








Stage 04 Final CUSC Modification Report		At what stage is this document in the process?								
<h1>CMP301: Clarification on the treatment of project costs associated with HVDC and subsea circuits</h1>		<table border="1"> <tr> <td>01</td> <td>Initial Written Assessment</td> </tr> <tr> <td>02</td> <td>Code Administrator Consultation</td> </tr> <tr> <td>03</td> <td>Draft CUSC Modification</td> </tr> <tr> <td>04</td> <td>Final CUSC Modification Report</td> </tr> </table>	01	Initial Written Assessment	02	Code Administrator Consultation	03	Draft CUSC Modification	04	Final CUSC Modification Report
01	Initial Written Assessment									
02	Code Administrator Consultation									
03	Draft CUSC Modification									
04	Final CUSC Modification Report									
<p>Purpose of Modification: CMP213 introduced specific expansion factors for HVDC and subsea circuits however the existing legal text is open to interpretation – this proposal would cement the interpretation made by The Company to ensure consistency with onshore circuits</p>										
	<p>This Final Modification Report has been prepared in accordance with the terms of the CUSC. An electronic version of this document and all other CMP301 related documentation can be found on the National Grid ESO website via the following link: https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/clarification-treatment-project-costs</p> <p>At the CUSC Panel meeting on 04 April 2019, the Panel members agreed that the Original was better than the baseline and recommended that it should be implemented.</p> <p>The purpose of this document is to assist the Authority in making its determination on whether to implement CMP301.</p>									
	<p>Low Impact CUSC Parties who are subject to TNUoS charges</p>									

Contents		 Any questions?
1 About this document	3	Contact: Ren Walker
2 Original Proposal	3	 Lurrentia.Walker@nationalgrideso.com
3 Governance	6	 07969 940855
4 Proposer's solution	6	Proposer: Harriet Harmon
5 Impacts and Other Considerations	7	 harriet.harmon@nationalgrideso.com
6 CMP301: Relevant Objectives	8	 07970458456
7 Implementation	8	National Grid ESO Representative: Harriet Harmon
8 Code Administrator Consultation Response Summary	9	
9 Second Code Administrator Consultation Response Summary	11	
10 CUSC Panel Views	12	
11 Legal Text	16	
12 Impacts	16	
13 Annex 1: Legal Text	17	
14 Annex 2: Code Administrator Consultation Responses	18	
15 Annex 3: Second Code Administrator Consultation Responses	30	

Timetable

The Code Administrator recommends the following timetable:	
Code Administration Consultation Report issued to the Industry	02 July 2018
Draft Final Modification Report presented to Panel	24 July 2018
Modification Panel decision	27 July 2018
Final Modification Report issued to Authority (25 WD)	10 August 2018
Decision Date	5 November 2018
Second Code Administrator Consultation following send-back issued to Industry (15 Working Days)	20 February 2019
Second Code Administrator Consultation- closes	27 February 2019
Draft Final Modification Report presented to Panel	2 April 2019
Modification Panel decision	4 April 2019

Final Modification Report issued to Authority (25 Working Days)	18 April 2019
Indicative Decision Date	28 May 2019
Decision Implemented in CUSC	1 April 2020

1 About this document

CMP301 was proposed by National Grid ESO and was submitted to the CUSC Modifications Panel for its consideration on 29 June 2018. The Panel decided to send the Proposal to a Code Administrator Consultation and the Final Modification Report was submitted to the Authority on 10 August 2018.

On 5 November 2018, the Authority decided to send back CMP301. The Authority determined that they cannot form an opinion on CMP301 based on the Report submitted and directed that a revised version of the Report should be re-submitted for consideration. The Proposer of CMP301 has therefore submitted further information to support the Authority with their decision.

This document is the Final CUSC Modification Report document that contains the responses to both the first and second Code Administrator consultations and the Panel outcomes.

CUSC Panel View

At the CUSC Panel meeting on 4 April 2019, the Panel voted on CMP301 against the Applicable CUSC Objectives.

The Panel members agreed that the Original was better than the baseline and recommended that it should be implemented.

This Final Modification Report has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid ESO Website, along with the CUSC Modification Proposal Form.

2 Original Proposal

Defect

The CUSC currently includes, in its consideration of expansion factors, different elements depending on whether the circuit is subsea, HVDC, onshore or offshore. The differing costs mean that AC subsea and HVDC circuits are not treated consistently with onshore circuits, to which they are most similar. CMP301 has been raised to address legal text interpretation off the back of a previous CUSC modification, namely CMP213,

which introduced specific expansion factors for HVDC and subsea circuits. The existing legal text is open to interpretation and this proposal would cement the interpretation made by The Company to ensure consistency with onshore circuits.

What

Currently the CUSC states:

- 14.15.75 AC sub-sea cable and HVDC circuit expansion factors are calculated on a case by case basis using actual project costs (Specific Circuit Expansion Factors).
- 14.15.76 For HVDC circuit expansion factors both the cost of the converters and the cost of the cable are included in the calculation.
- 14.15.80 Offshore expansion factors (£/MWkm) are derived from information provided by Offshore Transmission Owners for each offshore circuit. Offshore expansion factors are Offshore Transmission Owner and circuit specific. Each Offshore Transmission Owner will periodically provide, via the STC, information to derive an annual circuit revenue requirement. The offshore circuit revenue shall include revenues associated with the Offshore Transmission Owner's reactive compensation equipment, harmonic filtering equipment, asset spares and HVDC converter stations.

We propose to alter 14.15.76 such that it is clear that the elements listed in 14.15.80 as being included in the offshore circuit revenue are not included in the expansion factors for HVDC or AC subsea circuits.

Why

Circuits are modelled in the transport model, to set the locational TNUoS tariffs. Circuits are "stretched" by the 'expansion factor' to account for different types and costs of circuits. Onshore circuits use a table of standard expansion factors defined each price control. HVDC circuits and AC Subsea circuits have significantly different costs, therefore, a specific expansion factor was introduced by CMP213 for these circuits.

We believe that the existing wording is open to interpretation and does not provide appropriate clarity to Users in relation to the calculation of expansion factors. We are also mindful of the material differences between the wording in CUSC for onshore:

14.15.14 The circuit expansion factors for HVDC circuits and AC subsea cables are determined on a case by case basis using the costs which are specific to individual projects containing HVDC or AC subsea circuits.

14.15.75 AC sub-sea cable and HVDC circuit expansion factors are calculated on a case by case basis using actual project costs (Specific Circuit Expansion Factors).

14.15.76 For HVDC circuit expansion factors both the cost of the converters and the cost of the cable are included in the calculation.

And offshore:

14.15.80 Offshore expansion factors (£/MWkm) are derived from information provided by Offshore Transmission Owners for each offshore circuit. Offshore expansion factors are Offshore Transmission Owner and circuit specific. Each Offshore Transmission

Owner will periodically provide, via the STC, information to derive an annual circuit revenue requirement. The offshore circuit revenue shall include revenues associated with the Offshore Transmission Owner’s reactive compensation equipment, harmonic filtering equipment, asset spares and HVDC converter stations.

We believe that there is potential for different interpretations of the CUSC wording introduced under CMP213 (i.e. whether it is **only** the cost of converters and cables that are included, or whether 14.15.76 is merely signposting their inclusion as part of a longer list of components), especially when considered against the more prescriptive offshore wording and therefore consider it necessary to change Section 14 to reflect the ESO’s interpretation of the original CMP213 text.

We further consider it appropriate to align the treatment of expansion factors for HVDC and AC subsea circuits to that of onshore circuits, on the basis that these circuits connect to onshore rather than offshore assets. As the expansion factors for onshore circuits are set at price control, it is necessary to derive an expansion factor for HVDC/AC subsea – in practice, this proposal means that the HVDC/subsea circuit expansion factors are calculated consistently with onshore (i.e. no AC substation costs are included) using a pro rata approach:

Comparison	Onshore AC	AC Subsea	HVDC	Offshore
Cable	Yes	Yes	Yes	Yes
Convertor	N/A	N/A	Yes	Yes
Project Costs	Yes	Yes	Yes	Yes
Switchgear	No	No	No	No
Transformers	No	No	No	No
Reactive Compensation	No	No	No	Yes
Harmonic Filtering	No	No	No	Yes



Consistent treatment of all onshore circuits

This would cement existing arrangements into the CUSC, rather than being a change to how expansion factors are/will be calculated. Illustrative examples of how this would work were discussed at TCMF¹ in 2018, but in summary, the cost of the cables and converters would be considered as a percentage of the total capital cost of the project – that percentage would then be applied to the total project cost (i.e. including overheads) and that final value would be used in the calculation of the expansion factor. We believe this proposal **would ensure clarity in treatment of equivalent assets between onshore circuits whether they are HVDC, AC subsea or standard lines or cables (Objective 2).**

We believe that removing any ambiguity or potential ambiguity from charging methodologies is necessary to ensure that all connectees and chargeable CUSC Parties have a clear understanding of their financial liabilities, and how such liabilities

¹ <https://www.nationalgrideso.com/document/114301/download>

are calculated, thus aiding in creating a level playing field where all Users have a common understanding of charging. We believe that common understandings of charging arrangements better facilitate competition by ensuring that Parties have the information relevant to them when setting market prices, and prevent any one Party (or group thereof) being disadvantaged by misconceptions regarding their charges.

The result of the modification is that cost reflective costs can be passed on specifically to individual parties using the AC or HVDC subsea costs. Without this modification, the different interpretations could lead to charges being less cost reflective and calculated differently to other circuit charges leading to potentially discriminatory treatment between generations (charging objective 1).

How

A legal text change to Section 14 to treat 14.15.76 as a complete list, and apply the same principle to subsea circuits, therefore for HVDC/Subsea Circuit Specific Expansion Factors, cost:

Include:	Do not include:
<ul style="list-style-type: none"> • Cables • converters (for HVDC) • Pro-rata % of the total other project costs 	<ul style="list-style-type: none"> • Switchgear • Transformers • Reaction compensation • Harmonic filtering

3 Governance

CMP301 was proposed by National Grid ESO and was submitted to the CUSC Modifications Panel for its consideration on 29 June 2018. The Panel decided to send the Proposal to a Code Administrator Consultation and the Final Modification Report was submitted to the Authority on 10 August 2018.

On 5 November 2018, the Authority decided to send back CMP301. The Authority determined that they cannot form an opinion on CMP301 based on the Report submitted and direct that a revised version of the Report should be re-submitted for consideration.

4 Proposer's solution

- 14.15.75 AC sub-sea cable and HVDC circuit expansion factors are calculated on a case by case basis using actual project costs (Specific Circuit Expansion Factors).
- 14.15.76 For HVDC circuit expansion factors both the cost of the converters and the cost of the cable are included in the calculation.
- 14.15.80 Offshore expansion factors (£/MWkm) are derived from information provided by Offshore Transmission Owners for each offshore circuit.

Offshore expansion factors are Offshore Transmission Owner and circuit specific. Each Offshore Transmission Owner will periodically provide, via the STC, information to derive an annual circuit revenue requirement. The offshore circuit revenue shall include revenues associated with the Offshore Transmission Owner's reactive compensation equipment, harmonic filtering equipment, asset spares and HVDC converter stations.

We propose to alter 14.15.76 such that it is clear that the elements listed in 14.15.80 as being included in the offshore circuit revenue are not included in the expansion factors for HVDC or AC subsea circuits.

The legal text for CMP301 can be found within Section 9 of this report.

5 Impacts and Other Considerations

No cross-code implications are foreseen by the Proposer, nor do we consider there to be any risks to any existing pieces of work, including the Targeted Charging Review.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

Whilst this Proposal relates to the locational signal, which is being considered under the Access & Forward-Looking Charges work stream in Ofgem's TCR, we do not believe that this change directly affects or inhibits any development in that area.

Consumer Impacts

There are currently no circuits in GB which are HVDC/AC Subsea and therefore there is no change to any Party's charges or expansion factors as a result of this proposal. In future, when HVDC/AC Subsea circuits are established, the expansion factors created under this methodology will determine the locational element of TNUoS charges. As this proposal seeks only to codify the ESO's existing interpretation of 14.15.76, there is no 'baseline' cost against which to compare this CMP – if this modification were to be rejected, ESO would need to consider, based on the Authority rejection, how else to interpret the relevant paragraphs of Section 14 and would only then be able to draw a comparison between this CMP301 interpretation and any other approach. There is, in effect, no counterfactual and therefore the costs/benefits of this proposal cannot be quantified as they are the status quo.

This modification seeks to ensure a better cost reflective signal for HVDC/AC Subsea circuits, that ensures that charging methodology is in line with development of the GB transmission network (Objective 3). Proper cost reflective charging signals contribute to the efficient development of the electricity transmission network, and build and dispatch of generation. A more competitive and more fluid electricity market – in which parties are exposed to the costs they cause - will ultimately drive benefits for end consumers through lower overall prices through a competitive market.

6 CMP301: Relevant Objectives

Impact of the modification on the Applicable CUSC Objectives (Charging):

Relevant Objective	Identified impact
(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;	Positive – a level playing field in terms of knowledge & understanding of the components of expansion factors supports competition
(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);	None
(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;	None
(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	None
(e) Promoting efficiency in the implementation and administration of the CUSC arrangements.	None

*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).

7 Implementation

It is the Proposer's view that CMP301 should be implemented on 01 April 2020.

8 Code Administrator Consultation Response Summary

The Code Administrator Consultation was issued on 02 July 2018 for 15 Working Days and closed 23 July 2018.

3 responses were received to the Code Administrator Consultation and are detailed in the table below

Respondent	Do you believe that CMP301 better facilitates the Applicable CUSC objectives?	Do you support the proposed implementation approach?	Do you have any other comments?
Simon Swiatek, Forsa Energy	<p>Yes.</p> <p>We would agree that the present wording in the CUSC is open to interpretation. We believe that the proposed text provides clarification on what specific costs shall be included in the HVDC and AC subsea circuit expansion factors.</p> <p>Our view is that this modification will facilitate in achieving the relevant CUSC objectives. The revised wording will align the treatment of expansion factors for HVDC and AC subsea circuits with that used for onshore circuits.</p> <p>We consider that competition will be supported by this modification. The modification will ensure consistency with treatment of onshore circuits.</p>	Yes	No
Guy Nicholson, Element Power	<p>We agree that the proposed modification provides clarity on an existing policy and should be welcomed by the industry as a whole.</p> <p>We understand that the Expansion Factor (£/MW·km) is intended to include only those factors which are dependent on both power and distance (such as ac overhead lines, ac underground cables and associated switchgear), and as such reactive compensation equipment, harmonic filtering equipment and asset spares (where these asset spares are related to the reactive compensation equipment, harmonic filtering etc.) should not be included in the Expansion Factor.</p> <p>This change supports applicable CUSC objectives a) because it creates a more level playing field between different technologies and different users and c) because it addresses the practical and detailed aspects of the recent and new developments of HVDC assets in the GB onshore transmission network and e) because it reduces ambiguity in the CUSC.</p>	Yes	No
Paul Mott, EDF Energy	<p>Yes. The existing wording in the CUSC about to the calculation of expansion factors is open to interpretation, lacking clarity. The best way to add clarity is to state clearly that the calculation of expansion factors for HVDC and AC subsea circuits connecting onshore (even if on-island) assets, should be comparable to other onshore local circuits. The proposed legal text achieves this, and if implemented, the mod would better facilitate CUSC charging objective (a), supporting competition, by creating a clear and level playing</p>	Yes, relevant circuits don't exist yet.	No

	<p>field in terms of the components of local circuit expansion factors for different transmission circuit technologies. The effect is also positive against CUSC charging objective (c), properly taking account of the developments in transmission licensees' transmission businesses (HVDC transmission circuits haven't existed before in Britain, nor have high capacity AC transmission circuits to islands); and the mod would have a positive effect against CUSC charging objective (e), promoting efficiency in the implementation and administration of the CUSC arrangements (as ambiguity is not efficient, and cannot be readily administered by way of charge calculation).</p>		
--	--	--	--

9 Second Code Administrator Consultation Response Summary

A secondary Code Administrator Consultation was published on 20 February 2019 after Authority send back. 3 responses were received. These are as follows:

Respondent	Do you believe that CMP301 better facilitates the Applicable CUSC objectives?	Do you support the proposed implementation approach?	Do you have any other comments?
Matthew Bacon Vattenfall		Vattenfall agrees to the general principals outlined in the CUSC Modification Proposal CMP301. CMP 301 does go some way towards addressing the defects within the CUSC for treatment of project costs associated with HVDC and subsea circuit..	
Simon Swiatek, Forsa Energy	Yes We would agree that the present wording in the CUSC is open to interpretation. We believe that the proposed text provides clarification on what specific costs shall be included in the HVDC and AC subsea circuit expansion factors. Our view is that this modification will facilitate in achieving the relevant CUSC objectives. The revised wording will align the treatment of expansion factors for HVDC and AC subsea circuits with that used for onshore circuits. We consider that competition will be supported by this modification. The modification will ensure consistency with treatment of onshore circuits.	Yes	No. We would like to reiterate our support for this proposal as per our previous response of 23 July 2018.
Paul Mott, EDF Energy	Yes. The existing wording in the CUSC about to the calculation of expansion factors is open to interpretation, lacking clarity. The best way to add clarity is to state clearly that the calculation of expansion factors for HVDC and AC subsea circuits connecting onshore (even if on-island) assets, should be comparable to other onshore local circuits. The proposed legal text achieves this, and if implemented, the mod would better facilitate CUSC charging objective (a), supporting competition, by creating a clear and level playing field in terms of the components of local circuit expansion	Yes, relevant circuits don't exist yet.	No

	<p>factors for different transmission circuit technologies. The effect is also positive against CUSC charging objective (c), properly taking account of the developments in transmission licensees' transmission businesses (HVDC transmission circuits haven't existed before in Britain, nor have high capacity AC transmission circuits to islands); and the mod would have a positive effect against CUSC charging objective (e), promoting efficiency in the implementation and administration of the CUSC arrangements (as ambiguity is not efficient, and cannot be readily administered by way of charge calculation).</p>		
--	--	--	--

10 CUSC Panel Views

At the CUSC Panel meeting on 4 April 2019, the Panel voted on CMP301 against the Applicable CUSC Charging Objectives.

The Panel members unanimously agreed that the Original was better than the baseline and recommended that it should be implemented.

For reference the Applicable CUSC Charging 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 license 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. License under Standard Condition C10, paragraph 1; and

(e) Promoting efficiency in the implementation and administration of the system charging methodology.

Vote 1: Does the original facilitate the objectives better than the Baseline?

Panel Member: Cem Suleyman

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Yes	Neutral	Neutral	Neutral	Yes	Yes
Voting statement						
The current wording in the CUSC is ambiguous. The proposed legal text provides clarity of the treatment of the relevant expansion factors. Therefore the Original better facilitates ACO (a) by marginally reducing barriers to entry and ACO (e) by promoting efficiency in the implementation and administration of the CUSC arrangements.						

Panel Member: Laurence Barrett

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Yes	Neutral	Neutral	Neutral	Yes	Yes
Voting statement						
It is my understanding that CMP301 simply clarifies how NG currently calculates the expansion factors that are used for AC sub-sea cables and HDVC lines, it does not propose to change how this calculation is done. Therefore, there should be no resulting commercial impact as the tariffs that are calculated using the expansion factors will not change. The Original proposal will therefore better meet CUSC Charging Objective (a) and (e) by ensuring consistent understanding between parties and by improving the efficiency and administration of the system charging methodology. It will be neutral against the other objectives and overall will be better than the baseline against the CUSC Charging Objectives.						

Panel Member: Garth Graham

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Yes	Neutral	Yes	Neutral	Yes	Yes
Voting statement						
<p>Having reviewed the responses to the two Code Administrator Consultations, the Authority's 'send back' and the Modification Report it is clear that this proposal is, overall, better than the baseline. In particular; as I set out on 27th July 2018 and now set out having considered the 'send back' information; by clarifying the wording the proposal is better in terms of charging objective (a). It also is positive in terms of taking account of developments (such as HVDC) in the transmission business and thus is better in terms of (c). Finally, by removing the uncertainty it is better in terms of the administration of the CUSC arrangements (e).</p>						

Panel Member: Jon Wisdom

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Yes	Neutral	Neutral	Neutral	Yes	Yes
Voting statement						
<p>CMP301 brings a level of clarity to the CUSC arrangements for HVDC/subsea which we believe is currently missing. Improving clarity and ensuring a common understanding of charging arrangements leads to a reduction in the level of uncertainty surrounding TNUoS charges, which should help connectors in making investment decisions, aiding competition. For that reason, this CMP better facilitates ACO a). Ensuring a common understanding also improves the efficiency of CUSC arrangements as it means parties do not need to raise ad hoc queries, or to rely on any guidance notes which the ESO may publish. This CMP is therefore better against ACO e). Against all other ACOs, this change is neutral but overall the proposal is positive.</p>						

Panel Member: Paul Jones

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Neutral	Neutral	Neutral	Neutral	Yes	Yes
Voting statement						
<p>As this is formalising an existing working interpretation adopted by National Grid, then there is no impact on charges or on users. Therefore, this modification in itself is neutral in terms of most objectives, although the interpretation which has been adopted does help promote competition. The modification does better facilitate objective e) by providing greater clarity on how these costs are treated in constructing the expansion factors for the circuits concerned.</p>						

Panel Member: Simon Lord

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Yes	Neutral	Neutral	Neutral	Yes	Yes
Voting statement						
The existing wording in the CUSC setting out the approach used for the calculation of expansion factors is open to interpretation, lacking clarity. This proposal adds clarity to the CUSC setting out the approach for the calculation of expansion factors for HVDC and AC subsea circuits connecting onshore.						

Panel Member: Robert Longden

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Y	Neut	Neut	Neut	Y	Y
Voting statement						
The modification will bring clarity to the treatment of the relevant costs to be considered for HVDC and ac sub sea circuits. It will align the treatment of such assets with onshore circuits. It will facilitate equitable treatment and therefore competition.						

Panel Member: Paul Mott

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)
Original	Yes	Neutral	Yes	Neutral	Yes	Yes
Voting statement						
My vote is, after due reflection, the same as my pre-send back vote, so in summary I still feel that CMP 301 is better than the baseline as regards ACO (a) and ACO(c). It enables the CUSC to take account account of developments (such as HVDC) in the transmission business. Finally, by removing the uncertainty it is better in terms of the administration of the CUSC arrangements (e), as it clarifies the ESO's intended interpretation of the CUSC, which is a sensible interpretation, and avoids any fog of ambiguity by fully and transparently documenting that in the CUSC.						

Vote 2 – Which option is the best?

	CMP301 BEST Option?
Cem Suleyman	Original
Laurence Barrett	Original
Garth Graham	Original
Jon Wisdom	Original
Paul Jones	Original
Simon Lord	Original
Robert Longdon	Original
Paul Mott	Original

The CUSC Panel therefore unanimously recommended by majority that CMP301 could be implemented.

11 Legal Text

The proposed legal text can be found below in Annex 1, this is in Section 14 (Charging Methodologies) of the CUSC.

12 Impacts

Costs

Industry costs (Standard CMP)	
Resource costs	£10,890 – 2 Code Admin Consultations <ul style="list-style-type: none">• 0 Workgroup meetings• 0 Workgroup members• 1.5 man days effort per consultation response• 6 consultation respondents
Total Industry Costs	£10,890.00

Onshore Wider Circuit Expansion Factors

- 14.15.70 Base onshore expansion factors are calculated by deriving individual expansion constants for the various types of circuit, following the same principles used to calculate the 400kV overhead line expansion constant. The factors are then derived by dividing the calculated expansion constant by the 400kV overhead line expansion constant. The factors will be fixed for each respective price control period.
- 14.15.71 In calculating the onshore underground cable factors, the forecast costs are weighted equally between urban and rural installation, and direct burial has been assumed. The operating costs for cable are aligned with those for overhead line. An allowance for overhead costs has also been included in the calculations.
- 14.15.72 The 132kV onshore circuit expansion factor is applied on a TO basis. This is to reflect the regional variation of plans to rebuild circuits at a lower voltage capacity to 400kV. The 132kV cable and line factor is calculated on the proportion of 132kV circuits likely to be uprated to 400kV. The 132kV expansion factor is then calculated by weighting the 132kV cable and overhead line costs with the relevant 400kV expansion factor, based on the proportion of 132kV circuitry to be uprated to 400kV. For example, in the TO areas of National Grid and Scottish Power where there are no plans to uprate any 132kV circuits, the full cable and overhead line costs of 132kV circuit are reflected in the 132kV expansion factor calculation.
- 14.15.73 The 275kV onshore circuit expansion factor is applied on a GB basis and includes a weighting of 83% of the relevant 400kV cable and overhead line factor. This is to reflect the averaged proportion of circuits across all three Transmission Licensees which are likely to be uprated from 275kV to 400kV across GB within a price control period.
- 14.15.74 The 400kV onshore circuit expansion factor is applied on a GB basis and reflects the full costs for 400kV cable and overhead lines.
- 14.15.75 AC sub-sea cable and HVDC circuit expansion factors are calculated on a case by case basis using actual project costs (Specific Circuit Expansion Factors).
- 14.15.76 ~~For Calculation of HVDC circuit expansion factors, and AC sub-sea circuit expansion factors, shall include only: both~~ the cost of the converters (where applicable); and ~~and~~ the cost of the cable; and a percentage of the total overhead project costs, defined as the combined costs of the cables and converters (as relevant) divided by the total capital cost of the project are included in the calculation.

14 Annex 2: Code Administrator Consultation Responses

CMP301 – Clarification on the treatment of project costs associated with HVDC and subsea circuits

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 by **23 July 2018** to cusc.team@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the CUSC Modifications Panel when it makes its final determination.

These responses will be included in the Final CUSC Modification Report which is submitted to the CUSC Modifications Panel.

Respondent:	Simon Swiatek sswiatek@forsaenergy.com
Company Name:	Forsa Energy
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	<p>Yes.</p> <p>We would agree that the present wording in the CUSC is open to interpretation.</p> <p>We believe that the proposed text provides clarification on what specific costs shall be included in the HVDC and AC subsea circuit expansion factors.</p> <p>Our view is that this modification will facilitate in achieving the relevant CUSC objectives. The revised wording will align the treatment of expansion factors for HVDC and AC subsea circuits with that used for onshore circuits.</p> <p>We consider that competition will be supported by this modification. The modification will ensure consistency with treatment of onshore circuits.</p>
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes
Do you have any other comments?	No

CMP301 – Clarification on the treatment of project costs associated with HVDC and subsea circuits

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 by **23 July 2018** to cusc.team@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the CUSC Modifications Panel when it makes its final determination.

These responses will be included in the Final CUSC Modification Report which is submitted to the CUSC Modifications Panel.

Respondent:	Paul Mott
Company Name:	EDF Energy
Do you believe that the proposed original better facilitates the Applicable CUSC Objectives? Please include your reasoning.	Yes. The existing wording in the CUSC about to the calculation of expansion factors is open to interpretation, lacking clarity. The best way to add clarity is to state clearly that the calculation of expansion factors for HVDC and AC subsea circuits connecting onshore (even if on-island) assets, should be comparable to other onshore local circuits. The proposed legal text achieves this, and if implemented, the mod would better facilitate CUSC charging objective (a), supporting competition, by creating a clear and level playing field in terms of the components of local circuit expansion factors for different transmission circuit technologies. The effect is also positive against CUSC charging objective (c), properly taking account of the developments in transmission licensees' transmission businesses (HVDC transmission circuits haven't existed before in Britain, nor have high capacity AC transmission circuits to islands); and the mod would have a positive effect against CUSC charging objective (e), promoting efficiency in the implementation and administration of the CUSC arrangements (as ambiguity is not efficient, and cannot be readily administered by way of charge calculation).
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes. Relevant circuits don't exist yet.
Do you have any other comments?	No

CUSC Code Administrator Consultation Response Proforma

CMP301 – Clarification on the treatment of project costs associated with HVDC and subsea circuits

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 by **23 July 2018** to cusc.team@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the CUSC Modifications Panel when it makes its final determination.

These responses will be included in the Final CUSC Modification Report which is submitted to the CUSC Modifications Panel.

Respondent:	Guy Nicholson Guy.nicholson@elpower.com
Company Name:	Element Power
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	<p>We agree that the proposed modification provides clarity on an existing policy and should be welcomed by the industry as a whole.</p> <p>We understand that the Expansion Factor (£/MW·km) is intended to include only those factors which are dependent on both power and distance (such as ac overhead lines, ac underground cables and associated switchgear), and as such reactive compensation equipment, harmonic filtering equipment and asset spares (where these asset spares are related to the reactive compensation equipment, harmonic filtering etc.) should not be included in the Expansion Factor.</p> <p>This change supports applicable CUSC objectives a) because it creates a more level playing field between different technologies and different users and c) because it addresses the practical and detailed aspects of the recent and new developments of HVDC assets in the GB onshore transmission network and e) because it reduces ambiguity in the CUSC.</p>
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes.
Do you have any other	No

comments?	
------------------	--

15 Annex 3: Second Code Administrator Consultation Responses

CMP301 – Clarification on the treatment of project costs associated with HVDC and subsea circuits

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 by 5pm on **27 February 2019** to cusc.team@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the CUSC Modifications Panel when it makes its final determination.

These responses will be included in the Final CUSC Modification Report which is submitted to the CUSC Modifications Panel.

Respondent:	Paul Mott
Company Name:	EDF Energy
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	Yes. The existing wording in the CUSC about to the calculation of expansion factors is open to interpretation, lacking clarity. The best way to add clarity is to state clearly that the calculation of expansion factors for HVDC and AC subsea circuits connecting onshore (even if on-island) assets, should be comparable to other onshore local circuits. The proposed legal text achieves this, and if implemented, the mod would better facilitate CUSC charging objective (a), supporting competition, by creating a clear and level playing field in terms of the components of local circuit expansion factors for different transmission circuit technologies. The effect is also positive against CUSC charging objective (c), properly taking account of the developments in transmission licensees' transmission businesses (HVDC transmission circuits haven't existed before in Britain, nor have high capacity AC transmission circuits to islands); and the mod would have a positive effect against CUSC charging objective (e), promoting efficiency in the implementation and administration of the CUSC arrangements (as ambiguity is not efficient, and cannot be readily administered by way of charge calculation)
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes. Relevant circuits don't exist yet.
Do you have any other comments?	No

CUSC Code Administrator Consultation Response Proforma

CMP301 – Clarification on the treatment of project costs associated with HVDC and subsea circuits

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 by 5pm on **27 February 2019** to cusc.team@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the CUSC Modifications Panel when it makes its final determination.

These responses will be included in the Final CUSC Modification Report which is submitted to the CUSC Modifications Panel.

Respondent:	Simon Swiatek sswiatek@forsaenergy.com
Company Name:	Forsa Energy
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	<p>Yes</p> <p>We would agree that the present wording in the CUSC is open to interpretation.</p> <p>We believe that the proposed text provides clarification on what specific costs shall be included in the HVDC and AC subsea circuit expansion factors.</p> <p>Our view is that this modification will facilitate in achieving the relevant CUSC objectives. The revised wording will align the treatment of expansion factors for HVDC and AC subsea circuits with that used for onshore circuits.</p> <p>We consider that competition will be supported by this modification. The modification will ensure consistency with treatment of onshore circuits.</p>
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes
Do you have any other comments?	No. We would like to reiterate our support for this proposal as per our previous response of 23 July 2018.

CMP301 – Clarification on the treatment of project costs associated with HVDC and subsea circuits

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 by 5pm on **27 February 2019** to cusc.team@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the CUSC Modifications Panel when it makes its final determination.

These responses will be included in the Final CUSC Modification Report which is submitted to the CUSC Modifications Panel.

Respondent:	<i>Matthew Bacon; matthew.bacon@vattenfall.com; +44 (0) 7817 018 310</i>
Company Name:	<i>Vattenfall</i>
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	<p>For reference, the Applicable CUSC objectives are:</p> <p>Non-Standard (Charging) Objectives</p> <ul style="list-style-type: none"> (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

	<p>European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and</p> <p>(e) Promoting efficiency in the implementation and administration of the CUSC arrangements.</p>
<p>Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.</p>	<p>Vattenfall agrees to the general principals outlined in the CUSC Modification Proposal CMP301. CMP 301 does go some way towards addressing the defects within the CUSC for treatment of project costs associated with HVDC and subsea circuit.</p>
<p>Do you have any other comments?</p>	