiple DIA application fees and the DIA application fee should be limited to the "Host DNO" especially given that GB has a shallow connection policy. The Workgroup agreed the following principles:

- It is the nearest GSP that determines which DNO the DIA application is sent to. However, the Workgroup identified the following exceptions:

- If there is a single GSP where 2 DNOs are located i.e. a shared substation, the application would be to both DNOs;
- If there is an overhead line that connects 2 GSPs (which are owned by different DNOs), there would a DIA application to each DNO; and
- Where there isn't a GSP at the nearest substation the DIA will be sent to the Host DNO.

Step 2 - The Workgroup discussed what data would be required in the DIA Request. The Workgroup concluded that the DNOs would need to receive the same information as the Transmission Owners receive under the STC in addition to information about the Grid Supply Point. The ESO representative stated that documentation would need to be agreed but the use of a Scheme Briefing Note (SBN) would be preferred as this is what the TOs currently receive, supplemented by TO connection design and electrical impacts (as at the DNO transmission interface) if available. A respondent to the Workgroup Consultation noted that certain data requests including P28 studies would be undertaken much later in any development process and therefore the absence of this data should not hold up the DIA and therefore suggested that DIA process should be triggered on receipt of an application for timeliness.

Under the TPW process, this is not currently documented and would need to be agreed bilaterally between the applicant and the Third Party; the proposed TPW enhancements would state this data needs to be agreed bilaterally (with input from ESO if needed) with the expectation that current documentation (e.g. ENA or CUSC application forms) would be used. The Workgroup on 16 June 2021, agreed that the Proposer, the ESO Workgroup Member and any other DNO Workgroup Members would meet to agree what data would be required in the DIA Request. This meeting was held on 30 June 2021 and the agreed form is set out in Annex 10 of this document.

Step 3 - The Workgroup debated as to whether the document that the DNOs provided to the ESO at step 3 would be an Offer or a Report. The Workgroup on 16 June 2021, agreed that the Proposer, the ESO Workgroup Member and any other DNO Workgroup Members would meet to agree this. This meeting was held on 30 June 2021 and the Proposer maintained their view that the output of the DIA would be an Offer to the ESO and this is included in the CMP328 Original Proposal. The ESO Workgroup Member favours a Report (as per WACM2) and noted that there would be duplicate contracts as if the DNO provided an Offer rather than a DIA Conclusions Report as;

1. Increased administrative burden managing duplicate contracts, financial liabilities, and 'translation' from DNO contract form to ESO contract form; and
2. The DNO's offer would only be able to duplicate the intent of the Construction Agreement and the ESO would still have to send a separate variation to change the Bilateral Connection Agreement.

A report allows the ESO to take the information and include in one Offer to the DNO varying the Bilateral Connection Agreement at the GSP and a new or updated Construction Agreement including the DIA works.

The ESO Workgroup Member, who is writing the legal text, anticipated that the Offer template (from the DNO to the ESO) will be included as an Exhibit to the CUSC. However, the Proposer and other DNO Workgroup members noted that this would mean they would need to get consensus on a form of contract across 6 DNOs, which they both do not think

is necessary at this stage nor realistic in the current timescales and will take many months. The ESO Workgroup Member stated there is additional risk for the ESO of translating this Offer into an offer for their ESO to Transmission User contractual arrangements if the form of the Offer is not standardised across DNOs and included as an Exhibit within the CUSC. It would also not be visible to Transmission Users if it was not included in the CUSC as an Exhibit.

The Proposer agreed with the DNOs a common list of items that would be part of the Offer and these are set out in Annex 10 of this document in the DIA Offer template. The ESO Workgroup Member expressed a preference for the DNOs to have standard Terms and Conditions across all DNOs as otherwise there would be additional risk for the ESO when creating their contractual arrangements with the Transmission User. The Proposer and some DNO Workgroup Members noted that all DNOs have slightly different risks they need to cover and argued that agreeing a standard form of Terms and Conditions across all DNOs would be very difficult to achieve and was unnecessary. The Workgroup agreed that if Ofgem approve the CMP328 Original Proposal or WACM2, the DNOs would provide their standard Terms and Conditions to the ESO during the implementation phase, which will allow the ESO to create specific DIA Offers for each DNO.

Step 6 – once the contracts are signed, the Distribution Works Register (the existing Embedded Capacity Register) would be updated to include the works associated with the DIA. A Workgroup member asked if consideration was being made to a whole system works register, which would be in line with the direction of travel towards a whole system approach.

The ESO Workgroup Member added that the ESO don't publish until the contract is signed but advised that in any bilateral discussions, they held with a Transmission User, they would note if someone had already applied for a DIA at the same GSP.

The Workgroup noted that current contractual arrangements are bilateral; however, they noted that there would be coordination, collaboration (and agreement) between Network Operators and Generators throughout the process with contractual arrangements themselves remaining bilateral.

The Workgroup recognised that Transmission Owner (TO) and DNO solutions for the Transmission User may interact and so trigger revisions to the connection design by either party. After discussions, the Workgroup concluded there was no way to avoid this re-work using current processes.

Under the current TPW process, the Transmission Owner solution is developed first and presented to the Transmission User. The Transmission User then approaches the DNO to develop their solution (with support from ESO and TO). Should this discussion result in any changes to the Transmission design, these changes are then requested by the applicant via the modification application process.

The Transmission User can theoretically choose to request the DIA process as part of their normal Offer process and in this case fee is simply added to the normal application fees paid with the connection / modification application. However, in practice, it is not possible to complete the DIA within the 90-calendar day Offer window (due to 65 business days

needed by the DNOs in step 3 of Table 1 and/or Table 2 above) and in this case completion of the DIA would be a milestone in Appendix J of the Construction Agreement and would be a contractual re-opener. Thoughts on how long the DIA start to finish process could take are explored in the Interactions - Implications on STC section later in this document.

Disputes

The Workgroup discussed how the disputes process would work and the ESO Workgroup Member noted that Charging Disputes would be sent to the Authority, Non-Charging Disputes relating to plant connecting prior to May 2017 would be sent to the Arbitration Association; however, Non-Charging Disputes relating to plant connecting post May 2017 would be sent to the Authority. Wording has been added to the CMP328 Original and WACM2 legal text to clarify that the DIA would follow the Connection Disputes process.
A Workgroup Member also noted that, under the EU Regulation 2016/631 Article 7 (which is titled 'Regulatory Aspects') and in particular paragraph (8)[2], any dispute would be issued to the Authority and will be determined within 2 months of receipt but can be extended where additional information is sought by the Authority.

Potential Outcomes from DIA

The Workgroup also explored **potential Outcomes from DIA** and these are summarised in the table below:

Scenario	DIA Outcome	If TPW (current and proposed enhancement) process followed instead
The DIA identifies that there is no impact and therefore no works are required	The DNO confirms to the ESO that there is no impact and no further action is required.	Administrative change to update Construction Agreement between ESO and Transmission User to reflect no TPW needed
The DIA identifies that there is an impact, but no physical works are required	The DNO confirms to the ESO that no works are required but there is an impact. Contractual arrangements (captured via Bilateral Connection Agreement) between the DNO, Transmission User and ESO are updated accordingly.	Construction Agreement between ESO and Transmission User updated accordingly to reflect no TPW needed. Modification Offer provided to DNO and Transmission User to update Bilateral Connection Agreements.

[2] "EU Regulation 2016/631 Article 7 paragraph 8. Any party having a complaint against a relevant system operator or TSO in relation to that relevant system operator's or TSO's obligations under this Regulation may refer the complaint to the regulatory authority which, acting as dispute settlement authority, shall issue a decision within two months after receipt of the complaint. That period may be extended by two months where additional information is sought by the regulatory authority. That extended period may be further extended with the agreement of the complainant. The regulatory authority's decision shall have binding effect unless and until overruled on appeal."
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN

The DIA identifies that there is an impact and works are required	The DNO confirms to the ESO that there is an impact and works are required. Contractual arrangements between the DNO, Transmission User and ESO are updated accordingly.	Bilateral contract between DNO and Transmission User captures works required.

The Workgroup noted that Transmission Users are currently being charged 100% of DNO reinforcement works and no sharing factors are being applied e.g. the fault level may already be very close to limit and any Distribution connection would trigger the same reinforcement as the Transmission User. The Workgroup agreed this issue is beyond the scope of this modification as it is a wider industry charging point and is being reviewed by DCP392. This is discussed further in the Interactions section of this document.

Clean Energy Package (CEP) / Compensation Arrangements

Currently CUSC Section 4 documents the payments that will be made by the ESO for Mandatory Services with the site- specific details captured in the Bilateral Connection Agreement.

The Workgroup raised queries around;

- How the legal requirements concerning coordination between the Generator, System Operator and TSO requiring certain technical requirements would be discharged; and
- How will the CEP compensation requirements for generators if disconnected by a DSO or ESO be addressed as this needs to include the prioritisation of disconnection and the special status afforded to certain types of generation in the CEP.

Although the Terms of Reference included *'Consideration of the interaction and impacts of changes in distributed generation/storage/demand on one distribution system upon another distribution system on generation/storage/demand connected to its system'*, The Proposer's view is that the discussions which are held between TO, ESO, DNO, and Transmission Users would be expected to cover the coordination of the technical requirements and any associated legal undertakings. Any compensation requirement would be reflected in the contractual agreement between the ESO and CUSC parties (including the DNO). In the Workgroup Consultation, most respondents agreed that any compensation arrangements (where DNOs curtail Transmission connected generators) should be documented in existing contractual arrangements with the majority suggesting the ESO/DNO Bilateral Connection Agreement arrangements

This change does not seek to amend nor remove the existing TPW process

The Proposer is seeking to introduce a new DIA process and not seeking to amend or remove the existing TPW process, which may remain suitable for use in other circumstances.

Not in Scope

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

"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 materiality threshold of £10,000 is not in the scope of CMP328 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. 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.

Which Users are not included?

CMP328 will apply to all CUSC Users. This means that non-CUSC parties such as Transmission Owners and Offshore Transmission Owners are not included within the scope of CMP328. In addition, Competitively Appointed Transmission Owners (CATOs) will not be included as this is still under development.

ESO failing to meet contractual milestones

A Workgroup argued that consideration should be given to address the situation where a Network Operator and / or the ESO has not met one or more milestone provided to the User (where the delay arises from a factor that is within the Network Operator and / or the ESO's control) and in that situation the User will be afford the opportunity, if they wish, to:

- Seek recompense; from the Network Operator and / or the ESO who has not met the milestone; for any evidenced financial loss (including lost opportunity) that the User has legitimately incurred; and/or

- Withdraw from proceeding with their project without incurring any Network Operator or ESO costs for cancelling from the date of the original milestone.

Another Workgroup Member concurred that this is an important consideration to be considered in future changes and the Workgroup noted this is an area being looked at as

part of the Access and Forward-Looking Charges (A&FLC) Significant Code Review (SCR). However, the ESO Workgroup Member noted that this is not a consideration for CMP328.

Workgroup Consultation Summary

The Workgroup held their Workgroup Consultation between 19 February 2021 (9am) and 19 March 2021 (5pm) and received 11 responses, all of which were non-confidential. The full responses and a summary of the responses can be found in Annexes 7 and 8 respectively.

- The majority (8 of 11 respondents) were supportive of the principle of the DIA (some questioned the 1MW threshold though as leads to unnecessary DIAs as majority of applications to the NETS will have no impact on distribution systems and this which add more costs to consumers) itself. (Note this has since been somewhat mitigated as the Proposer, following this feedback, have amended their Original Proposal to allow flexibility for DNOs as to whether a DIA is needed (even if it meets the MW/MVA criteria). Some of these respondents expressed a preference for a criteria-based approach - this is covered as part of WACM2.

- There were mixed views on when the DIA should be triggered and some network operators/Transmission Owners (TO) were keen that there is a joined up collaborative Distribution Network Operator (DNO)/TO “whole system” approach. The ESO also questioned whether or not neighbouring DNOs would be included in any assessment but for the purposes of CMP328 the current process of engineering judgement to identify which DNOs may be impacted would carry on.

- 6 out of 11 respondents supported implementation 12 months after Ofgem decision (3 would have liked it earlier with 2/3 months suggested); however, there was general recognition that STC changes are needed, which is discussed further below in the “Interactions” section of this document. There are different implementation periods proposed for the CMP328 Original, WACM1 and WACM2 and these are explored in the “When will this change take place“ section of this document.

- Strong views were expressed that the Third-Party Works (TPW) is not fit for purpose – it is inconsistent across DNOs and there are no formal timescales. WACM1 proposes enhancing the TPW process but the Workgroup in general thought this was not suitable to resolve the current issue.

- There was general support to use existing contractual mechanisms where possible to track the DIA milestones/house any compensation arrangements. However, the Workgroup needed to further understand the contractual arrangements (this is explored further in the Contractual Arrangements section above) but noted that there would be coordination, collaboration (and agreement) between Network Operators and Generators throughout the process with contractual arrangements themselves remaining bilateral.

- The majority (10 of 11 respondents) believed the costs from DIA should be passed from the DNO to Transmission User via the ESO. One respondent however believes the Transmission Owner should pick up the cost.

- Most respondents believed those embedded Users who have Transmission Entry Capacity (TEC) should be included in the DIA assessment (but more to acknowledge they are in the background and not to reduce their access rights). There was a mix of views as to whether those without TEC should be included in the DIA assessment. The CMP328 Original includes Embedded Users that hold TEC and those that do not hold TEC are included in DIA assessment.

Workgroup Alternatives

Alternative Request 1 - Enhancement of the Third Party works process - *this became WACM1*

As listed in Schedule 2 Exhibit 3 under 2.16.1

"The **User** shall be responsible for carrying out or procuring that the **Third Party Works** are carried out and shall carry them out or procure that they are carried out in accordance with the timescales specified in the **Construction Programme**. The **User** shall confirm to **The Company** or, where requested to do so by **The Company**, provide confirmation from the third party that the **Third Party Works** have been completed."

In this case, a Transmission User would be responsible for arranging with the Third Party (the DNO) to ensure the TPW are completed.

In the early Workgroups, the ESO representative presented an overview of the TPW process that is currently used, which can be found as **Annex 3.** The following key points were made:

1. ESO are happy to facilitate the discussions between the Transmission connectee and Third Party but the TPW process puts the onus on the Transmission connectee to ensure that the design and costs of the TPW are suitable for and completed to facilitate their own connection.
2. Any contractual arrangements between the Transmission connectee and the Third Party (in this instance, the DNO) can be captured by this process (including costs or ongoing commitments) as it creates a direct, contractual relationship between them. The Transmission User can then update their transmission application accordingly when this contract is agreed, e.g. such as revised timescales. This theoretically could mean that the DNOs develop either:
    a. a 'works' agreement to capture the required works and costs; and
    b. a 'Use of System' contract for parties who affect their system but aren't connected to them.

   It was acknowledged this may be straying into topics covered under the Access and Forward Looking Charges SCR.
3. Whilst the Transmission User isn't a connectee of the DNO, they are still a customer as they are procuring (and potentially paying) for the DNO to undertake work.
4. This process is historic and has been occasionally used for many years with the DNOs (e.g. existing, large, thermal generators who change their characteristics and need the DNO's circuit breakers to be evaluated or replaced). As such, it was understandable if this process was not well understood and inconsistent between DNOs if it is infrequently used. However, this may be an opportunity to standardise this process.

The majority of the Workgroup believe the TPW process didn't fit the option of accepting inter-trip or active network management signal from the DNO under certain outage conditions; the ESO representative confirmed that this is possible under the TPW process but hasn't been used historically.

There were also issues for cost recovery for the DNO for ongoing solutions as they believe they cannot directly contract with the Transmission User – however, as mentioned above, the ESO represented confirmed there was no reason why the DNO and Transmission User couldn't contract directly. One Workgroup member believed the TPW process is suitable for facilitating one-off tasks to be undertaken by a DNO, such as the diversion or reinforcement of DNO assets, where there are no ongoing requirements beyond the completion of the task. The ESO Workgroup Member stated this is how the TPW has traditionally being used, but, in their opinion, it is flexible enough to accommodate enduring relationships.

The current TPW process does not currently prescribe timescales, the recovery of the costs associated with the assessment or provide for the enduring contractualisation of conditions identified as necessary resulting from the assessment. Connections triggering DIAs may identify requirement for an enduring contractual relationship to be in place, to provide for the operational solutions such as constraint and fault level management which may be necessary for such connections. Historically the TPW process has not created these enduring contractual relationships, it is theoretically possible; however, the Workgroup were not in agreement that this is the best solution.

The four respondents to the Workgroup Consultation, who had practical experience of the TPWs process note that the current process is slow, inefficient, and inconsistent process with varying timelines across DNOs. However, the Proposer of this request for alternative believes that enhancing the current TPW process by defining roles/responsibilities/timescales and ensuring clarity and consistency across DNOs) is a better way forward, without radical reform of the industry connections processes than creating a new DIA process. The majority of the Workgroup still do not agree with this approach despite the proposed changes.

There was lot of discussion throughout the Workgroup (and also via responses to the Workgroup Consultation) on the pros and cons of the TPW and DIA process. This has been included in **Annex 6** of this document.

Alternative Request 2 - Use applicability criteria rather than blanket 1MW threshold – *this became WACM2*

Some respondents to the Workgroup Consultation raised concerns that the proposed blanket 1MW (since amended to 1MVA, with the same objection applicable) threshold for a DIA is inefficient for all parties as it would lead to significantly increased workloads for all parties, e.g. likely double-handling of contracts by TOs in response to DIA outcomes also meaning additional fees for the Transmission User. They also argued that DNOs would be burdened with additional transmission referrals and deadline obligations and many DIAs would be performed in regions where it is clear to a DNO without the need for a DIA that there will be no material impact at the given GSP for the connection application. The Proposer considered this feedback and amended their Original Proposal to allow flexibility for DNOs as to whether a DIA is needed (even if it meets the MW/MVA criteria). The final decision on whether a DIA is required will sit with the DNO but clear reasoning for this decision will be provided to the ESO to pass to the Transmission User.

However, the Proposer of Alternative Request 2 believes a better solution is to include GSP-specific technical criteria within the requirements in order to address a wider range of potential constraints. They do not seek to include specific trigger thresholds for any given criteria within this proposal or the CUSC as such values will vary from GSP to GSP based on network capability. However, they do seek to create a framework so that such figures would be agreed trilaterally between DSOs, NGESO, and TOs on a per-GSP basis and published via the ESO. Parties looking to connect to the network at any given GSP could then review the most current thresholds for the criteria applicable to their proposed solution in order to consider whether it is likely to trigger a DIA.

The following criteria has been proposed as the basis for this process:

- Fault rating headroom;
- Thermal asset rating headroom;
- Power quality/harmonics and limits;
- Voltage disturbance limits and limits;
- Reverse power flow issues;
- Active Network Management scheme impacts; and
- Size of existing Distribution System connected demand and/or generation at that Grid Supply Point.

The Workgroup noted that each DNO should apply the same criteria (and not use additional criteria) and the criteria being applied should be visible to stakeholders. However, it was recognised that some of these criteria may not be applicable for every DNO as they would have different pinch points and would be able to declare any/all of the criteria as not applicable at a given GSP.

The Proposer of this request for alternative sought input from all DNOs on the proposed criteria. Only two responses were received from DNOs with one of these citing the difficulty in the initial compilation of the data required and keeping this “live” and noting the other data requirements for DNOs. The other stated that the criteria approach is more complicated than expected and therefore prefer the CMP328 Original solution. However, the majority of the Workgroup welcomed the publication of data at specific GSP as it provides visibility for all stakeholders, potentially prevents abortive requests/works and gives DNOs more control over which DIAs they receive. The Workgroup discussed how best to populate and maintain this data and agreed that ESO would host and publish the data and the DNOs send on a regular basis to the ESO connections team or confirm the current data remains accurate. A DNO Workgroup Member advised that quarterly technical Joint System Development Liaison group meetings are held between the ESO, DNOs and TOs and considered if this was a more appropriate forum to discuss any updates to the data including any restrictions at each GSP.

The DNO Workgroup Members raised concerns on the amount of work they would need to do to not only to populate the data for each GSP in the first instance (and maintain it) and noted they already have data obligations to provide Week 24 and “Appendix G”[3] data

[3] This is data about distributed generators connecting to the distribution system and is being progressed through CMP298. CMP328 is looking at data on the distribution network itself so would be additional requirement to “Appendix G” data

requirements. A Workgroup Member stated that Ofgem have consulted on data best practice guidance and noted that this includes the principle that "data must be made available for all people to use, unless the organisation responsible for handling the data provides evidence of a specific reason for needing to reduce its availability" and they inferred this would likely indicate the direction of travel and urged data to be published by the DNOs. The consultation closed 24 June 2021 and Ofgem are targeting a publication date for the decision document in early October 2021.

Another key difference between the Original and this alternative request is the different contractual arrangements which are documented earlier in this report.

Alternative Vote

On 8 September 2021, the Workgroup voted as to whether or not the Workgroup Alternative 1 and Workgroup Alternative 2 should become Workgroup Alternative CUSC Modifications (WACM). Neither Workgroup Alternative received majority support from the Workgroup. However, the Chair decided that they should be progressed on the basis that they may be better options than the CMP328 Original to address the CMP328 defect.

Legal Text

The legal text for the Original proposal and WACM1 and WACM2 can be found in Annex 10. Changes to the current CUSC are shown in red text.

Workgroup assessment of the impact of this change?

Transmission Users

In the view of the Proposer, this change will provide a significant benefit to Transmission Users as it will establish a process with agreed timescales and costs known upfront for the Transmission User. Additionally, this change will allow for a linear process with a single point of contact for the Transmission User and a single company to deal with and utilises existing contractual arrangements reducing the risk that contracts will cut across each other.

Transmission Users could consider that they would lose an element of control in the process (which would affect their connection timescales and increase application costs) with ESO acting as the intermediary between the DNO and themselves. However, this is appropriate for a Transmission connection with an enduring effect on the network, where the User would not normally have any enduring contractual relationship with the DNO. The proposal broadly aligns with the existing equivalent process for Distribution connections that may have an impact on the NETS, where the DNO acts as the intermediary between the Transmission User and ESO to identify any impacts on the NETS (acting on behalf of the TO), with no direct relationship between the User and ESO. However, Ofgem's minded-to decision on Access & Forward Looking Charges SCR was noted.

Distribution Network Operators, Electricity System Operator, Transmission Owners

In the view of some Workgroup Members, the current 1MVA threshold could lead to unnecessary DIAs being raised and more contractual arrangements in place between ESO

and DNOs, ESO and TOs and ESO and the Transmission User. To quantify this, the ESO provided the following data on the number of applications received that are =>1MW (as an approximate for 1MVA);

Financial Year	New Transmission Applications	Modification Applications
2019/20	218	195
2020/21	193	212
Total	411	407

The Proposer considered this feedback and amended their Original Proposal to allow flexibility for DNOs as to whether a DIA is needed (even if it meets the 1MVA threshold). The final decision on whether a DIA is required will sit with the DNO, but clear reasoning for this decision will be provided to the ESO to pass to the Transmission User. A Workgroup Member proposed using a criteria based approach instead; however, the ESO would need additional processes in place to ensure this is published on a quarterly basis and each DNO would need processes to ensure their limits for each criteria are available.

Workgroup Vote

The workgroup met on 8 September 2021 to carry out their Workgroup Vote. 9 Workgroup Members voted, and the full Workgroup vote can be found in Annex 11. The tables below provide:

- a summary of how many Workgroup members believed the Original and each of the two WACMs were better than the Baseline (the current CUSC); and
- a summary of the Workgroup Members view on the best option to implement this change.

The Applicable CUSC Objectives are:

CUSC Non-Charging objectives

a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;
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;
c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and
d) 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).

Assessment of the Original, WACM1 and WACM2 vs Baseline

The Workgroup concluded by majority that each of the Original, WACM1 and WACM2 better facilitated the CUSC Objectives than the Baseline.

Option	Number of voters that voted this option as better than the Baseline
Original	8
WACM1	7
WACM2	8

Best Option

7 Workgroup Members voted that the Original was the best option with 1 vote cast for each of WACM1 and WACM2

Workgroup Member	Company	BEST Option?	Which objective(s) does the change better facilitate? (if baseline not applicable)
Charles Deacon	Renewable Connections Developments Limited	Original	a, b, d
Andrew Colley	SSE Generation Ltd.	Original	a, b, d
Grahame Neale	National Grid ESO	WACM1	b, d
Joanna Knight	SSE Power Distribution Limited	Original	a, b, d
Jack Scoffham	Northern Powergrid	Original	a, b, d
Wendy Mantle	SP Manweb plc	Original	a, b, d
Matthew Paige-Stimson	NGET	WACM2	a, b, d
Nuno Fonseca	UK Power Networks	Original	a, b, d
Robert Longden	Cornwall Insight	Original	a, b, d

Code Administrator Consultation

The Code Administrator Consultation was issued on the 27 September 2021 and closed on 18 October 2021 with 6 non-confidential responses received. A summary of the responses can be found in Annex 12, and the full responses can be found in Annex 13. In summary:

Option	Number of respondents that believed this option is better than the Baseline	Number of respondents that believed this was Best Option
Original	5	4
WACM1	2	1
WACM2	4	1

- There was a strong preference for the CMP328 Original (4 out of 6 Votes) as, in the view of those in support, this ensures that the ESO, the Transmission User(s) and the DNO work together throughout the connection process with the basis of a contractual offer to ensure all rights are protected. Some respondents noted as a positive that, since being raised, the CMP328 Original now includes flexibility for the DNOs to decide whether or not a DIA is needed, which will avoid unnecessary administration and cost to both Transmission Users and Network Companies.

- The 1 respondent, who believes WACM1 is the best option, believes this clarifies existing processes and increases awareness and understanding of the Third Party Works process but most respondents believe that WACM1 does not address the issue identified as part of the CMP328 Proposal. The 1 respondent, who believes WACM1 is the best option, also raised concerns that both the CMP328 and the Original propose very significant changes to the existing connections process and that these should be picked up as part of a more fundamental review of the connections and associated licence conditions required.

- The 1 respondent, who believes WACM2 is the best option, argues it is more transparent, more proportionate, and reduces unnecessary referrals, whilst also better supporting users with limited resources. Additionally, they argued that WACM2 would enable users to avoid transmission applications that are likely to trigger significant DNO upgrade works. However, some respondents noted the additional burdens that WACM2 places on the DNOs and also that a formal Contract following a DIA is more appropriate than the Report suggested under WACM2.

- In general, there were some concerns on implementability with 1 respondent specifically calling out the need for STC changes to be progressed further before you could confirm if the implementation timescales were appropriate. 2 other respondents believed that the implementation timescales for the Original proposal needed to be longer than the proposed 6 months after Ofgem decision date, whilst another respondent preferred implementation shorter than 6 months after Ofgem decision date.

- No legal text issues were identified.

Panel Recommendation Vote

The Panel met on the 29 October 2021 to carry out their recommendation vote.

They assessed whether a change should be made to the CUSC by assessing the proposed change and any alternatives against the Applicable Objectives.

Vote 1 - Does the Original facilitate the objectives better than the Baseline?

Panel Member: Andrew Enzor

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes
WACM2	Yes	Yes	Neutral	Yes	Yes

Voting Statement
ACO(a): All solutions better meet this objective compared to the baseline of an inefficient and poorly understood process by which NGESO discharges its obligations to connectees. WACM1 represents a small incremental improvement while the Original and WACM2 give a more material change against this objective. ACO(b): All solutions better meet this objective compared to the baseline which presents artificial barriers to taking a transmission connection. As with ACO(a), WACM1 is a relatively small improvement compared to the Original and WACM2. ACO(c): Not impacted. ACO(d): All solutions better meet this objective compared to the baseline of an inefficient and poorly understood process. WACM1 represents a small incremental improvement. Compared to the Original, WACM2 adds significant administrative burden for DNOs and ESO in preparing and publishing data, which is avoided by the amendment to the Original to include flexibility for the DNO on when a DIA is necessary. I recognise the arguments that the data to be released under WACM2 is well aligned with broader initiatives to improve accessibility of network data, but those initiatives are not covered by the applicable objectives. While the Original may lead to some ambiguity due to the lack of a clear decision point on whether a DIA is necessary or not (being at the discretion of the DNO), I still consider it to be the best option against this objective. Overall, the Original is the best option against ACO(a), ACO(b) and ACO(d).

Panel Member: Andy Pace

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes
WACM2	Yes	Yes	Neutral	Yes	Yes

Voting Statement

This mod implements a process for undertaking a distribution impact assessment for Users connecting to the transmission network. This requirement is currently met via the Third Party Works process which was not set up for this purpose. The implementation of a new process will result in efficiency gains with agreed timescales and costs known upfront for the Connectee. We therefore assess this mod as better meeting applicable objectives (a) as it allows for the efficient discharges by the Licensee of the obligations imposed on it by the Act and the Transmission Licence, (b) as it facilitates effective competition in the generation and supply of electricity, and (d) as it promotes efficiency in the implementation and administration of the CUSC arrangements.

Our preferred option is for the original proposal. WACM1, although better than the baseline, remains constrained by the Third Party Works process. WACM2 applies a filter of where the impact assessment should apply. However, this would create a significant amount of work to populate data at the GSP level. We note that the original proposal was amended following WACM2 to allow some discretion for DNOs on when the impact assessment is required, which effectively makes this solution more flexible and is preferable to implementing the complex criteria proposed under WACM2.

Panel Member: Cem Suleyman

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes
WACM2	Yes	Yes	Neutral	Yes	Yes

Voting Statement

In line with the majority of the Workgroup, I believe that all options better facilitate the Applicable CUSC Objectives. All the options have various pros and cons associated with them. The Original and WACM2 appear to be more comprehensive solutions to the defect, but have various administrative downsides associated with them. WACM1 appears to be the easiest to implement but may not fully meet the defect identified. It is difficult to choose which approach is best and for this reason I do not have a 'Best' option.

Panel Member: Garth Graham

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes
WACM2	Yes	Yes	Neutral	Yes	Yes
Voting Statement					
No Voting Statement provided.					

Panel Member: Grace March

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes
WACM2	Yes	Yes	Neutral	Yes	Yes
Voting Statement					
All three solutions are improvements on the baseline, as they will clarify the relationship between all parties and the ESO and allow the system impact of connections to be fully understood. WACM1 is an improvement on the existing process but less so than the Original. WACM2 has the potential to increase complexity and administrative burden compared to the Original and WACM1.					

Panel Member: Joseph Dunn

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	No	No	Neutral	No	No
WACM2	Yes	Yes	Neutral	Yes	Yes
Voting Statement					
Both the Original and WACM2 enable a formal trigger of assessment from the DNO and therefore both better facilitate ACOs (a), (b) and (d) - I would concur with the proposer's assessment against the relevant objectives in the original proposal form and that the impact identified is relevant to both the original and WACM2. I note that Transmission Users would be charged 100% of any DNO reinforcement works if triggered under a Distribution Impact Assessment with Cost Apportionment Factor. Whilst consideration of this charging implication is out of scope of CMP328 and being considered as part of DCP392, it is key that the charging arrangements align with implementation to ensure that Transmission Connected Users are not detrimentally impacted as a consequence.				

WACM1 is negative against ACOs (a), (b) and (d) as has the potential to introduce further complications and risk for transmission connections. Noted against the original proposal that it is not the correct place for these types of works.

Panel Member: Jenny Doherty

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Neutral	No	Neutral	No	No
WACM1	Neutral	Yes	Neutral	Yes	Yes
WACM2	Neutral	Neutral	Neutral	No	No

Voting Statement

All of the options presented aim to resolve an issue that is not currently defined in any industry code and promote a move to a whole-system way of thinking for connections. However, a lot of these options are 'ahead of their time' and without significant supporting changes (e.g. licence changes) would result in very significant inefficiencies which would be, overall, detrimental to consumers.

All options are neutral in respect of ACO A and C due to not impacting upon these objectives. Only WACM1 is positive for ACO B & D whilst the Original is negative against both ACO B & D and WACM2 is neutral and negative respectively for ACO B & D.

For ACO B, all options intend to ensure consistent treatment between Transmission and Distribution applications, however this benefit is neutralised in the case of WACM2 and fully counteracted in the Original due to placing a significant and mostly unneeded burden on transmission applicants. This will provide distribution applicants a competitive advantage due to process efficiencies progressed by industry over recent years allowing distribution applicants to complete a 'whole system connections process' significantly faster and cheaper than transmission applicants.

For ACO D, WACM1 has a minor benefit as it is clarifying an existing process . The Original and WACM2 are both negative as they seek to introduce an inefficient process to determine the 'whole system' impact of a connection application. This process is inefficient as it maintains the current siloed thinking of each network only reviewing the impact on 'their network' and then passing on the results to the next network in order to maintain compliance with existing licence conditions and processes. In short, these options look to reuse existing processes which are not suited or designed to develop collaborative 'whole system' solutions and a fundamental review of current processes (including licence and potential legislative changes) would be needed to allow an efficient process.

So, whilst WACM1 is the option with the lowest potential benefit, it is also the option with the lowest side-effects which mean on balance it is the only option which is better than baseline.

Panel Member: Paul Jones

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes
WACM2	Yes	Yes	Neutral	Yes	Yes
Voting Statement					
All options improve on the present situation by providing a more structured approach to assessing the impact on a DNO when a transmission connection occurs at the same node as, or directly adjacent to, a GSP. The original is marginally better than WACM2, as it limits the information requirements on DNOs which may not be needed at present. However, the performance of DNOs under this new regime, including consistency of application of this process and the transparency of information provided under it (both as part of any assessment of impact and in justification of triggering the assessment), should be kept under review and reported to Ofgem. If any concerns are raised in this respect then a change looking more like WACM2 may be justified.					

Vote 2 – Which option is the best?

Panel Member	BEST Option?	Which objectives does this option better facilitate? (If baseline not applicable).
Andrew Enzor	Original	a, b, and d
Andy Pace	Original	a, b, and d
Cem Suleyman	No Best Option identified	n/a
Garth Graham	Original	a, b, and d
Grace March	Original	a, b, and d
Joseph Dunn	Original	a, b, and d
Jenny Doherty	WACM1	b and d
Paul Jones	Original	a, b, and d

Panel conclusion

The CUSC Panel by majority recommended that the CMP328 Original, WACM1 and WACM2 better facilitated the CUSC objectives than the current CUSC.

The Panel expressed a preference for the CMP328 Original Proposal (6 out of 8 votes).

When will this change take place?

Implementation Date

Proposed Change	Implementation Date	Rationale
CMP328 Original	6 months after Authority decision*	STC changes needed DNOs to submit their standard Terms and Conditions to the ESO. ESO to then prepare Offer templates ESO system changes to capture the concept of a DIA Process awareness/changes both internally and externally
CMP328 Request for Alternative 1	1 month after Authority decision	Existing process that is being documented in legal text Minor awareness/training needed both internally and externally
CMP328 Request for Alternative 2	12 months after Authority decision	STC changes needed Creation of centralised data for each GSP – DNOs would need to initially populate this data ESO system changes to capture the concept of a DIA Process awareness/changes both internally and externally

* The ESO have stated that 6 month implementation timeframe will be extremely challenging and have suggested 9 to 12 months. This is due to the CMP328 Original and WACM2 being fundamental changes to the existing connections process to integrate in a new data feed from DNOs, combine that with existing processes in place with Transmission Owners, manage any conflicts in this data and provide an offer within licensed timescales. This will require system changes, development of new contract Terms and Conditions and training once a new process is developed.

Date decision required by

As soon as possible - A Workgroup Member noted that this is a live and present issue and believes that if this is not implemented by November 2022, the benefits of this proposed would be reduced.

Implementation approach

Contractual Arrangements

Scenario / Change	CMP328 Original	CMP328 Request for Alternative 1	CMP328 Request for Alternative 2
New transmission applications for DIA received post Implementation Date	Transmission User would receive a DIA Offer	No change to current process (therefore no DIA will be applicable)	Transmission User would receive a DIA Offer
Where TPW process is not completed at the Implementation Date	Transmission User would receive a DIA Offer	No change to current process (therefore no DIA will be applicable)	Transmission User would receive a DIA Offer
Where TPW process has been completed prior to the Implementation Date	No change to current process (therefore no DIA will be applicable)	No change to current process (therefore no DIA will be applicable)	No change to current process (therefore no DIA will be applicable)

Data Publication

For the CMP328 Original and WACM2, the DNOs will update the DIA works on their Distribution Works Register (the existing Embedded Capacity Register).

For the CMP328 Request for Alternative 2, there would be an additional data and each DNO will need to be provide (for each GSP) data (or mark as not applicable). The initial population of this data will be carried out between any Ofgem approval of the CMP328 WACM2 and the Implementation (12 months after such approval) and this GSP Criteria Consideration Schedule will be published by the ESO. There is a requirement in the legal text for the DNOs to provide updates to the ESO. Each DNO will agree a suitable process and timeline with the ESO and although no timescale is specified, there is an expectation that this will be refreshed quarterly (or DNOs confirm the data is unchanged) at least quarterly as part of the Joint System Development Liaison group (JSDL) meetings. The ESO will ensure the GSP Criteria Consideration Schedule remains updated and update this within 10 business days of receiving updated information from the DNO.

Data will be needed for each GSP in relation to the voltages at that GSP and the voltage tier immediately below what is present at the GSP for:

- Fault rating headroom
- Thermal asset rating headroom
- Power quality/harmonics and limits
- Voltage disturbance limits
- Reverse power flow issues
- Active Network Management scheme impacts
- Size of existing Distribution System connected demand and/or generation at that Grid Supply Point

A DNO Workgroup Member argued that the CMP328 WACM2 solution was incomplete as it needed to be clear exactly on what technical information the ESO requires from the DNOs for all of the items above e.g. would it be numbers, diagrams, a red/amber/green traffic light system. The Workgroup noted that the Proposer of WACM2 had sought input from all DNOs on the proposed criteria. A DNO Workgroup Member, who responded to this request for information, re-iterated that the introduction of such documentation requires a significant level of technical resources and time and places an additional cost burden on DNOs with, in their opinion, very limited value added.

The ESO Workgroup Member (also the proposer of WACM2) noted that their initial thinking is spreadsheet format, which will include the GSP and numbers for the items above but noted that this would be discussed with DNOs if and when CMP328 WACM2 is approved ahead of implementation.

Interactions

☐Grid Code ☐European Network Codes	☐BSC ☐ EBR Article 18 T&Cs[4]	☒STC ☐Other modifications	☐SQSS ☒Other

Implications on STC

The ESO Workgroup Member noted there would be STC and STCP impacts for the CMP328 Original and WACM2 and discussions are ongoing between the ESO and TOs to flesh out the details. At the meeting on 8 September 2021, the ESO Workgroup Member confirmed that there had been engagement with the TOs and progress had been made. They added that the STC Proposal had been drafted but no actual date for submission to the STC Panel has been identified as yet. In summary:

- The STC needs to codify the information ESO require TOs to provide to support DNO impact assessments, so what is required as TO information is clearly agreed and defined. This will include a new process to get GSP data to support the DIA application.
- The connections process will also require review and likely amendments relating to:
  - Making offers conditional on DIA outcomes;
  - Process/criteria to review a DIA and determine if it is compatible with the TOCO, with a resolution process needed if they are not compatible;
  - The processes and timescales for updating TOCOs further to receipt of DIAs;
  - The requirement for ESO to share DIA outcomes; and the
  - Ability to revise TOCO (to reflect DIA outcomes) efficiently, e.g. without requiring new Modification Application or associated fee(s) from the Transmission User;

- Changes to the TO and ESO connection charging statements will need to be done by October each year to reflect the additional time/cost. There are workarounds however if implementation doesn't align with this; and

- The timings for completion of the DIA process vary depending if the DIA is triggered on application assuming no complications and no DNO impact; or at the other end of the time spectrum where the DIA is triggered on acceptance with a need to redesign the TO Solution. This difference is represented below:

	DIA process triggered on application – no complications and no DNO impact	**DIA is triggered on acceptance and the DIA triggers redesign of TO solution**
Timing	~ 5 months from clock start of the first application to full offer being provided by the ESO. This is comprised of: • 3 months to receive DIA from DNO;	~13 months from clock start of the first application to full offer being provided by the ESO. This is comprised of: • 3 months to produce 1st offer to Transmission User with

[4] 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 Guideline (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.

	• ~ 1 month for TO to update TOCO – *this timescale needs to be confirmed as part of STC change; and* • ~ 1 month for the ESO to provide Offer to Transmission User and other administration processes in the process	only TO works (current process); • 3 months for Transmission User to accept 1st offer; • 3 months for DIA to be triggered and produced • 3 months for offer to be updated and reissued – *this timescale needs to be confirmed as part of STC change;* and • ~1 month cumulative administration/process time between each of these key steps) plus any additional time to resolve issues/complications between the DNO/TO (data, solution conflicts etc) which could be significant design conflicts requiring additional rework by DNO and/or TO.

The Chair noted that the STC change has not yet been finalised and asked the Workgroup if there was any risk that the STC change could identify something that would result in having to unpick the CMP328 solutions. The ESO Workgroup Member confirmed to the Workgroup that no showstoppers have been identified. However, they recognised the challenge of specifying the data requirements flows between the TOs and ESO and there will be a need to agree template proformas between TOs, ESOs and DNOs to further enhance the process. The Workgroup were comfortable with the direction of travel and agree, given the risk, it is not necessary to wait for the STC change to be formally raised ahead of the CMP328 Workgroup Report being presented to Panel.

Implications on DCUSA

Some Workgroup Members noted that there is a current DCUSA change (DCP392)[5] to apply the common connection charging method to all electricity connections in respect of DNO works, regardless of whether they are directly connected to a distribution system or not. Although there is interaction between CMP328 and DCP392, the Workgroup confirmed that CMP328 is not dependent on the progression of DCP392.

Interactions with Ofgem's Access and Forward-Looking Charges (A&FLC) Significant Code Review (SCR)

There are currently no Significant Code Review (SCR) underway which will impact CMP328.

[5] There was a previous DCUSA change DCP384 (Charging of Third Party DNO Works to Transmission Connected Users) raised which was "rejected" as there was an overlap with the A&FLC SCR.

However, the Workgroup discussed various topics that could potentially create interactions between this proposal and Ofgem's Access and Forward-Looking Charges (A&FLC) SCR. In summary these were:

Managing transmission access	**Cross-network No-build access**
Queue/priority order of new Transmission User's vs existing embedded users (most of whom don't have formal transmission access, but their "access" may be impacted by a new Transmission User) It is not clear whether or not a DNO is permitted to restrict a transmission generator's access to the NETS (which has an explicit entry right) in favour of embedded generators who in general don't have formal transmission entry access rights. Note that as part of the Workgroup Consultation, most respondents believe those Users who have Transmission Entry Capacity (TEC) should be included in the DIA assessment (but more to acknowledge they are in the background and not to reduce their access rights). This needs to be addressed by SCR to help frame whose rights need to be flexibly curtailed and it is not necessarily in Last-In – First-Out (LIFO) connection order. This is a particular consideration for a new transmission connection to tertiary windings, to Low Voltage busbar connections or co-located DNOs, at a shared GSP. The Workgroup also noted that restricting the DIA process to just physical works would alleviate these concerns but reduce the benefit of the proposal.	Without a whole system queue/access arrangement, there will be challenges creating and enforcing 'cross network' contractual obligations (e.g., DNO's curtailing transmission generators or ESO curtailing embedded generators). These contractual obligations can only currently be created bilaterally (as per the TPW process) or funnelled via the DNO-ESO commercial relationship (as per the proposed DIA process).

Acronyms, key terms, and reference material

Acronym / key term	Meaning
ACER	Agency is to the Agency for the Cooperation of Energy Regulators
A&FLC SCR	Access and Forward-Looking Charges Significant Code Review
BCA	Bilateral Connection Agreement
CAF	Cost Apportionment Factor
CEP	Clean Energy Package
CMP	CUSC Modification Proposal
CONSAG	Construction and Use of System Code Construction Agreement)
CUSC	Connection and Use of System Code
DCUSA	Distribution Connection and Use of System Agreement
DIA	Distribution Impact Assessment
DNO	Distribution Network Operator
DSO	Distribution System Operation
EBR	Electricity Balancing Regulation
ESO	Electricity System Operator
GSP	Grid Supply Point
LIFO	Last-In – First-Out
SCR	Significant Code Review
STC	System Operator Transmission Owner Code
Statcom	STATic synchronous COMpensator, which is a fast-acting device capable of providing or absorbing reactive current and by that regulating the voltage at the point of connection to a power grid.
T&Cs	Terms and Conditions
TEC	Transmission Entry Capacity
TO	Transmission Owner
TOCO	Transmission Owner Connection Offer
TPW	Third Party Works
TSO	Transmission System Operator

Reference material

- The CUSC Section 6;
- The CUSC Schedule 2 Exhibit 3 Construction Agreement; and
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/596180/Gov_Response__Informal_consultation_on_extending_the_scope_of_the_Electricity__Connection_Charges__Regulations__ECCR_.pdf

Annexes

Annex	Information
Annex 1	CMP328 Proposal Form
Annex 2	CMP328 Terms of Reference
Annex 3	CMP328 Third Party Works Diagram
Annex 4	CMP328 SSE Funds Flow Diagram
Annex 5	CMP328 Proposed TW Process SSEN v1.2
Annex 6	CMP328 Pros and Cons of TPW and proposed DIA process
Annex 7	CMP328 Workgroup Consultation Summary of Responses
Annex 8	CMP328 Workgroup Consultation Responses
Annex 9	CMP328 Workgroup Alternative CUSC Modifications
Annex 10	CMP328 Legal Text and Exhibits for the DIA Application Form, DIA Offer and DIA Conclusions Report
Annex 11	CMP328 Workgroup Vote
Annex 12	Code Administrator Consultation Summary of Responses
Annex 13	Code Administrator Consultation Responses