

Workgroup Consultation Response Proforma**CMP315:** TNUoS Review of the expansion constant and the elements of the transmission system charged for and**CMP375:** Enduring Expansion Constant & Expansion Factor Review

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses to cusc.team@nationalgrideso.com by **5pm on 17 May 2022**. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration.

If you have any queries on the content of this consultation, please contact Paul Mullen Paul.j.mullen@nationalgrideso.com or cusc.team@nationalgrideso.com

Respondent details	Please enter your details
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I wish my response to be:

(Please mark the relevant box)

☒ Non-Confidential

☐ Confidential

Note: A confidential response will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

For reference the Applicable CUSC (charging) Objectives are:

- That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;*
- That compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard licence condition C26 requirements of a connect and manage connection);*
- That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;*

- d. *Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and*
- e. *Promoting efficiency in the implementation and administration of the system charging methodology.*

**Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).*

Please express your views in the right-hand side of the table below, including your rationale.

Standard Workgroup Consultation questions			
1	Do you believe that the CMP315 Original Proposal better facilitates the Applicable Objectives?	Mark the Objectives which you believe each solution better facilitates:	
		Original	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E
		<p>(a) That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;</p> <p>a) Negative</p> <p>By only using historic data to feed into the Expansion Constant, this results in locational tariffs being very slow to catch up with reality if at all. As the System is going through such transformational change as illustrated by the NOA and Pathfinder projects, the assumption of only using new network build will heavily influence tariffs for a long time by only using historic data, when in reality new network build will be limited. When locational tariffs do not reflect actual costs then this negatively affects Competition. This is offset by including all other non-network build options. The additive nature of non-build proxy circuits however turns this into negative</p> <p>b) Negative</p> <p>Including non-build options does improve cost reflectivity, but this is offset by using historic data and proxy circuits for non-build options</p> <p>By striving to include all elements which are required to be built for the operation of the Transmission System such as Transformers, Quadboosters, Reactive compensation etc there is a real danger that instead of being more cost reflective by trying to include everything it creates more distortions. For example, Quadboosters may be installed to change the direction of flows on the System for a particular situation in that location of the system. The flows in the Transport model may not replicate that situation resulting in some users being paid (negative TNUoS charges) when they are actually the cause of the higher cost.</p>	

		<p>Reactive Compensation installed in an area may result in Synchronous Generators within that zone being charged for flows which cross that asset in the Transport Model, whereas in reality that type of Generation in those locations reduces the need for TO spend.</p> <p>Before including additional assets into the Transport Model, it would be essential to fully analyse why those assets are built, under which conditions/scenarios etc, how those costs are assigned to different types of Generators. This could be done as part of the taskforces.</p> <p>There are scenarios where the drivers of Transmission Costs are rewarded through creating extra costs and vice versa. However, arbitrarily throwing more costs into a pot doesn't make it more cost reflective. Negative</p> <p>(c) That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;</p> <p>Neutral</p> <p>(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; Neutral</p> <p>(e) Promoting efficiency in the implementation and administration of the system charging methodology. Neutral</p>
2	Do you believe that the CMP375 Original Proposal better facilitates the Applicable Objectives?	<p><i>(a) That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;</i></p> <p>By matching the calculation of the EC to what investment in the System is created to accommodate flows improves competition by matching tariffs to investment. The changes in circuits/capacity is far better aligned to the drivers of those costs than under CMP315, which looks at certain operational assets.</p> <p>However, the solution of using proxy circuits for non-circuit build would only make the change marginally better. The LCP work shows that there are alternative ways to reflect non circuit build work which are far more cost reflective. Positive</p> <p><i>(b) That compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard</i></p>

		<p><i>licence condition C26 requirements of a connect and manage connection);</i></p> <p>By the Baseline only including new network build, the EC/EF does not match the costs incurred by Transmission Companies even when taking into account the proxy nature.</p> <p>CMP375 includes these network changes a lot quicker into the EC/EF. However, the use of proxy circuits for non circuit build does only make the change marginally better.</p> <p>An alternative solution that adjusted the EC to include all network investment in relation to capacity would enable the DCLF model to far better reflect actual costs incurred. Positive</p> <p><i>(c) That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;</i></p> <p>Neutral</p> <p><i>(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *;</i></p> <p>Neutral</p> <p><i>(e) Promoting efficiency in the implementation and administration of the system charging methodology.</i></p> <p>Neutral</p>
3	Do you support the proposed implementation approach?	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Yes, but it must be noted that the progress of the modification has at times being laboured which has pushed us into certain choices. This and similar workgroups, tend to be beholdent on the ESO providing information and analysis of information that is available only to the ESO. It is therefore essential for the effective operation of the CUSC Workgroup process that the ESO is able to allocate appropriate resource and prioritisation to modifications that are important for the industry.</p>
4	Do you have any other comments?	<p>Work is currently underway building new circuits for Hinkley Point C using T Pylons. The costs of these towers are significantly more expensive than standard towers.</p> <p>The workgroup should consider whether these extra costs should flow through into the EC/EF or be socialised within the residual as work carried out to improve the visual impact of work is mainly for the benefit of the end consumer? This</p>

		<p>principle may also be applied to other network reinforcement solutions where the cost incurred may be substantially greater than that strictly required to transport generation. In this situation, the additional cost is not caused by generators, but caused by TOs and Ofgem making a choice on behalf of consumers regarding a trade-off between incurring more cost versus a potential aesthetic benefit. The economic principle of cost reflectivity would suggest that for a price signal to be useful at incentivising decisions, then the party exposed to the signal must be the one able to make a decision in response to that signal. But in this case, the generator has no control or ability to respond to the question of whether it is appropriate trade-off between better aesthetics versus more expensive additional cost. It is a trade-off considered and decided between TOs and Ofgem on behalf of GB customers, so it would be appropriate for GB customers to face the signal of that additional cost.</p>
5	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		There is the need for the workgroup to consider LCP's work, and consider how this can be turned into an alternative
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Specific Workgroup Consultation questions

6	<p>Do you agree with the CMP315 and CMP375 Proposers' conclusions that the Expansion Constant should also include circuit reinforcement, non-circuit works and life extension works in addition to new circuit build. Are there any other reinforcement types that should be included? Please provide justification for your response.</p>	<p>The intended purpose of the DCLF model is to calculate the incremental cost of locating at a certain part of the Transmission System by adding an incremental 1MW at that location and measuring the impact on flows.</p> <p>The change in flows reflects the efficient Capacity requirements required on the System for those Exports and Imports for the year ahead.</p> <p>The incremental cost changes due to a number of factors including circuit changes, Generation and Demand, and the costs of accommodating those flows on the System.</p>
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7	<p>CMP315 and CMP375 have different proportions of each reinforcement type in the basket for the calculation of the Expansion Constant because the Proposers have different interpretations as to what the Expansion Constant should</p>	<p>The proportions should reflect what the TO's are actually doing and plan to do, to provide new capacity (or allow new connections), not what has historically been. This will also better align the methodology with TO price controls and the NOA.</p> <p>Our reservations around including the likes of Quadboosters, Transformers and Reactive</p>

	<p>represent. Which one of these interpretations do you agree with or do you have a different approach? Please provide justification for your response.</p>	<p>Compensation is that many of these assets are built for the safe and efficient/economic operation of the System. The costs of these types of assets are not related to network distance, but instead are mainly due to the particular configuration of the local network, such as the presence of a particular type of Generator, e.g. solar. Their function may also tend to relate to times operating under different periods other than peak</p> <p>In terms of substations it would be very useful to see these modelled to ensure that they do not create any unintended distortions.</p>
8	<p>A Workgroup Member has also suggested an alternative approach to establish the forward-looking marginal cost over a realistic 5–10-year time horizon. Do you agree with this interpretation or would you suggest a different approach? Please provide justification for your response.</p>	<p>The purpose of the DCLF model is to produce a LRMC cost signal. The Expansion Constant uses historic build costs as a proxy for future investment and the LRMC. If information is available on actual future build costs then it seems appropriate to use this information with adjustments made for RPI etc. to more accurately reflect incremental LRMC. Although, it is important to note that the information used will be forecast as opposed to actual costs, which will introduce a different type of inaccuracy.</p> <p>The Expansion Constant remains fixed for the Price Control so should reflect work being carried out during that period.</p> <p>The Expansion Constant is also used in the 5 year forecast so there is an element of forward looking carried out.</p> <p>If the forward looking data is not used to calculate the Expansion Constant, then a minimum requirement should be to use this data to set forecasts. It's not acceptable to have such a major input to tariffs calculated within a black box environment notified to Industry less than 6 months before it is used in final tariffs.</p> <p>Sufficient notice and accurate predictability are essential for any price signal to be useful. For example, any material unexpected change within a year and 5 days gives generators no opportunity to respond by reducing their TEC</p>

		<p>without incurring penalty charges. Less than c4 years notice means generators are unable to take it into account in their Capacity Mechanism T-4 bid prices. Less than 15 years means low carbon generators are unable to take it into account in CfD bid prices. Also, since most large generation projects have an asset life greater than 20 years, then less than 20 years notice means it is impossible for generators to accurately take it into account in their investment decisions.</p> <p>It will be important for any solution to take into account the likely volatility and unpredictability that would be caused by the choice of methodology. It should balance cost reflectivity with predictability to enable the price signal to be useful. This is because being cost reflective is not in itself sufficient, since it is not a useful price signal if users cannot accurately predict and act on it at the time they make commercial decisions.</p> <p>Also, the more inherently uncertain and unpredictable the tariffs may be arising from the methodology, developers will face more expensive cost of capital and more expensive risk margins, which will cause unnecessarily more expensive costs to customers in the long-term.</p> <p>By looking at forward data you potentially reduce price shocks when the calculation is recalculated at the start of every price control and give a longer long term signal.</p> <p>We would ask ESO to update their forecast in a transparent way with explanation, every year along with the publication of their 5 year TNUoS forecast. This would enable industry to more accurately and usefully take into account the level and uncertainty of future EC when they make commercial decisions.</p>
9	<p>CMP315 and CMP375 Originals propose using the last 10 years historical data when calculating the Expansion Constant/Expansion Factors. Do you agree with this approach or are there alternative approaches to</p>	<p>Using a longer period avoids temporary short term price shocks i.e. the cost of steel affecting future tariffs. However contrary to this it will mean permanent changes in inputs take longer to fully impact upon the Expansion Constant. One way to potentially alleviate this is to use historic costs to set a cost for a specific type of reinforcement but</p>

	consider? Please provide justification for your response.	use forward schemes to set the ratios as indicated by CMP375
10	Do you agree with the list of data items, the ESO require from Transmission Owners to calculate the Expansion Constant. Please provide justification for your response.	Yes.
11	In their analysis, Lane Clark and Peacock (LCP) have provided an alternative implementation approach proposing non-circuit build to be allocated to existing circuits and thereby included within the EFs rather than creating proxy circuits (as proposed by the CMP315 and CMP375 Original). Do you have any thoughts on this and do you agree with LCP's proposal for reinforcement factors? Please provide justification for your response.	<p>Yes.</p> <p>CMP315/CMP375 recognises that new non build work needs to be added to the methodology as this reflects the actual investment being carried out as shown by the NOA</p> <p>However to just add these more prevalent types of investment into the current methodology via a proxy circuit does not reflect revenues and investment. The assumption is that by adding more items to a methodology it must automatically be more cost reflective therefore better. But when you look at the impact on the MW/km within the model all that adding a proxy circuit does is to increases the MW/km, whereas in reality the non-build work has replaced the new network build, so should not be modelled as well as, but should be modelled of conventional circuits build. The model however assumes that the incremental capacity is needed on the existing circuit as well as the proxy circuit and this is reflected in the MW/km. Therefore, a change needs to be made to the EC/EF values on the existing circuits.</p> <p>Without a change to the capacity of a circuit and capability of the boundary, how the impedance for the HVDC circuit is calculated (thus determining flows down the HVDC) will be inaccurate. By assuming less capacity onshore it will send more flows down the HVDC, despite their being actual capacity available due to the non-build works, thus making the calculated MWkm inaccurate.</p> <p>What the LCP work shows is that there is a way of doing it. It could be potentially finessed however it's purpose was to highlight that working</p>

		to the current methodology is wrong when better alternatives are possible.
12	To achieve implementation by 1 April 2023, the Workgroup understand that it will not be possible under the current timeline to include the new EC/EFs in the draft TNUoS tariffs for 2023/2024. Do you support this and, if so, in the absence of draft TNUoS tariffs for 2023/2024, what detail will you need ahead of final TNUoS tariffs being published?	<p>We agree with this approach but from the analysis undertaken within this workgroup we should start to get an idea of what the EC/EF may look like. That's why it has always been crucial to get data as soon as possible</p> <p>Industry should be made fully aware of this in any draft tariffs and the link to this modification outside of the workgroup.</p> <p>In order to provide useful signals and avoid increasing risk margins, it is important that network users, including both generation and demand, are given sufficient notice of a large change in tariffs that affects all users. To this end, if users cannot be given an adequate accurate and reliable indication of what the new charges will be, then it may be worth considering delaying implementation until April 2024/25 and simply indexing the current EC/EF in the meantime.</p>