CUSC Code Administrator Consultation Response Proforma

CMP317 - Identification and exclusion of Assets Required for Connection when setting Generator Transmission Network Use of System (TNUoS) charges; and CMP327 - Removing Generator Residual Charges from TNUoS (TCR)

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 **20 July 2020**. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Panel.

If you have any queries on the content of this consultation, please contact Joe Henry joseph.henry2@nationalgrideso.com or cusc.team@nationalgrideso.com.

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For reference the applicable CUSC objectives are:

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;*

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 licence condition C26 requirements of a connect and manage connection);*

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;*

d. *Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and*

e. *Promoting efficiency in the implementation and administration of the CUSC arrangements.*

**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).*

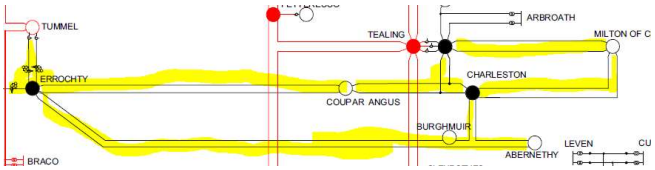
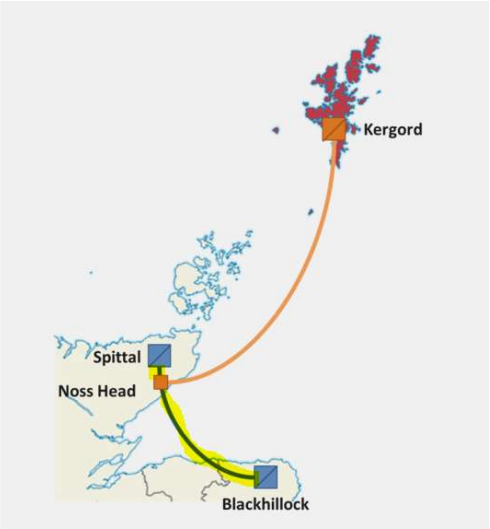
Please express your views in the right-hand side of the table below, including your rationale.

Standard Code Administrator Consultation questions		
1	Do you believe that the CMP317/327 Original solution, or any WACMs better facilitate the Applicable CUSC Objectives?	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;* The majority of EU countries have transmission charging ranges between 0–0.50€/MWh. WACMs that target, or result in outcomes within this range, facilitate effective competition with other countries and are an improvement on the original solution and the baseline. Interpretations that are have a narrow definition '*system'* or excessively wide definition of '*physical assets required for connection'* will similarly result in a barrier to effective competition, placing UK generation at a detriment compared to generators in other EU countries. A steep increase in £/kW/annum charges will also put generators who cannot access the Capacity Market, or who are already in long term Capacity Market contracts, at a disadvantage compared to generators that can pass the additional cost on via higher Capacity Market bids. Consequently, WACMs which target or result in a range of 0–0.5€/MWh, do not exclude all local circuit charges, and include the congestion management constraint costs in the total transmission cost calculation better facilitate this objective. 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 licence condition C26 requirements of a connect and manage connection);* Changes in magnitude of the residual, or another new cost adjustment factor, do not impact the strength of the

		locational signal. The historic decisions made in setting up the load flow methodology in TNUoS charging, result in generation facing a significant cost recovery charge from the locational signal, compared to the demand locational signal cost recovery averaging £0/MWh. For this reason we believe: - A negative cost adjustment factor does not reduce cost reflectivity. - Amending the reference node methodology is a valid solution to CMP 317/327. Please see our previous response to Ofgem's *"Consultation on changing the TNUoS reference node".* 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;* Outcomes where GB generators face a sharp increase in costs, in conjunction with other grid changes are likely to erode investor confidence, and increase required hurdle rates as greater risk premiums will in future be included. GB generators will also face an unlevel playing field with EU generators that enjoy much lower levels of transmission charges, an affect that will become more important as greater capacities of interconnection come online. These two factors are likely to result in reduced investment in GB generation, which will be detrimental to the development of transmission licensees businesses, and could make it more difficult and costlier to balance the system in future. For this reason, WACMs which target or result in a range of 0–0.50€/MWh will be an improvement against this criterion, whereas outcomes that seek to excessively exclude charges from a broad interpretation of '*physical assets required for connection'* and that effectively target 2.50€/MWh will be negative with respect to this objective. d) *Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity*

		*Transmission plc Licence under Standard Condition C10, paragraph 1 *; and* **Constraint Costs** : The arguments and evidence put forward by working group members that constraint costs recovered via BSUoS meet the definition 'congestion charges', and should therefore be included in the calculation of total transmission tariffs appear compelling. Any solution seeking to be compliant with EU legislation should include these costs in the average per MWh charge calculation. **System Definition:** A critical point regarding compliance with EU legislation is what is considered the "*system*". Several different systems are defined in the SQSS: The National Electricity Transmission system (NETS), the Onshore Transmission System, the Offshore Transmission System and the Main Interconnected Transmission System (MITS). We believe the correct interpretation of the EU Regulation No 838/2010 is that the "*system*" is the NETS – if the legislation had intended a restricted definition, it would have indicated it. Consequently *"physical assets required for connection"* is best aligned with connection charges, or failing that the definition of 'Generator only Spur' (GOS) used by Ofgem and discussed in the working group as an asset required solely for a specific generator. The alternative '*system*' could be either the '*Onshore Transmission System'*, which would exclude offshore contributions, but likely have a similar outcome as the GOS methodology. Finally, the *'system'* could be considered the MITS. This is different to the approach taken by the proposal which excludes all assets with local circuit and substation charges. The CUSC defines MITS nodes for the purpose of TNUoS charging, and defines which circuits are covered by the wider and local charging methodologies. The CUSC however does not define the Main Interconnected Transmission *System* – that is defined in the SQSS and is much broader in scope, where the only onshore transmission circuits that are excluded are "*radial circuits which if removed would disconnect generating units*". This means much of the MITS as defined by the SQSS is covered by local circuit

		charging. This is explored later in the other comments section. We do not think the working group explored this existing definition of the MITS, and connection to it as a boundary between 'system' and physical assets required for connection, but it is a valid alternative. It also highlights that the approach taken in the original proposal is creating a new 'system' definition for the purpose of calculating costs that can be excluded, we do not think this is the intention or in the spirit of the EU legislation. **Overhead Factor:** We also believe the overhead factor should be considered with respect to compliance with EU Regulation No 838/2010: The overhead factor "*represents the total business overhead in any year divided by the total Gross Asset Value of the transmission system"* CUSC S14.15.66). It currently contributes 24% of the local circuit charges, this allocation of overhead via local circuit charging cannot be considered a charge for *physical assets required for connection* and so should not be excluded from the calculation to retain compliance with the EU regulation. e) *Promoting efficiency in the implementation and administration of the CUSC arrangements.* We understand the rationale for the work group developing a mechanism that separates out pre-existing assets. The working group analysis did not indicate how material this impact is over and above removing just shared assets from the exclusion. If the adjustment is material: ~5% or more of total onshore local circuit charging, we would support WACMs using this approach, however, if it is less than this threshold, we think the additional complexity it would add to set up and maintain would run counter to the efficiency objective.
e	Do you support the proposed implementation approach?	If the solution results in a significant £/kW/annum increase to generators, we believe a delayed and phased implementation of 2/3 years would be required to allow at least for the T-1 capacity market bids to adjust.

3	Do you have any other comments?	**MITS definitions in SQSS v local circuit charging and MITS nodes**. The below extract from the ETYS highlights sections of the grid that are defined in the SQSS as MITS but are subject to local circuit charging.  The difference arises because the *'generation circuits'* that are excluded in the MITS definition are defined as *radial* circuits only. None of the above are radial circuits, they are elements of the onshore transmission systems at 132kV in Scotland and are therefore defined as part of the MITS system. Only *MITS nodes* are defined in the CUSC, and the charging methodology sets out that circuits between a generator's connection point and the first MITS node(s) are covered by local charges. Similarly, for the proposed Shetland circuit:  The Caithness-Moray link, between two MITS nodes (Spittal and Blackhillock), is defined as part of the MITS in the SQSS, but is subject to a local circuit charge for Island generators, because under the charging section of CUSC, local circuit charging covers power flows not to MITS, but to the first *MITS*

		node. In the case of the Shetland link local circuit, power is modelled as flowing to both Blackhillock and Spittal. We have concerns regarding this approach. We believe a better approach would be to for local circuit charging to only cover the flows to the MITS – in the case of the Shetland circuit, this would be Noss Head, but this approach would also be applicable to many other areas of the grid. Our view is that GOS methodology should be adopted. Failing that, the solution should not include any part of the MITS (as defined by the SQSS) as physical assets required for connection. **Demand and Islands** We do not think that it is correct that local circuits that include demand should be excluded from the total transmission charges calculation under any circumstances, this includes Remote Islands. Local circuits that include both generation and demand cannot be said to be connection assets to the system, they are part *of* the system. **Need to remove a dis-embedded benefit** We understand part of the rationale for Ofgem's decision to instruct the ESO to remove the TNUoS residual was to remove an embedded dis-benefit. As other workstreams are already harmonising charging, we do not think this original rationale still relevant. **Impact on Renewables** If the chosen solution sharply increases the £/kW/annum TNUoS charge, this will disproportionately impact new and existing renewable generation. Flexible and baseload generators will be able to recoup much of the increase in generation charge via higher capacity market clearing prices. Intermittent renewables are either unable to access the CM by virtue of being in receipt of CfDs, ROCs or other support mechanisms, or if subsidy free, only have a very low De-rating factor. This will exacerbate the impact of other changes such as the removal of LECs, embedded benefits, charging harmonisation, the introduction of locational TLMs, and potentially sharper locational TNUoS signals via rezoning. The individual and cumulative impact on the economics of renewable generation will result in a slower transition to low carbon technologies, hindering efforts to reach

net zero targets and obligations under the Paris agreement. Less build out of low marginal cost generation is likely to increase power prices in the medium to longer term, which will have a negative consequence for consumers.

Wider impact
The original proposal and many of the WACMs effectively target €2.50/MWh, putting GB generation at a disadvantage. Ofgem have previously stated that they consider this level (€2.50/MWh) a distortive when setting out their view on BSUoS as an embedded benefit. We have set out in question 1) the reasons we think this will lead to less GB generation being built. This will have a wider impact on direct job creation and supply chains at a very difficult time for the UK economy – investment should be encouraged, not discouraged.

Materiality of excluding onshore shared assets
We must question the ESO's position that not adjusting for shared assets when excluding local charges is immaterial. From the data provided in the latest 5 year charging forecast and the p22/3 of the consultation report, we calculate the following:

	2022/23	2023/24	2024/25
Impact of excluding shared assets* £/KWh	0.13	0.45	0.55
Total Onshore impact to residual £/KW	0.57	1.01	1.55
Total Onshore Tarrifs £m	44.5	89.1	136.7
Onshore shared assets £m excluded	10.1	35.0	42.8
Exlcuded assets as a % of onshore assets	23%	39%	31%
Implied Resdiual impact (£/KW)/£m	- 0.013	- 0.011	- 0.011

We would expect the ratio of shared/sole assets to increase, which happens from 22/23 to 23/24, but reverses in 24/25. We would encourage the methodology and data behind the projections by the ESO to be shared to enable scrutiny by industry participants. We do not see how up to 39% (23/24) of onshore local charging can be seen as immaterial in respect of the exclusion. For example, in 23/24 if £35m of shared assets are deemed immaterial to the calculation, £54m of sole use assets is of the same order of magnitude so would also be immaterial, suggesting no exclusion for any onshore local charges would need to be made at all.

Summary

Despite the modular approach taken, we do not think any single WACM represents our views, and in fact there are a range of outcomes that we would support:
i) Targeting in the range of €0–0.5/MWh
ii) Inclusion of Congestion Charges in total transmission charge calculation in line with the EU regulation.
iii) GOS methodology, failing that a solution that doesn't exclude transmission charges for parts of the MITS as defined by the SQSS.
iv) An ex-post adjustment if charges fall outside the a targeted or EU compliance range. We do not believe any error margin is necessary unless the chosen solution poses a risk of breaching the compliance cap or floor.
v) We believe in order to achieve compliance with EU regulation No 838/2010, the overhead portion of any local circuit charging should not be excluded from the cap calculation because it cannot reasonably be said to be related to the physical assets required for connection.

For ease of reference we include relevant definitions we have referred to below.

SQSS Extracts & definitions

Main Interconnected Transmission System (MITS):

This comprises all the 400kV and 275kV elements of the *onshore transmission system* and, in Scotland, the 132kV elements of the *onshore transmission system* operated in parallel with the *supergrid*, and any elements of an *offshore transmission system* operated in parallel with the *supergrid,* but excludes *generation circuits*, transformer connections to lower voltage systems, *external interconnections* between the *onshore transmission system* and *external systems,* and any *offshore transmission systems* radially connected to the *onshore transmission system* via single *interface points.*

Generation Circuit

The sole electrical connection between one or more *generating units* and the *Main Interconnected Transmission System* i.e. a radial circuit which if removed would disconnect the *generating units*.

National Electricity Transmission System

The *national electricity transmission system* comprises the *onshore transmission system* and the *offshore transmission systems*.

Offshore Transmission System

A system consisting (wholly or mainly) of high voltage lines of 132kV or greater owned and/or operated by an *offshore transmission licensee* and used for the transmission of electricity to or from an *offshore power station* to or from an *interface point*, or *user system interface point* if embedded, or to or from another *offshore power station* and includes equipment, plant and apparatus and meters owned or operated by an *offshore transmission licensee* in connection with the transmission of electricity. An *offshore transmission system* extends from the *interface point* or *user system interface point*, as the case may be, to the *offshore grid entry point/s* and may include plant and apparatus located onshore and *offshore*. For the avoidance of doubt, the *offshore transmission systems*, together with the *onshore transmission system*, form the *national electricity transmission system*.

Onshore Transmission System

The system consisting (wholly or mainly) of high voltage electric lines owned or operated by *onshore transmission licensees* and used for the transmission of electricity from one *power station* to a substation or to another *power station* or between substations or to or from *offshore transmission systems* or to or from any *external interconnections* and includes any plant and apparatus and meters owned or operated by *onshore transmission licensees* within *Great Britain* in connection with the transmission of electricity. The *onshore transmission system* does not include any *remote transmission assets*. For the avoidance of doubt, the *onshore transmission system*, together with the *offshore transmission systems* form the *national electricity transmission system*.

CUSC Extract

14.15.66 The final step in calculating the expansion constant is to add a share of the annual transmission overheads (maintenance, rates etc). This is done by multiplying the average weighted cost (J) by an 'overhead factor'. The 'overhead factor' represents the total business overhead in any year divided by the total Gross Asset Value (GAV) of the transmission system. This is recalculated at the start of each price control period. The overhead factor used in the calculation of the expansion constant for 2009/10 is 1.8%. The overhead and annuitised costs are then added to give the expansion constant.