

Workgroup Consultation

CMP402: Introduction of Anticipatory Investment (AI) principles within the User Commitment Arrangements

Overview: In response to [Ofgem's final decision on AI dated 18 October 2022](#), changes to the current User Commitment provisions as detailed within CUSC Section 15 are required to introduce the AI principles for offshore generators connecting at different times to non-radial offshore transmission network.

Modification process & timetable



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: High impact

ESO, Offshore Generators, Offshore Transmission Owners, Consumers

Governance route Standard Governance modification with assessment by a Workgroup

Who can I talk to about the change?

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How do I respond?

Send your response proforma to cusc.team@nationalgrideso.com by **5pm on 15 June 2023**

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Executive summary

What is the issue?

There is a need for change to incentivise Anticipatory Investment (AI) for further investment in offshore transmission. This is to support the later connection of a specific offshore development or developments, as well as to recognise the fact that two offshore generators will be connecting at different times. The current approach to AI for offshore generators has been reviewed because generators have not been incentivised to undertake AI for future projects. Therefore, Ofgem has introduced a new AI concept to increase coordination between generator projects. The objective of this change in policy is to reduce the risk associated with AI for developers and reduce the barriers to coordination and minimise the AI costs for consumers.

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

Proposer's solution:

To introduce the principle of AI into the User Commitment arrangements, via a new Part 5 in CUSC Section 15. At the 23 August 2022 workshop, the Proposer presented several options as to how the liabilities could be calculated and passed onto the later user(s), here being referred to as 'G2'.

Implementation date: 05 January 2024

Summary of potential alternative solution(s):

- Does the Current User Commitment principles remain fit for purpose when AI element applied
- Solution based on capacity of assets
- Local Asset Reuse Factor (LARF) could be applied
- Capping elements aligned to typical Financial Investment Decision (FID).
- AI costs liabilities to be calculated on case-by-case basis.

Interactions

There is potentially an interaction with modification [CMP411](#) Introduction of Anticipatory Investment (AI) within Section 14 charging methodologies if the initial user fails to complete

What is the issue?

As part of the Offshore Transmission Network Review, Ofgem reviewed the current AI arrangements and recognised that there is a need for change to incentivise AI for further investment in offshore transmission. Specifically, to support the later connection of a specific offshore development or developments, and to recognise that two (or more) offshore generators may be connecting at different times.

- Within their final decision entitled “Anticipatory Investment and implementation of policy changes”¹, Ofgem concluded: That they are upholding their minded-to position on the allocation of AI risk between the consumer and later user(s) of shared transmission infrastructure developed under the Early Opportunities workstream.
- Outlined the introduction of an Early-Stage Assessment process; and
- Outlined the extension of User Commitment arrangements in CUSC Section 15 to non-radial offshore transmission.

Allowing for a calculation of an AI cost for new offshore transmission assets in which future generator(s) (or ‘later users’ within that decision) who will be liable for up to the point in which they start paying Transmission Network Use of System (TNUoS) charges. The extension of these liabilities for the later user(s) is to demonstrate project commitment as well as minimise the cost to consumers should the later user(s) withdraw or reduce capacity of their offshore project.

User Commitment arrangements currently cover the concept of radial offshore connections for offshore generators only to the extent that they define the liabilities and securities for each generator for the relevant transmission works onshore (as with onshore connections) as part of the connection. Offshore transmission works are currently ‘self-secured’, and these arrangements are not included within the CUSC.

As offshore transmission assets are being progressed under generator build arrangements (and so at generator’s risk), any cancellation charge in respect of these works under Section 15 of the CUSC does not include these self-secured works, nor is there any security associated with these self-secured works. Therefore, to protect consumers, there is a need to extend User Commitment arrangements to incorporate the AI cost to generator(s) who will be benefiting from shared offshore assets that are being developed and built by the initial generator as part of a non-radial offshore connection.

Why change?

The current approach to AI for offshore generators has been reviewed because generators have not been incentivised to undertake AI for future projects. Therefore, Ofgem has introduced a new AI concept to increase coordination between generator projects and minimise the allocation of AI cost risk to consumers.

To enable the change, there will be a requirement to define new terms such as the initial user and later users, as well as the Early-Stage Assessment which will be carried out by Ofgem on receipt of an application from the relevant user(s) for AI cost to be determined.

What is the solution?

Proposer's solution

The Proposer seeks to introduce the principle of AI into the User Commitment arrangements, via a new Part 5 in CUSC Section 15. Ofgem has noted that “the extension of user commitment arrangements to offshore transmission assets to cover any potential later user of offshore transmission assets funded by AI is intended to demonstrate commitment from the potential later user and demonstrates seriousness of purpose.” And “for the avoidance of doubt, [Ofgem] do not contemplate any extension of user commitment arrangements to the original user or to the non-AI element of any offshore transmission infrastructure.”

At the 23 August 2022 workshop, the Proposer presented several options as to how the liabilities could be calculated and passed onto the later user(s), here being referred to as ‘G2’, noting this term could also potentially include any future subsequent generator(s) for the purpose of this code modification.

The potential options put forward/discussed at that time were:

- **Option 1:** Utilising the existing User Commitment arrangements, AI liabilities would be proportioned using a Local Asset Reuse Factor (LARF) and Strategic Investment Factor (SIF), resulting in G2 only being liable for a proportion of the liability rather than the full AI cost liability. Challenges as to how and who would propose the LARF and SIF calculations were presented, as currently the Transmission Owners state what the calculations would be for the onshore transmission works.
- **Option 2:** The LARF and SIF factors would be constantly set as 1, and therefore G2 would be liable for the whole of the AI cost up until the point of connection.
- **Option 3:** Seeking an alternative option for the pathway to 2030 projects and not utilising the proposed AI User Commitment arrangements for Early Opportunity projects.

Following this feedback and discussion, the Proposer is now seeking to implement a new option based upon further consideration and workshop discussions, which would mean that G2 is only liable for the proportion of the AI cost. However, the Proposer considers that it is prudent for discussion at Workgroup to further consider an appropriate means to consistently calculate a suitable proportion (as well as the suitable percentage of that liability which is then secured) to adequately balances risk between G2 and consumers, as well as to acknowledge the concerns of how much liability is required by G2 ahead of its Financial Investment Decision (FID).

Areas which will need to be addressed with support of Workgroup as part of this modification proposal are:

- What is the appropriate sharing factor that should be applied to the AI cost pre and post G2 FID? For the purposes of this code modification, the Proposer suggests a sharing factor of 33% Pre-FID and 67% Post-FID i.e., G2 being liable for these percentages of the AI value(s), identified via the Early-Stage Assessment process, in those timescales. We will also need to further consider whether it could be appropriate to include an ability to replace these defined percentages with a split directed by Ofgem via the Early-Stage Assessment process, to provide flexibility in relation to AI liabilities

- Will we need to consider if and how the sharing factor will change if there is more than one generator dependent upon the AI being provided by the original generator?
- Should the current User Commitment principles for secured amounts against liability apply in the same way for AI liability i.e., 100% pre-trigger date, 42% post trigger date and 10% consented?
 - Logically the Proposer does not see why the existing onshore approach to security – both in terms of the value and the acceptable forms - could not be extended ‘as is’ offshore for non-radial transmission connected generation i.e. the above security percentages and their link to the trigger date could remain the same for the AI cost component, as the risk of termination is not expected to be any greater or lesser for G2, solely due to the existence of AI. Therefore, it is considered by the Proposer that the security can remain ‘as is’ once the liability has been calculated.
- If and when should the AI component be eligible for inclusion within a fixed cancellation charge?
 - The Proposer does not believe that the AI component should be fixable prior to the value and profile being provided by Ofgem (as it could be fixed at zero) but the value and profile should be fixable from that point onwards i.e., from the first fixed cancellation charge statement which includes the AI cost, as is the principles for onshore attributable works.
- In the potential scenario where some of the AI is considered to be for the purpose of wider system benefit (e.g., to reduce identified boundary constraints) rather than specific to the subsequent developer(s), it is important to ensure that the subsequent generator(s) is/are only liable for their proportion of the AI liability, with any AI liability associated with wider system benefit not directly filtering through to the subsequent generator(s). As Transmission Owners are not liable for user commitment there will be the requirement to separately ensure that any such AI liability is correctly accounted for in the final sums’ arrangements.

The proposed principles for the extension to the User Commitment arrangements to incorporate the AI cost liability are as follows based on current assumptions:

- The initial AI cost value (and its spend profile) will be derived at an Early-Stage Assessment, or the (subject to an Ofgem decision) gateway assessment in the context of the Holistic Network Design recommendation process undertaken by Ofgem on receipt of an application by the generator(s) seeking to develop coordinated infrastructure which would require any AI.
- The AI cost and profile that we expect will be provided to the ESO by Ofgem once the Early-Stage Assessment process has concluded this will then be used to allow the ESO to calculate the Cancellation Charge and Secured Amount Statement, including the new AI liability for G2 through the User Commitment principles. This will be in addition to the values currently calculated in accordance with Section 15 of CUSC and then provided to generators via the MM1-MM3 documentation with contract offers and/or every six months. The AI liability that is applied to G2 is proposed to be 33% of the AI value set via the Early-Stage Assessment process Pre-FID, rising to 67% Post-FID. It is proposed that G2 can only fix the AI liability at the point at which the value is presented within the statements thus ensuring that the AI liability cannot be fixed at £0.

- It is assumed that from the point of contract signature for G2 until the point that the AI cost has been agreed and submitted to the ESO, that the AI liability will be £0². It is important to note, the existing User Commitment liabilities would continue to apply for G2 for onshore transmission works required as part of their connection to the transmission system.
- G2 will be liable for the AI cost until their connection date, at which point they will then pay TNUoS charges. Should G2 reduce its Transmission Entry Capacity (or terminate) ahead of connection, then the current User Commitment arrangements will be applied in respect of onshore transmission along with the proposed amended User Commitment arrangements in respect of non-radial offshore transmission to ensure the appropriate liability costs are recovered, including via security, to the extent it is available.

The Proposer has also identified the need for a related Charging Modification “Incorporation of the Anticipatory Investment (AI) Cost Gap”, which will be raised once details have been finalised.

Workgroup considerations

The Workgroup convened 5 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.

One consideration for the Workgroup to debate was if the Current User Commitment principles are fit for purpose when the AI element is applied. It was discussed that the current user commitment principle is more fit for the onshore generators which are not exposed to cost and risks of developing and constructing the onshore transmission assets. A Workgroup members commented that this cannot be extended wholly to the offshore generators which are exposed to significant cost and risk of the transmission assets.

Hence, the commitment principle must be analysed to check how it can impact financially the offshore generation projects and accordingly modified. Proposer responded that current user commitment principles as they are today will be extended out and current user commitments would require security liabilities to be put in place. A Workgroup member commented that with the existing methodology, and the attributable securities, they are based on a six-month forward window.

Therefore, there is no exposure to the full cost security in the beginning. Exposure happens as the aggregate expenditure increases over the spend profile. Need to consider if this will change people's perception of the exposure.

This methodology may not be tenable because commitments in this this case will come in effect immediately after Ofgem has confirmed the early-stage assessment. Another point raised was about environmental surveys and it needs to be considered that in rare cases surveys on the seabed can reveal it is not suitable, there is a risk involved in trying to put high user commitment on to a secondary developer who hasn't necessarily passed their consent.

If a solution is based on the capability of AI assets, then this would follow current User Commitment principles (Strategic Investment Factor) which applies a sharing factor to be applied recognising that liabilities are also potentially shared with other Users. It could provide clarity to developers as to what percentage liability they could be liable for ahead of the Early-Stage Cost Assessment being completed. The Party who would carry out the assessment will need to be determined. This does risk reopening the early stages of cost assessment and would need to consider at what point can it no longer be reopened; however, this is not for this modification to reflect on.

A Local Asset Reuse Factor (LARF) could be applied, or an alternate should be used, it was suggested that a new acronym be found as this is not the solution. It is more of a System Reuse Factor and if some of the assets become stranded another user could use the available seat. Another member suggested the input of transmission owners would be important due to their experience along with ESO and potential developers. It was suggested by a Workgroup member that LARF is bespoke for the project. It must be decided how, and which party would determine the calculation, as this is currently calculated by the TO's. It can also be questioned how reusable HVDC assets offshore are and therefore the timing could / would need to be considered.

A Workgroup member commented that this would follow current User Commitment principles which allows the principle that the asset could be reusable meaning liabilities are reduced. LARF can help to reduce the AI cost liability less than 33% and hence can be applied. LARF can be discussed between Ofgem and the coordinating projects during early cost assessment and accordingly can be agreed. G1 alone may not have any interest in determining the LARF to reduce AI cost liability for G2 and hence G2 must be involved. TO (because of its experience in calculating LARF) must be involved to determine the LARF in case of disputes or other complexities.

In case more than two projects must be coordinated then a coordination body and mechanism have to be determined. Otherwise, the coordination would not be efficient to deliver an optimum solution with the desired coordination benefits. This is however out of scope for this modification.

The Workgroup reviewed capping elements aligned to typical FID and considering alternate numbers to the original proposal. There are several pros and cons, such as this would provide certainty to the later developer, and that it could result in more risk being passed onto the consumer. The proposer advised the group that this was something that Ofgem would need to take on and we should be mindful not to put costs onto consumers. There was a discussion on what proportion of the AI cost liability should the later user be liable for pre and post Financial Investment Decision (FID) with some Workgroup Members arguing that the proposed 33% pre (FID) was too high.

AI could represent a significant cost and questioned if these costs are bankable. It was suggested that banks may ask why they should be financing the assets for the other generator.

One Workgroup Member suggested UC costs could be capped instead to minimise the impact. The difficulty is identifying what typical cost the 33% represents as the AI Cost liability figures (which will be provided by Ofgem) are unknown at this stage. If capping FID is put in place, consumers could end up bearing a large proportion of the costs.

These are not set figures for pre and post FID and the proposer stated they are open to suggestions and to consider numbers from 0-100.

Another solution proposed was if the AI costs liabilities could be calculated on a case-by-case basis. Each project may be slightly different in approach therefore this method may be more suitable. This could potentially lead to an unfair market and place onerous workload on the Authority, it would not necessarily provide certainty and clarity for the later developer ahead of FID. A Workgroup member commented that transparency and fairness can be ensured by providing cost assessment guidance and by involving not only the current user (G1) but also later user (G2). A coordination mechanism cannot be efficient for more than two projects due to financeability, it's better to have a transitional regime for coordination during which number of projects and capacity of assets should be limited to two. This can also help to test the finance market appetite for such coordinated projects. A greater number of projects, without testing the finance market, would further bring in barriers to coordination and can impact financeability of the projects.

It was put forward that if the assets were built to accommodate 2GW of capacity, then if the initial user is a 1GW project, the later User will pick up the remainder of this, however this enters the realms of early-stage assessment and is outside the scope of this modification. It was acknowledged that this does get fed into how that translates to securities liabilities.

Amongst other considerations discussed in the Workgroup was to continue with existing User Commitment Principles. However, overall feedback on this approach suggested that due to the potential magnitude of the AI costs and how these differentiate to onshore assets would mean that the liabilities would be too high resulting in projects not being tenable.

Workgroup consultation question: What proportion of the AI cost liability should the later user be liable for pre and post Financial Investment Decision (FID)? Please provide justification.

Consider what the appropriate sharing factor should be applied to the AI cost pre and post G2 FID. For the purposes of this code modification, the Proposer suggests a sharing factor of 33% Pre-FID and 67% Post-FID.

Draft legal text

Legal text will be drafted after the Workgroup Consultation has been completed.

What is the impact of this change?

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 The code modification is being raised at the request of Ofgem to implement the decision on AI.
(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 This code modification helps to provide efficient and coordinated competition in the generation and supply of electricity as it will provide clarity and certainty for the future development of AI and offshore coordination.
(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	Neutral This code modification is not related to any compliance issues hence the neutrality.
(d) Promoting efficiency in the implementation and administration of the CUSC arrangements.	Positive This code modification will help to provide clarity for future offshore developments and the associated liabilities ahead of connecting to the transmission system where non-radial offshore transmission.
*The Electricity Regulation referred to in objective (c) is Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) as it has effect immediately before IP completion day as read with the modifications set out in the SI 2020/1006.	

Proposer's assessment of the impact of the modification on the stakeholder / consumer benefit categories

Stakeholder / consumer benefit categories	Identified impact
Improved safety and reliability of the system	Neutral This will not impact the operation of the transmission system.
Lower bills than would otherwise be the case	Positive The clarity provided (by this methodology) should provide offshore generators with greater confidence on what the applicable liabilities will be and so reduce investment risk and lower consumer impacts in the event of later user capacity reduction or termination.
Benefits for society as a whole	Positive This facilitates development of an integrated offshore network and the associated consumer benefits compared to radial connections.

Reduced environmental damage	Positive This facilitates the development of an integrated offshore network and the associated benefits towards achieving Net Zero.
Improved quality of service	Neutral Quality of service is not expected to be improved as a result of this code modification.

Standard Workgroup consultation question: Do you believe that CMP402 Original proposal better facilitates the Applicable Objectives?

When will this change take place?

Implementation date

5 January 2024

This will be required to allow changes to be implemented into the January 2024 Cancellation Charge Statements process. There is recognition that the AI cost could still be £0 for relevant projects at this point as the Early-Stage Assessment process could take place after the January 2024 statements are issued. Therefore, reopener clauses may be required within generators Construction Agreements to acknowledge.

This date is proposed as relevant generators will need to know the methodology and requirements as soon as possible, to be built into their business plan for investment decisions.

Date decision required by

30 November 2023

Generators are looking for a decision as soon as possible as this will affect their business plan and investment decisions.

Implementation approach

Update CUSC legal text with a possible inclusion of a new Part 5 within CUSC Section 15. Implementation required within 10 working days after a decision from the Authority, prior to the above implementation date.

Standard Workgroup consultation question: Do you support the implementation approach?

Interactions

- | | | | |
|--|--|---|--------------------------------|
| <input type="checkbox"/> Grid Code | <input type="checkbox"/> BSC | <input type="checkbox"/> STC | <input type="checkbox"/> SQSS |
| <input type="checkbox"/> European
Network Codes | <input type="checkbox"/> EBR Article 18
T&Cs ¹ | <input type="checkbox"/> Other
modifications | <input type="checkbox"/> Other |

There is also an existing code modification (CMP385) in progress which is reviewing the existing User Commitment arrangements. However, CMP385 does not interact with CMP402 as CMP402 is to incorporate AI into the User Commitment

How to respond

Standard Workgroup consultation questions

1. Do you believe that CMP402 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. What proportion of the AI cost liability should the later user be liable for pre and post Financial Investment Decision (FID)? Please provide justification.

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 using the response proforma which can be found on the [CMP402 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 at the above link.

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

Acronyms, key terms, and reference material

Acronym / key term	Meaning
AI	Anticipatory Investment
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
EBR	Electricity Balancing Guideline
FID	Final Investment Decision

¹ 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 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.

LARF	Local Asset Reuse Factor
SIF	Strategic Investment Factor
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
TNUoS	Transmission Network Use of System

Annexes

Annex	Information
Annex 1	Proposal form
Annex 2	Terms of reference
Annex 3	Worked Example