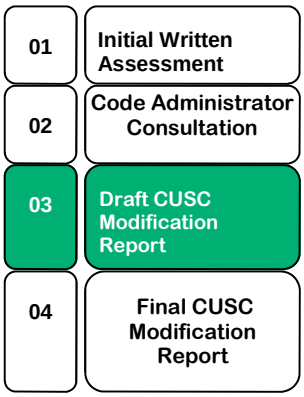
Stage 03 Draft CUSC Modification Report	At what stage is this document in the process?
# CMP301: Clarification on the treatment of project costs associated with HVDC and subsea circuits	

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

	This Draft 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 website via the following link: https://www.nationalgrid.com/uk/electricity/codes/connection-and-use-system-code-cusc/modifications/clarification-treatment The purpose of this document is to assist the CUSC Panel in making its recommendation on whether to implement CMP301.
	CUSC Parties who are subject to TNUoS charges
	The Code Administrator Consultation concluded: All respondents concluded that the Original proposal facilitates the Applicable CUSC Objectives better than the baseline. No potential Workgroup Alternative Consultation Modifications (WACMs) were proposed.

Contents

Any questions?

Contact:
Shazia Akhtar

shazia.akhtar2@nationalgrid.com

07787266972

Proposer:
Harriet Harmon, National Grid

harriet.harmon@nationalgrid.com

07970458456

National Grid Representative:
Harriet Harmon

Timetable

The Code Administrator recommends the following timetable:	
Draft Final Modification Report presented to Panel	26 April 2019
Modification Panel decision	26 April 2019
Final Modification Report issued to Authority	29 April 2019
Indicative Decision Date	01 June 2019
Decision implemented in CUSC (2WD after determination)	01 April 2020

1 About this document

CMP301 was proposed by National Grid 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.

In terms of the aims of CMP301, 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

Code Administrator Consultation Responses

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.

There were two Code Administrator Consultations for this modification, with both receiving 3 responses. A summary of the responses can be found in Section 6 of this document. All respondents agreed that the proposal better facilitates the applicable CUSC objectives.

This Draft Final Modification Report has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid Website:

https://www.nationalgrid.com/uk/electricity/codes/connection-and-use-system-code-cusc/modifications/clarification-treatment

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 TCMF[1] 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 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:

[1] https://www.nationalgrideso.com/document/114301/download

Include:	Do not include:
• Cables • converters (for HVDC) • Pro-rata % of the total other project costs	• Switchgear • Transformers • Reaction compensation • Harmonic filtering

3 Proposer's solution

Section 3 (Proposer's solution) are sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup. Section 7 of the Workgroup contains the discussion by the Workgroup on the Proposal and the potential 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.

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.

4 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).	

5 Implementation

Should be on 1 April 2020

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6 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	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
Guy Nicholson, Element Power	We agree that the proposed modification provides clarity on an existing policy and should be welcomed by the industry as a whole. 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. 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.	Yes	No
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	Yes, relevant circuits don't exist yet.	No

	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).		

7 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	Yes, relevant circuits don't exist yet.	No

	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).		

8 Legal Text

Appended

9 Impacts

This section is only used for stage 5 and stage 6

Costs

Code administration costs	
Resource costs	**£0** - 0 Workgroup meetings **£0** - Catering
Total Code Administrator costs	**£0**

Industry costs (Standard CMP)	
Resource costs	**£0**- 0 Workgroup meetings **£5446** – 2 Consultations • 0 Workgroup meetings • 0 Workgroup members • 1.5 man days effort per meeting • 1.5 man days effort per consultation response • 3 consultation respondents
Total Code Administrator costs	**£0.00**
Total Industry Costs	**£5446.00**

10 Annex 1 – Code Administrator Consultation Responses – First Consultation

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.	We agree that the proposed modification provides clarity on an existing policy and should be welcomed by the industry as a whole. 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. 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.
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?	

CUSC Code Administrator Consultation Response Proforma

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

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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.	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.
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

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:	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

11 Annex 2 – Code Administrator Consultation Responses – Second Consultation

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:	*Matthew Bacon;* matthew.bacon@vattenfall.com*; +44 (0) 7817 018 310*
Company Name:	*Vattenfall*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	For reference, the Applicable CUSC objectives are: Non-Standard (Charging) 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; **(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.
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	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.
Do you have any other comments?	

CUSC Code Administrator Consultation Response Proforma

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

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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.

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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.	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.
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.

12 Annex 3 – Legal Text

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.~~