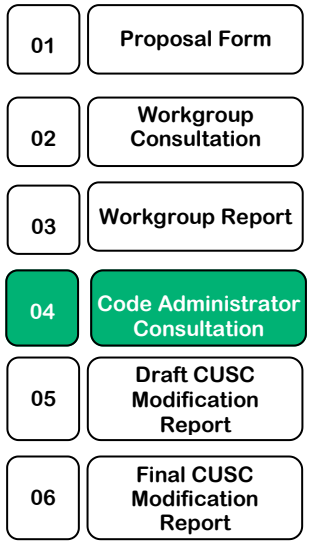
Stage 04: Code Administrator Consultation	At what stage is this document in the process?

CMP306:

Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital



Purpose of Modification: The purpose of this modification is to align the rate of return applied to the net asset value of connection points in the calculation of annual connection charges (as set out at paragraph 14.3.21 of the Connection Charging Methodology) to the pre-tax cost of capital in the price control of the Relevant Transmission Licensee (plus a margin of 1.5 percentage points in the case of Modern Equivalent Asset (MEA) linked assets). This will improve the cost reflectivity of the charges, since the return on capital will equal the Authority's most recent assessment of that cost for the Relevant Transmission Licensee.

The purpose of this document is to consult on CMP306 with CUSC Parties and other interested industry members.

Parties are requested to respond by 5pm on 2 October 2019 to cusc.team@nationalgrideso.com using the Code Administrator Consultation Response Pro-forma which can be found via the following link:

https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/align-annual-connection-charge-rate-return

Consultation published on: 11 September 2019

Length of consultation: 15 Working days

Responses by: 2 October 2019

High Impact: Chargeable Users under the Connection Charging Methodology and transmission licensees.

Medium Impact: None.

Low Impact: None.

Contents

Any questions?

Contact:

Emma Hart

Emma.Hart@nationalgrideso.com

07790370027

Proposer:

Lee Wells

Lee.Wells@northernpowergrid.com

07885712226

National Grid ESO Representative:

Grahame Neal

grahame.neal@nationalgrideso.com

07787261242

Timetable

The Code Administrator recommends the following timetable:	
Initial consideration by Workgroup	December 2018
Workgroup Consultation issued to the Industry	April 2019
Modification concluded by Workgroup	14 June 2019
Workgroup Report presented to Panel	30 August 2019
Code Administration Consultation Report issued to the Industry	11 September 2019
Draft Final Modification Report presented to Panel	25 October 2019
CUSC Modification Panel decision	25 October 2019
Final Modification Report issued to the Authority	w/c 4 November 2019
Decision implemented in to the CUSC	1 April 2021

1 About this document

This document is the Code Administrator's Consultation. It contains the discussion of the Workgroup which formed in December 2018 to develop and assess the proposal. The Code Administrator Consultation has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the Code Administrator's website https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/align-annual-connection-charge-rate-return along with the other associated document such as the original proposal form and the Workgroup report.

Background information

CMP306 was proposed by Northern Powergrid and was submitted to the CUSC Modifications Panel for its consideration on 28 September 2019. CMP306 aims to amend section 14.3.21 of the CUSC by changing the annual connection charge rate of return to the price control cost of capital.

The Panel decided to send the Proposal to a Workgroup to be developed and assessed against the CUSC Applicable Objectives.

The Workgroup consulted on this modification, which closed on 16 May 2019. Six consultation responses were received. These responses can be found in Annex 3 of this report.

At the final Workgroup meeting, Workgroup members undertook a vote in relation to the Proposer's Proposal (known as the Original Proposal). All members of the Workgroup voted that the Original Proposal better facilitated the Applicable CUSC Objectives in comparison with the existing baseline.

CUSC Modification Panel conclusions

At the CUSC Modification Panel meeting on 30 August 2019, the Panel reviewed the Workgroup's Report. The Panel agreed that the Workgroup had met its Terms of Reference and that the Workgroup could be discharged.

Terms of Reference

The CUSC Panel detailed in the Workgroup's Terms of Reference (ToR), the scope of work to be undertaken, and the specific areas that the Workgroup should consider in developing the final solution. The table below details these specific areas and where the Workgroup have covered them in this report.

The full Terms of Reference can be found in Annex 1.

CMP306 Terms of Reference

Specific Area	Location in the report
a) Whether there are any other parts of the Code which are currently out of date in terms of Connection Assets	Section 6 at page 16

b) Consideration of ongoing RPI/MEA reporting moving forwards in regards to MEA uplift.	Section 6 at pages 13 - 14
c) Consideration as to how practical information and data flows are published by Transmission Owners, e.g. various costs of capital in financial control models.	Section 6 at page 16
d) Clarify how the transmission licenses work in regards to connection and transmission revenues.	Section 6 at pages 11 - 13

Acronym Table

Acronym	Meaning
AIF	Annual Iteration Process
CAB	Charging and Billing
COC	Cost of Capital
COD	Cost of Debt
COE	Cost of Equity
CUSC	Connection and Use of System Code
DISt	means the adjustment as a result of: (a) the total amount charged to NGESO in Relevant Year t-1 by Scottish Hydro Electric Transmission Plc, SP Transmission Ltd and National Grid Electricity Transmission plc in respect of Site-Specific Charges (as such charges are defined in Schedule Ten of the STC) minus (b) the total income recovered by the Licensee in respect of Excluded Services in Relevant Year t-1 from customers in the respective Transmission Areas of each of Scottish Hydro Electric Transmission Plc and SP Transmission Ltd and National Grid Electricity Transmission plc.
MAR	Maximum Allowed Revenue
MEA	Modern Equivalent Asset
NAV	Net Asset Value

NGESO	National Grid Electricity System Operator
NGET	National Grid Electricity Transmission
PCFM	Price Control Financial Model
RAV	Regulated Asset Value
RIIO	Revenue = Incentives + Innovation + Outputs
RoR	Rate of Return
RPI	Retail Prices Index
SCR	Significant Code Review
SHETL	Scottish Hydro Electric Transmission Limited
SPTL	SP Transmission Limited
STC	System Operator Transmission Code
STCP	System Operator Transmission Code Procedure
TNUoS	Transmission Network Use of System
TO	Transmission Owner
TSt	means the adjustment as a result of: (a) the total amount charged to NGESO in Relevant Year t-1 by Scottish Hydro Electric Transmission Plc, SP Transmission Ltd, and National Grid Electricity Transmission plc and any Offshore Transmission Owner in respect of Transmission Owner Final Sums (as such charges are defined in schedule nine of the STC) minus (b) an amount equal to the income received by the Licensee in Relevant Year t-1 in respect of users who reduce TEC or developer capacity (as defined in CUSC) or who terminate relevant bilateral agreements for connection and/or access rights to the National Grid Electricity Transmission, in the respective Transmission Areas of each of Scottish Hydro Electric Transmission Plc, SP Transmission Ltd, National Grid Electricity Transmission plc and any Offshore Transmission Owner (for the avoidance of doubt, including any amounts that are treated as capital contributions)

WACC	Weighted Average Cost of Capital

2 Original Proposal

This section is sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup.

Defect

Paragraph 14.3.21 of the current CUSC Connection Charging Methodology calculates the capital component of the annual connection charge by applying an out of date return element of 6% for assets indexed using the Retail Price Indices (RPI), or 7.5% for assets under the Modern Equivalent Asset (MEA) revaluation.

As set out at transmission standard licence condition C6.8, the connection charging methodology should allow the Relevant Transmission Licensee to recover (a) its costs of carrying out any works and (b) a reasonable rate of return on the capital represented by such costs. In effect, the charges should be cost-reflective. The current 6% RPI linked return was previously a reasonable assessment of the cost of capital of the Relevant Transmission Licensee, as it was aligned with a price control assessment of the cost of capital. However, the figure has not been updated to reflect the latest cost of capital determinations by the Authority. The 6% figure for an RPI linked return is therefore no longer reflective of the cost of capital of the Relevant Transmission Licensee, and is therefore no longer a reasonable rate of return on the costs incurred by the Relevant Transmission Licensee.

This proposal only relates to underlying cost of capital used in calculating the appropriate rate of return. It does not consider the appropriate difference between the return on RPI-linked and MEA-linked assets (which is currently set at 1.5 percentage points).

What

It is proposed to amend the calculation of the capital components of the annual connection charges, by defining the rate of return applied to RPI-linked assets as the pre-tax cost of capital determined in the price control in force in the relevant year, and for MEA linked assets as the same value plus 1.5 percentage points.

Why

Paragraph 14.2.1 states that connection charges enable the Relevant Transmission Licensee to recover the costs involved in providing the assets to connect to the transmission system with a 'reasonable rate of return'. As highlighted in the 'defect' the long-standing rates of return are not currently linked to the cost of capital the Authority has determined for the Relevant Transmission Licensee in its price control settlement, and whilst the cost of capital has declined the calculation of the charges has remained linked to a 6% return (and 7.5% for MEA-linked assets). Aligning the rate of return in the charging methodology to the pre-tax cost of capital in the price control settlement in force at any given time would ensure that the annual connection charges levied by the Relevant Transmission Licensee reflect Ofgem's latest view of a reasonable rate of return for that Relevant Transmission Licensee. This will result in a more cost reflective charges to Users.

How

References to the rate of return in Section 14 Part 1 of the CUSC ('The Statement of the Connection Charging Methodology') should be amended to define the rate as the pre-tax cost of capital determined in the relevant price control, plus 1.5 percentage points for assets under the MEA revaluation method.

3 Why Change?

Under the existing arrangements, the Relevant Transmission Licensee sets its annual charges for connection to the transmission network to include a rate of return which is no longer reflective of the latest cost of capital determined in its price control settlement by Ofgem.

By adjusting the rate of return so it equals the cost of capital in the latest price control determination, the charges of the Relevant Transmission Licensee to Users will be more cost reflective. This greater cost reflectivity will flow through to charges ultimately levied on end users.

Failure to address this issue will result in a continued disconnect between the rate of return reflected in connection charges levied by the Relevant Transmission Licensee and the cost of capital of that Relevant Transmission Licensee as determined by the Authority. This would result in a continued (and, based on current trends in the allowed cost of debt, growing) lack of cost reflectivity in the annual connection charges.

4 Impacts & Other Considerations

Details of any potential cross-code, consumer or environmental impacts and attach or reference any other, related work.

This proposal will directly impact the CUSC. The Relevant Transmission Licensee and The Company may also wish for consequential amendments to the System Operator-Transmission Owner Code (STC), although the public nature of the information this amendment requires means this is not strictly necessary. One possible approach to the STC is that the Relevant Transmission Licensee provides the System Operator with the pre-tax cost of capital information and potentially publishes it such that stakeholders can easily find it. The Workgroup would expect the parties to the STC to develop the process and relevant drafting separately. Other than for Charging and Billing (CAB), no other system or processes are expected to be impacted.

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

Ofgem has confirmed that Transmission Owner (TO) connection charges are not in scope of any of the ongoing SCR.

Ofgem's developing RIIO-2 proposals are related in determining what the cost of capital will be in the next price control. This proposal does not impact that process; instead it is drafted to ensure the Connection Charging Methodology remains aligned with the price control on an ongoing basis.

Consumer Impacts

Aligning the rate of return to the pre-tax price control cost of capital of the Relevant Transmission Licensee when calculating connection charges will result in more cost reflective costs levied on the impacted Users. These more cost-reflective charges should ultimately be reflected in the charges seen by energy consumers.

5 Proposer's Solution

This section is sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup.

The Authority undertakes an extensive assessment of the evidence on the relevant cost of capital, and thus a reasonable rate of return, at each price control review. The cost of capital may then be updated within the price control period according to a pre-set indexation formula. The results of this assessment (and any indexation formula) therefore form an ideal input to the calculation of a reasonable rate of return on capital as part of annual connection charges.

References to the rate of return in paragraph 14.3.21 of the CUSC ('The Statement of the Connection Charging Methodology') should be amended to define the rate as the pre-tax cost of capital determined in the relevant price control of the Relevant Transmission Licensee, plus 1.5 percentage points for assets under the MEA revaluation method.

All references to the 6% and 7.5% figures should be removed accordingly. The relevant legal text and suggested amendments are proposed in section 10 of this form.

6 Workgroup Discussions

The Workgroup convened four times between December 2018 and July 2019 to discuss the issue and detail the scope of the proposed defect. The Workgroup considered potential solutions and assessed the proposal in terms of the Applicable CUSC Objectives. Following the Workgroup consultation, the Workgroup considered the responses received before finalising its work to aid the development of the final solution.

The Workgroup discussed several key attributes under CMP306 and these discussions are described below.

How to calculate the pre-tax Cost of Capital (COC)

The Proposer explained that the pre-tax Cost of Capital[1] calculation is documented within Section 10 of this report. The following inputs: Cost of Debt (COD), Cost of Equity (COE), Notional Gearing and Corporation Tax will be taken from the latest Price Control Financial

[1] Also, referred to as the Rate of Return

Model (PCFM)[2]. This is published by Ofgem on the 30th November each year following the Annual Iteration Process (AIP).

The Proposer highlighted that there were different ways to calculate the Rate of Return (RoR) and CMP306 proposes to use the pre-tax Weighted Average Cost of Capital (WACC). The Proposer demonstrated how this would be calculated for each TO and highlighted the source of the inputs. These calculations along with supporting commentary can be found in full within Annex 2 of this report.

Table 1: Rate of Return NGET

NGET TO	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21 (e.g what 20/21 could look like)		Notes
CoD	2.92%	2.72%	2.55%	2.38%	2.22%	1.91%	1.58%	1.58%	A	The TOs 'real' pre-tax cost of debt sourced from row 38 of the relevant TO worksheet within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
CoE	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	B	The TOs 'real' post-tax cost of equity sourced from row 39 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
Gearing	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	C	The TOs notional gearing (i.e. percentage of the TOs regulatory asset value (RAV) which is notional debt) sourced from row 40 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
WACC	**4.552%**	**4.432%**	**4.330%**	**4.228%**	**4.132%**	**3.946%**	**3.748%**	**3.748%**	D = (AxC)+(Bx(1-C))	The 'real' Vanilla Weighted Average Cost of Capital (WACC) calculated as a weighted percentage of debt/equity relative to the notional percentage of RAV which is debt/equity
Tax	20.00%	20.00%	20.00%	20.00%	19.00%	19.00%	19.00%	17.00%	E	The corporation tax rate set by HMRC and sourced from row 120 of the Tax Trigger sheet for the relevant TO within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
pre-tax WACC	**5.252%**	**5.132%**	**5.030%**	**4.928%**	**4.789%**	**4.603%**	**4.405%**	**4.321%**	F = (AxC)+((B/(1-E))*(1-C))	The 'real' pre-tax WACC calculated in the same way as the Vanilla WACC other than the post-tax cost of equity is converted to a pre-tax basis using the relevant corporation tax rate
RPI return	**5.25%**	**5.13%**	**5.03%**	**4.93%**	**4.79%**	**4.60%**	**4.40%**	**4.32%**	G = ROUND(F,2)	For simplicity and consistent, the pre-tax WACC is rounded to two decimal places. **This is the figure that will be used to replace the current 6%**
MEA delta	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	H	CMP 306 proposes to retain the 1.5 percentage points differential between the rate of return applied to Modern Equivalent Asset (MEA) valued assets compared to those inflated using the Retail Price Indices (RPI)
MEA return	**6.75%**	**6.63%**	**6.53%**	**6.43%**	**6.29%**	**6.10%**	**5.90%**	**5.82%**	I = G+H	

Table 2: Rate of Return SP Transmission Limited

[2] https://www.ofgem.gov.uk/publications-and-updates/riio-et1-financial-model-following-annual-iteration-process-2018

SPTL	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	(e.g what 20/21 could look like)	Notes
CoD	2.92%	2.72%	2.55%	2.38%	2.22%	1.91%	1.58%	1.58%	A	The TOs 'real' pre-tax cost of debt sourced from row 38 of the relevant TO worksheet within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
CoE	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	B	The TOs 'real' post-tax cost of equity sourced from row 39 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
Gearing	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	C	The TOs notional gearing (i.e. percentage of the TOs regulatory asset value (RAV) which is notional debt) sourced from row 40 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
WACC	**4.756%**	**4.646%**	**4.553%**	**4.459%**	**4.371%**	**4.201%**	**4.019%**	4.019%	D = (AxC)+(Bx(1-C))	The 'real' Vanilla Weighted Average Cost of Capital (WACC) calculated as a weighted percentage of debt/equity relative to the notional percentage of RAV which is debt/equity
Tax	20.00%	20.00%	20.00%	20.00%	19.00%	19.00%	19.00%	17.00%	E	The corporation tax rate set by HMRC and sourced from row 120 of the Tax Trigger sheet for the relevant TO within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
pre-tax WACC	**5.544%**	**5.434%**	**5.340%**	**5.247%**	**5.110%**	**4.939%**	**4.758%**	4.664%	F = (AxC)+((B/(1-E))*(1-C))	The 'real' pre-tax WACC calculated in the same way as the Vanilla WACC other than the post-tax cost of equity is converted to a pre-tax basis using the relevant corporation tax rate
RPI return	**5.54%**	**5.43%**	**5.34%**	**5.25%**	**5.11%**	**4.94%**	**4.76%**	4.66%	G = ROUND(F,2)	For simplicity and consistent, the pre-tax WACC is rounded to two decimal places. **This is the figure that will be used to replace the current 6%**
MEA delta	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	H	CMP 306 proposes to retain the 1.5 percentage points differential between the rate of return applied to Modern Equivalent Asset (MEA) valued assets compared to those inflated using the Retail Price Indices (RPI)
MEA return	**7.04%**	**6.93%**	**6.84%**	**6.75%**	**6.61%**	**6.44%**	**6.26%**	6.16%	I = G+H	

Table 3: Rate of Return SHETL

SHE	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	(e.g what 20/21 could look like)	Notes
CoD	2.92%	2.50%	2.15%	1.79%	1.51%	1.16%	1.00%	1.00%	A	The TOs 'real' pre-tax cost of debt sourced from row 38 of the relevant TO worksheet within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
CoE	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	B	The TOs 'real' post-tax cost of equity sourced from row 39 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
Gearing	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**	55.000%	C	The TOs notional gearing (i.e. percentage of the TOs regulatory asset value (RAV) which is notional debt) sourced from row 40 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
WACC	4.76%	4.53%	4.33%	4.13%	3.98%	3.79%	3.70%	3.70%	D = (AxC)+(Bx(1-C))	The 'real' Vanilla Weighted Average Cost of Capital (WACC) calculated as a weighted percentage of debt/equity relative to the notional percentage of RAV which is debt/equity
Tax	**20.000%**	**20.000%**	**20.000%**	**20.000%**	**19.000%**	**19.000%**	**19.000%**	17.000%	E	The corporation tax rate set by HMRC and sourced from row 120 of the Tax Trigger sheet for the relevant TO within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
pre-tax WACC	**5.54%**	**5.31%**	**5.12%**	**4.92%**	**4.72%**	**4.53%**	**4.44%**	4.35%	F = (AxC)+((B/(1-E))*(1-C))	The 'real' pre-tax WACC calculated in the same way as the Vanilla WACC other than the post-tax cost of equity is converted to a pre-tax basis using the relevant corporation tax rate
RPI return	5.54%	5.31%	5.12%	4.92%	4.72%	4.53%	4.44%	4.35%	G = ROUND(F,2)	For simplicity and consistent, the pre-tax WACC is rounded to two decimal places. **This is the figure that will be used to replace the current 6%**
MEA delta	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	1.50%	H	CMP 306 proposes to retain the 1.5 percentage points differential between the rate of return applied to Modern Equivalent Asset (MEA) valued assets compared to those inflated using the Retail Price Indices (RPI)
MEA return	**7.04%**	**6.81%**	**6.62%**	**6.42%**	**6.22%**	**6.03%**	**5.94%**	5.85%	I = G+H	

Introduction of regional differences in Transmission Owner connection charges

The Proposer recognised that whilst they were trying to make the Connection Charge more cost reflective each Transmission Licensee will have different inputs into their calculation of the pre-tax WACC, which could result in regional differences in TO Connection Charges that do not currently exist with regard to the charges levied by National Grid Electricity System Operator (NGESO) on behalf of the TOs.

The Workgroup compared the figures against the current baseline (6%) and each TO. It was noted that SP Transmission Limited (SPTL) and Scottish Hydro Electric Transmission Limited (SHETL) do not charge NGESO based on 6% at present. One view within the Workgroup was that the percentage difference between each TO appeared to be relatively small. However, if it were to be applied to a customer with a large number of assets the difference between having a connection in England and Wales in comparison to Scotland could become quite

significant and detrimental. It would be representative of the status quo if some of the TOs charged customers directly i.e. SPTL and SHETL already calculate charges based on the proposed CMP306 solution, which are levied on NGESO.

The NGESO representative stated that he would need to discuss this with other TOs to see if they were happy with this approach or if they wanted to raise any alternatives to the Original proposed solution. Following discussions with the affected onshore TOs, the NGESO representative confirmed to the Workgroup that the proposed methodology is acceptable to the affected on-shore TOs.

The Workgroup discussed whether they should use a single national average across the TOs instead of a methodology that results in regional variances.

The Proposer calculated the average pre-tax WACC across the three TOs, namely, National Grid Electricity Transmission (NGET), SPTL and SHETL. The Workgroup noted that over the 8-year period the average (mean) rate of return was not significantly different to that of each TO. The average difference between the collective TOs minimum and maximum RPI Return was 0.34%.

Table 4: Average rate of return across the TOs

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Min	5.25%	5.13%	5.03%	4.92%	4.72%	4.53%	4.40%	4.32%
Max	5.54%	5.43%	5.34%	5.25%	5.11%	4.94%	4.76%	4.66%
Min v Max	***0.29%***	***0.30%***	***0.31%***	***0.33%***	***0.39%***	***0.41%***	***0.36%***	***0.34%***
Average (mean)	**5.44%**	**5.29%**	**5.16%**	**5.03%**	**4.87%**	**4.69%**	**4.53%**	***4.44%***

The Proposer highlighted that he did not have a view of what the difference between TO-specific and average translated to in financial terms but use of a TO average did not go against the principle that CMP306 was trying to achieve. The Workgroup would need to decide if it wanted to go with simplicity (i.e. one figure for all TOs) and use the average or go down the route of more cost reflective charging and introduce regional differences.

The NGESO representative stated that whilst the regional differences are very small they would prefer to go down the route of TO specific pre-tax WACC. This is because NGESO would otherwise have to carry the risk of calculating a weighted average, as they would not be able to use the mean and so using TO specific WACC values, would be easier to administer than an average WACC across TOs.

Before finalising the solution, the Workgroup thought it would be beneficial to obtain Ofgem's views on whether CMP306 should be introducing regional differences into TO connection charges. They did not want to waste any further time developing this solution if Ofgem were completely unsupportive of it, or if it brought the modification within the scope of a Significant Code Review (SCR).

The Ofgem representative confirmed that TO connection charges are not within the scope of any of the ongoing SCRs. Ofgem also confirmed that they are prepared to consider the case for CMP306 to introduce regional differences into the Cost of Capital applicable to TO Connection Charges.

The Proposer and Workgroup concluded that it would be more cost reflective to use the individual TOs pre-tax WACCs.

For the avoidance of doubt the CMP306 solution will be based on each TOs specific WACC (rather than an average of the TOs WACCs).

User Impact

The Workgroup discussed measuring the User Impact by calculating the financial difference between the 6% baseline and current pre-tax WACC for each TO.

The NGESO representative confirmed that the financial impact of this modification, across all TO areas, was approximately £19.3m per annum based on the current 6% WACC compared to the TO specific 2018/19 WACC as shown in the below table.

Table 5: Consumer Impact:

Transmission Owner	2018/19 TO specific WACC	User to NGESO Impact
NGET	4.60%	£15.5m
SPTL	4.94%	£2.0m
SHETL	4.53%	£1.8m

The above analysis removes the effect of the 13% of assets that are charged under the MEA methodology and any assets that have fully depreciated (that are not charged a RoR).

Will the reduction in Connection Charge revenue be recovered elsewhere?

The Workgroup questioned whether the difference in Connection Charge revenue would be recovered elsewhere i.e. through Transmission Network Use of System (TNUoS) charges or the K Factor (i.e. correction of over or under-recovery of allowed revenue).

The NGET representative explained that in terms of Post-Vesting Assets and Metering Assets, this would not be recovered elsewhere. Where the proposed CMP306 solution is not already used, the relevant Connection Charges will just reduce according to a reduced rate of return. In respect of Pre-Vesting Assets, Connection Charges will similarly reduce but consequential changes in charges do occur. This is because Pre-Vesting Asset Connection Charges are deemed to be funded through Allowed Revenue, and a TO reduces its revenue to be recovered from General Service Charges (via NGESO TNUoS) by the amount of Pre-Vesting Asset Connection Charges. Therefore, if Pre-Vesting Connection Charges reduce for a given year, General Service Charges to the NGESO (for inclusion in TNUoS) are increased via TO charging submissions under the System Operator Transmission Owner Code Procedures (STCP) 13-1 and 14-1[3] process, so as to recover the same relevant TO Allowed Revenue for the relevant year. A consequential STC change is required following a decision on CMP306.

[3] https://www.nationalgrideso.com/codes/system-operator-transmission-owner-code?code-documents

The NGET representative summarised by stating that with a reduced CUSC WACC, a TOs Maximum Allowed Revenue (MAR) will be unchanged but Excluded Services revenue (for Post-Vesting and Metering asset charges) will reduce.

The term "Connection charges" is defined in the CUSC (section 11) and it includes one-off charges. Post-vesting connection charges are not included in the TOs' MAR; pre-vesting connection charges are part of TOs' MAR (as those assets were funded, prior to 1990, by public money and later became part of TOs' Regulated Asset Value (RAV)). Both pre-vesting and post-vesting connection charges are collected by NGESO on behalf of TOs. They are collected on the site-specific basis and from customers. In parallel, the TOs' MAR (after deducting the pre-vesting charges) are recovered by NGESO via TNUoS charges.

Within each TO's MAR, there is an element (DISt), which is a "correction" item carrying 1-year's lag. The purpose of DISt is to correct the mismatch between connection charges forecast (information provided by TOs as part of the annual charge setting process), and the connection charges actually collected by NGESO from users, during financial year t-1. DISt is then included into TOs' MAR figure forecasts for financial year t, which in turn feed into NGESO's TNUoS tariff for (financial) year t.

Effectively, any over/under recovery of site-specific charges, will offset/increase the TNUoS charge for the forthcoming financial year, and has an impact on TNUoS tariffs. However, if the forecast from TOs match the amount collected by NGESO, the DISt item will be zero and will not affect TNUoS.

Separately, similar to DISt, there is another element within MAR called TSt, and is a "correction" item carrying 1-year's lag. Correction to the Capital contribution mismatch (between forecast and collected) are included as part of the TSt.

The 1.5 percentage point uplift for MEA linked assets

The Workgroup questioned whether the 1.5 percentage points uplift (on top of the 6%) for MEA linked assets was still cost reflective given that the COC was declining in the medium term and therefore the MEA uplift represented a greater percentage increase on the RPI equivalent (i.e. same percentage point uplift applied to a smaller baseline).

One view within the Workgroup was that they should consider if the uplift should track as a 25% increase (i.e. 1.5 percentage points MEA uplift relative to the 6% RPI figure) against the core figure, rather than being fixed at 1.5%. This is because if the core figure were to drop to 3% then this would result in an uplift of 50%. If the core figure were to drop down even further to 1.5%, then this would result in an uplift of 100%.

The Proposer explained that his view was that this is out of scope for this modification. Paragraph three of the defect clearly states that this modification "does not consider the appropriate differences between the return on RPI-linked and MEA-linked assets (which is currently set at 1.5%)". The Proposer has deliberately tried to keep the scope of the defect narrow so that discussions around the appropriate MEA delta do not unnecessarily delay the progress of the modification.

The view of most the Workgroup was that this would not necessarily delay the progress of the modification and that because the MEA figure is linked to the RPI figure plus a 1.5 percentage points delta it is inevitably being amended anyway, so they should be allowed to raise alternatives around this. They could then present all the options to the Authority who could then decide on whether it should stay at 1.5 percentage points or be linked to something else which is more variable.

The Proposer explained that he has already tried to understand if the 1.5 percentage points uplift was appropriate but has struggled to do this because of the significant changes in yearly MEA inflation and not being able to source the original basis for the 1.5 percentage points difference, as it was set so long ago.

The Workgroup requested that the Code Administrator confirm whether any alternatives around MEA uplift would be out of scope for this modification. The Code Administrator sought legal advice on the issue and stated that their view was that any alternatives relating to MEA uplift would be out of scope for this modification. This is because the modification explicitly excludes the difference in return applicable to RPI indexed assets and MEA revalued assets from the scope of the defect and assumes that a 1.5 percentage points uplift will apply to MEA revalued assets. The CUSC does not allow the defect to be amended and any Workgroup alternatives must better facilitate the Applicable CUSC Objectives by addressing the same defect.

The Code Administrator suggested that if the Workgroup still want to consider the appropriateness of the 1.5 percentage points difference for MEA-linked assets, then they should raise another modification proposal to look at this specifically, and request that it be progressed in parallel to CMP306.

Will CMP306 make other payment options, such as Capital Contributions more expensive?

The NGET representative highlighted that one of the consequences of this modification may be that it makes other payment options, such as Capital Contributions, more expensive. Based on the current and predicted path of the pre-tax WACC, the CMP306 solution will reduce the rate of return applied to annual connection charges levied by NGESO, relative to the 6% (and 7.5% MEA equivalent). The depreciated annual capital costs will therefore reduce on a like-for-like basis, but the rate applied to equivalent upfront costs is not intended to be affected.

The Proposer accepted that this could be a risk, because CMP306 is looking at the rate of return applied to enduring connection charges, rather than upfront costs.

The Workgroup discussed whether they needed to raise a separate modification to address this issue or if this was an implementation question for the Workgroup Consultation.

The NGESO representative highlighted that CMP306 is looking to revise the rate of return variable (Rn), and where Section 14.3.24 (Capital Contributions) of the CUSC specifically references this variable. Therefore, this change would also affect the rate of return applied in the calculation of Capital Contributions in the same way so there would be no need for any further changes.

The Workgroup concluded that no further discussions were needed on this issue.

What information needs to be published by the TOs?

The NGET representative highlighted that they would need to tie the Transmission Licensees into publishing the information required by NGESO. Therefore, it would be useful if NGESO could confirm what this is.

The NGESO representative explained that the Proposal already confirms where certain information can be found, so it may be that nothing else is required and all they need to do is highlight where this information is.

The Workgroup noted, that as they are moving away from a hard-coded figure of 6% within the CUSC, to aid transparency they may need to publish the WACC for each TO and the rate of return for MEA assets, so that this is easily assessable to smaller Users who may not have the ability or resource to calculate this for themselves. The Workgroup noted that this could be published within the Statement of Use of System Charges by NGESO or on the TO websites.

The NGET representative highlighted that there was also a risk around the timing of the information and how that aligns with the STCP 13.1 process[4], which allows them to share their Connection Charge setting data with NGESO, to set charges effective from the start of the charging year each April.

The NGESO representative explained that he would need to discuss this with the other TOs to make sure they are happy with the information that needs to be published, the timing of this and how this will be done. A modification in relation to the STC has been drafted and will be raised following a decision on this modification.

Is a system change needed to implement the new charging methodology?

The NGESO representative confirmed that a system change will be needed to their Charging and Billing (CAB) system. This is because the CAB currently only contains one variable for the RoR; a system change will be needed to break this out into TO specific rates.

Future proofing Legal Text for changes in inflation indexation.

The Workgroup discussed future changes in inflation indexation and whether this could move from to RPI to CPI within the next price control. If the legal text was amended so that it referenced an external inflation market linked to the PCFM, rather than referring specifically to RPI or CPI, it would future proof it against any future change.

The Workgroup concluded that there were numerous references to RPI within the CUSC, and so a new modification would be needed to align the CUSC to any form of indexation other than RPI. Therefore, this CMP306 proposal did not need to be reviewed in terms of the use of RPI indexation within the CUSC.

Are other parts of the CUSC out of date, in relation to Connection Assets

[4] https://www.nationalgrideso.com/codes/system-operator-transmission-owner-code?code-documents

The Workgroup discussed the Term of Reference set by the CUSC Modifications Panel and decided that this was too broad a request and beyond the scope of the defect. Therefore, the Workgroup decided that it did not need to be considered further.

Workgroup Consultation

The Workgroup noted that six Workgroup Consultation responses were received by the Code Administrator. The Workgroup discussed the following areas that were raised in the consultation response and have not already been dealt with by the Workgroup:

Cross Code Impacts

The Workgroup noted that a consequential STC modification would need to be raised to give effect to this modification. The NGESO representative stated that the STC modification has already been drafted.

Legal Text

The Workgroup noted that within the consultation responses it was highlighted that there are additional references to 6% and 7.5% within Section 14 that have not been dealt with. It was queried whether the legal text needed to deal with these further references within Section 14.

The Workgroup discussed these additional figures and agreed that they related to one off charges, which are outside the scope of this modification. This is because the defect has been drafted narrowly to cover the RoR element for assets indexed using RPI. It was agreed that should changes to these figures be deemed necessary, then a separate code change modification should be raised.

Competition impacts

The Workgroup considered whether locational cost will have an impact on competition. The Workgroup acknowledged that locational costs will have an impact on competition but that this would be a positive impact rather than a negative impact as suggested by the consultation response received. The Workgroup noted that the majority of respondents were comfortable with the suggested modification.

The Workgroup considered that the purpose of this modification was to ensure that any charges are cost reflective and that any averaging of rates across the TOs, is effectively a distortion and a form of cross subsidy for some customers.

CMP306 Implementation approach

The Proposer explained that he would like this modification to be implemented as soon as possible; i.e. the next charging year, starting 1 April 2020.

The Workgroup noted that the six consultation respondents were broadly in support of the proposed implementation approach.

NGET had raised that this modification and the subsequent STC modification would need to be decided upon by 1 September 2019 in order for there to be certainty ahead of the annual STC processes if the 1 April 2020 date were to be met. This is because TO Annual Charge Setting processes under the STC is requested by NGESO by 1 October 2019, with provision from the TO by 31 October 2019. NGET stated that a mid-year implementation of CMP306 would not be feasible.

The NGESO representative confirmed that the issue was mainly with the required system changes. It was confirmed that if the Authority decision on CMP306 was received after 1 September 2019, the implementation is likely to need to be for the charging year 1 April 2021 – 31 March 2022 due to the system changes. However, the NGESO representative stated that further investigation into the required system changes was required as it is unclear if the 6% is hard coded etc.

The Code Administrator provided the Workgroup with advice in relation to an application on urgency and it was concluded that this was unlikely to be successful.

Terms of Reference

The Workgroup considered whether there was anything further that should be considered in terms of the Workgroup's Terms of Reference. The Workgroup agreed that they are content that the Terms of Reference had been met.

7 Workgroup Vote

The Workgroup believe that the Terms of Reference have been fulfilled and CMP306 has been fully considered.

The Workgroup met on 11 July 2019 and voted on whether the Proposer's Original solution would better facilitate the Applicable CUSC Objectives than the Baseline and what option was best overall. There are no Workgroup Alternative CUSC Modifications raised.

The Workgroup unanimously concluded that the Original solution is the best option. The voting record is detailed below:

Vote 1: does the Original solution facilitate the objective better than the Baseline?

	Better facilitates Applicable CUSC objective (a)	Better facilitates Applicable CUSC objective (b)	Better facilitates Applicable CUSC objective (c)	Better facilitates Applicable CUSC objective (d)	Better facilitates Applicable CUSC objective (e)	Overall (Yes/No)

Lee Wells (Proposer)						
Original	Neutral	Yes	Yes	Neutral	Neutral	Yes

Voting Statement:

As proposer of CMP 306 we believe that CUSC Charging Objectives (b) and (c) will be better facilitated by this change, because:

(b) connection charges recovered by the Electricity System Operator (ESO) will better reflect the costs incurred by a transmission licensees and specifically its return on that expenditure. This is achieved by aligning the rate of return to the pre-tax cost of capital determine the Relevant Transmission Licensee's price control settlement, resulting in more cost reflective connection charges; and

(c) the rate of return will continue to account for developments in the Relevant Transmission Licensee's business by aligning the calculation of the rate of return to its price control settlement and therefore accounting for periodic changes in: the cost of debt; cost of equity; and gearing.

It is our view that CMP 306 has a neutral impact on all other CUSC Charging Objectives.

Grahame Neale (NGESO Representative)						
Original	Yes	Yes	Yes	Neutral	Neutral	Neutral

Voting Statement:

We believe that CUSC Charging Objectives (a), (b) and (c) will be better facilitated by this change, because:

(a) The Transmission Connection Charges will be more cost reflective of the TO's costs and therefore promote competition in the industry by providing better signals to the market for regional variations.

(b) connection charges recovered by the Electricity System Operator (ESO) will better reflect the costs incurred by a transmission licensees and specifically its return on that expenditure. This is achieved by aligning the rate of return to the pre-tax cost of capital determine the Relevant Transmission Licensee's price control settlement, resulting in more cost reflective connection charges; and

(c) the rate of return will continue to account for developments in the Relevant Transmission Licensee's business by aligning the calculation of the rate of return to

its price control settlement and therefore accounting for periodic changes in: the cost of debt; cost of equity; and gearing.

It is our view that CMP 306 has a neutral impact on all other CUSC Charging Objectives.

Kathryn Evans (Workgroup Member)

Original	Neutral	Yes	Yes	Neutral	Neutral	Yes

Voting Statement:

b) Increased cost reflectivity will be achieved by aligning the RoR applied to the net asset value of Connection points, by ensuring the ESO reflect the costs incurred by the Transmission Licences

c) The proposed solution enables the RoR to reflect Ofgem current and future view of an efficient TO in respect of WACC.

Andrew Colley (Workgroup Alternate Member)

Original	Neutral	Yes	Yes	Neutral	Neutral	Yes

Voting Statement:

CMP306 will better facilitate Applicable Objectives (b) and (c) for the reasons given by the Proposer in the Proposal as it will ensure more cost reflective charges which, in turn, leads to a more competitive market leading to lower costs for consumers.

Matthew Paige-Stimson (Workgroup Member)

Original	Neutral	Yes	Yes	Neutral	Neutral	Yes

Voting Statement:

We believe that CUSC Charging Objectives (b) and (c) will be better facilitated by this change, because:

(b) connection charges recovered by the Electricity System Operator (ESO), on behalf of the transmission licensee, will be upon the rate of return set out within the relevant transmission licensees price control arrangements; and

(c) the rate of return will better account for developments in the Relevant Transmission Licensee's business in reflecting any changes in rate of return both within and across price control periods.

We consider that CMP 306 has a neutral impact on all other CUSC Charging Objectives.						
Tim Collins (Workgroup Member)						
Original	Yes	Yes	Yes	Neutral	Neutral	Yes

Voting Statement:

CMP306 facilitates:

- CUSC objective (a) because it ends the undue competitive disadvantage faced by parties whose Connection Charges exceed cost reflective levels;
- CUSC objective (b), because Connection Charges will be based on Ofgem's view of efficient TO financing costs (i.e. WACC), instead of an increasingly arbitrary 6% (or 7.5%) real.
- CUSC objective (c), because the allowed return on Connection Charges in the use of system charging methodology will automatically adjust to reflect future changes in WACC.

CMP306 offers clear benefits to the CUSC objectives and consumers and should therefore be implemented.

Vote 2: Which option is best?

Workgroup Member	Best Option (Baseline or Original)?
Lee Wells (Proposer)	Original
Grahame Neale (NGESO Representative)	Original
Kathryn Evans (Workgroup Member	Original
Andrew Colley (Workgroup Member)	Original
Matthew Paige-Stimson (Workgroup Member)	Original
Tim Collins (Workgroup Member)	Original

8 Relevant Objectives

This is the Proposer's view of how this modification meets the Applicable CUSC 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;	None
(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);	Positive – aligning the rate of return applied in connection charges to the pre-tax cost of capital in the Relevant Transmission Licensee's price control will result improved cost reflectivity.
(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;	Positive – this proposal will ensure the rate of return aligns to the price control cost of capital and thus reflect changes in subsequent price controls.
(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).	

9 Implementation

NGESO have confirmed that it is not possible to deliver the required system change in time for the April 2020 charging year. This is because the required system changes to CAB are expected to take approximately 25 weeks and this system change is required to establish

charges in January for the following April. Due to this timing and lead-time, it is not feasible to implement CMP306 in January 2020 for April 2020 without putting all charging activities at risk.

Therefore, it is proposed that this modification will be implemented on 1 April 2021.

10 Code Administrator Consultation: how to respond

If you wish to respond to this Code Administrator Consultation, please use the response pro-forma which can be found under the 'Industry Consultation' tab via the following link:

https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/align-annual-connection-charge-rate-return

Responses are invited to the following questions:

1. Do you believe CMP306 better facilitates the Applicable CUSC Objectives? Please include your reasoning.

2. Do you support the proposed implementation approach?

3. Do you have any other comments?

Views are invited on the proposals outlined in this consultation, which should be received by **5pm on 2 October 2019**. Please email your formal response to: cusc.team@nationalgrideso.com

If you wish to submit a confidential response, please note the following;

Information provided in response to this consultation will be published on the National Grid Electricity System Operator's website unless the response is clearly marked 'Private & Confidential', we will contact you to establish the extent of this confidentiality. A response marked 'Private & Confidential' will be disclosed to the Authority in full by, unless agreed otherwise, will not be shared with the CUSC Modifications Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

Please note an automatic confidentiality disclaimer generated by your IT System will not in itself, mean that your response is treated as if it had been marked 'Private & Confidential'.

11 Legal Text

Text Commentary

The Proposer's proposed legal text replaces the current hard coded rate of return values in 14.3.21 (6% and 7.5%) with references to the latest pre-tax weighted average cost of capital allowed in the Relevant Transmission Licensee's price control for the charging year. This means the relevant value will update from year to year, with reference to the price control.

The proposed text does not directly cross reference specific values (or value names or cell ranges) in the current price control financial model, or other price control documentation. This will help to future-proof the drafting against possible future changes to the structure or variable names in the price control financial model (or other documentation). However, for reference in evaluating this proposal, the relevant cost of capital values can all be sourced from rows 38-40 of the input tab in the latest (November 2018) RIIO-ET1 PCFM, which can be downloaded from the Ofgem website.[5]

In all its recent price control determinations, the Authority has stated its cost of capital in 'vanilla' terms, which means it mixes a post-tax cost of equity with the un-taxed cost of debt. Corporation taxes on equity returns are then allowed through separate tax allowances. The charging methodology requires a pre-tax cost of capital, so that Users pay their share of the corporation taxes that will be due on the equity element of a reasonable rate of return. To avoid ambiguity over how to calculate a pre-tax cost of capital, the proposed text uses the textbook calculation. This is as follows:

Pre-tax cost of capital = ((1-gearing %) x pre-tax cost of equity) + (gearing % x cost of debt)

Where:

Pre-tax cost of equity = post-tax cost of equity / (1 - corporation tax rate)

The corporation tax rate can be sourced from row 120 of the Tax Trigger tab in the latest PCFM.

The Proposer has also introduced a housekeeping change to the post-depreciation period rate of return. This has been set to zero, which does not affect the calculated charges since it is multiplied by a NAV which, by definition, is also zero at that stage.

Proposed text modifications

14.3.21. The charge for each connection asset in year n can be derived from the general formula below. This is illustrated more fully by the examples in Appendix 2: Examples of Connection Charge Calculations.

Annual Connection Chargen = Dn (GAVn) + Rn (NAVn) + SSFn (RPIGAVn) + TCn

(GAVn)

Where:

For n = year to which charge relates within the Depreciation Period

n = year to which charge relates

[5] https://www.ofgem.gov.uk/publications-and-updates/riio-et1-financial-model-following-annual-iteration-process-2018

GAVn = GAV for year n re-valued by relevant indexation method

RPIGAVn = GAV for year n re-valued by RPI indexation

NAVn = NAV for year n based on re-valued GAVn

Dn = Depreciation rate as percentage (equal to 1/Depreciation Period) (typically 1/40 = 2.5% of GAV)

Rn = ~~real rate of return for chosen indexation method (the Relevant Transmission Licencee's price control pre-tax RPI-linked Weighted Average Cost of Capital for year n (RPI-WACCn) for RPI indexation, or the Relevant Transmission Licensee's RPI-WACCn + 1.5 percentage points for MEA indexation6% for RPI indexation, 7.5% for MEA Indexation~~)

For assets subject to RPI indexation, the real pre-tax Weighted Average Cost of Capital for the Relevant Transmission Licensee for year n (WACCn).

For asset subject to MEA indexation, the real pre-tax Weighted Average Cost of Capital for the Relevant Transmission Licensee for year n (WACCn) plus 1.5 percentage points.

Where for the year n:

~~WACCn =~~ $WACCn = \left(\left(\frac{real\ post\ tax\ cost\ of\ equity}{1-corporation\ tax\ rate}\right) \times (1 - notional\ gearing\ \%)\right) + (real\ cost\ of\ debt \times notional\ gearing\ \%)$

Where:

The real post-tax cost of equity, notional gearing %, real cost of debt and the corporation tax rate, are as specified in the latest published Ofgem Price Control Financial Model (PCFM) relating to year n, or should Ofgem fail to publish or cease to publish a PCFM, the latest public regulatory determination(s) or decision(s) should be used.

SSFn = Site Specific Factor for year n as a % (equal to the Site Specific Cost/Total Site GAV)

TCn = Transmission Running Cost component for year n (other Transmission Owner Activity costs).

~~RPI-WACCn = cost of debt for year n x notional gearing % for year n + post tax cost of equity for year n / (1 – corporation tax rate for year n) x (1-notional gearing % for year n)~~

~~Where:~~

~~The cost of debt, notional gearing % and post-tax cost of equity for the Relevant Transmission Licensee, plus the corporation tax rate, are as specified in the latest published Ofgem price control financial model (PCFM) relating to the relevant year or, should Ofgem fail to publish or cease to publish a PCFM, taken from the latest public regulatory determinations or decisions on the cost of capital for the Relevant Transmission Licensee for the relevant year.~~

For n = year to which charge relates beyond the Depreciation Period

n = year to which charge relates

GAVn = GAV for year n re-valued by relevant indexation method

RPIGAVn = GAV for year n re-valued by RPI indexation

NAVn = 0

Dn = 0

Rn = 0 ~~6% for RPI indexation, 7.5% for MEA Indexation~~)

SSFn = Site Specific Factor for year n as a % (equal to the Site Specific Cost/Total Site GAV)

TCn = Transmission Running cost component for year n (other Transmission Owner Activity costs).

12 Annex 1: CMP306 Terms of Reference

Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP306 WORKGROUP

CMP306 aims to Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Panel in the evaluation of CUSC Modification Proposal **CMP306: Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital** proposed by Lee Wells of Northern Powergrid in September 2018 and presented to the CUSC Panel on 28 September 2018.

2. The proposal must be evaluated to consider whether it better facilitates achievement of the CUSC Objectives. These can be summarised as follows:

   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.

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC Modification provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

Scope of work

4. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the CUSC Objectives.

5. In addition to the overriding requirement of point 4 above, the Workgroup shall consider and report on the following specific issues:

   - Whether there are any other parts of the Code which are currently out of date in terms of Connection Assets
   - Consideration of ongoing RPI/MEA reporting moving forwards in regards to MEA uplift.
   - Consideration as to how practical information and data flows are published by Transmission Owners, e.g. various costs of capital in financial control models.
   - Clarify how the transmission licenses work in regards to connection and transmission revenues.

6. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modifications (WACMs) arising from Group discussions which would, as compared with the Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.

7. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.

8. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.

9. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.

10. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of **15 working days** as determined by the Modifications Panel.

11. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

    As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report

including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

12. The Workgroup is to submit its final report to the Modifications Panel Secretary on **21 August 2019** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **29 September 2019.**

Membership

13. It is recommended that the Workgroup has the following members:

Role	Name	Representing (User nominated)
Chair	Emma Hart	Code Administrator
Proposer	Lee Wells (Proposer)	
NGESO Representative	Grahame Neale	
Workgroup Member	Kathryn Evans	
Workgroup Member	Andrew Colley	
Workgroup Member	Matthew Paige-Stimson	
Workgroup Member	Tim Collins	

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk (*) in the table above contribute toward the required quorum, determined in accordance with paragraph 15 below.

14. The CUSC Panel must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP306 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

15. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise]. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal*;*
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

16. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise

these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.

17. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.

18. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.

19. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

Appendix 1 – Indicative Workgroup Timetable

The Code Administrator recommends the following timetable:	
Initial consideration by Workgroup	December 2018
Workgroup Consultation issued to the Industry	April 2019
Modification concluded by Workgroup	14 June 2019
Workgroup Report presented to Panel	30 August 2019
Code Administration Consultation Report issued to the Industry	11 September 2019
Draft Final Modification Report presented to Panel	25 October 2019
CUSC Modification Panel decision	25 October 2019
Final Modification Report issued to the Authority	w/c 4 November 2019
Decision implemented in to the CUSC	1 April 2021

13 Annex 2: How to Calculate the Rate of Return

Rate of Return - NGETO	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	(e.g what 20/21 could look like)	
CoD	2.92%	2.72%	2.55%	2.38%	2.22%	1.91%	1.58%	1.58%	A	The TOs 'real' pre-tax cost of debt sourced from row 38 of the relevant TO worksheet within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
CoE	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	B	The TOs 'real' post-tax cost of equity sourced from row 39 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
Gearing	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	C	The TOs notional gearing (i.e. percentage of the TOs regulatory asset value (RAV) which is notional debt) sourced from row 40 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
WACC	**4.552%**	**4.432%**	**4.330%**	**4.228%**	**4.132%**	**3.946%**	**3.748%**	**3.748%**	D = (AxC)+(Bx(1-C))	The 'real' Vanilla Weighted Average Cost of Capital (WACC) calculated as a weighted percentage of debt/equity relative to the notional percentage of RAV which is debt/equity
Tax	20.00%	20.00%	20.00%	20.00%	19.00%	19.00%	19.00%	17.00%	E	The corporation tax rate set by HMRC and sourced from row 120 of the Tax Trigger sheet for the relevant TO within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
pre-tax WACC	**5.252%**	**5.132%**	**5.030%**	**4.928%**	**4.789%**	**4.603%**	**4.405%**	**4.321%**	F = (AxC)+((B/(1-E))*(1-C))	The 'real' pre-tax WACC calculated in the same way as the Vanilla WACC other than the post-tax cost of equity is converted to a pre-tax basis using the relevant corporation tax rate
RPI return	**5.25%**	**5.13%**	**5.03%**	**4.93%**	**4.79%**	**4.60%**	**4.40%**	**4.32%**	G = ROUND(F,2)	For simplicity and consistent, the pre-tax WACC is rounded to two decimal places. **This is the figure that will be used to replace the current 6%**
MEA delta	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	H	CMP 306 proposes to retain the 1.5 percentage points differential between the rate of return applied to Modern Equivalent Asset (MEA) valued assets compared to those inflated using the Retail Price Indices (RPI)
MEA return	**6.75%**	**6.63%**	**6.53%**	**6.43%**	**6.29%**	**6.10%**	**5.90%**	**5.82%**	I = G+H	

Rate of Return SPTL	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	(e.g what 20/21 could look like)	
CoD	2.92%	2.72%	2.55%	2.38%	2.22%	1.91%	1.58%	1.58%	A	The TOs 'real' pre-tax cost of debt sourced from row 38 of the relevant TO worksheet within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
CoE	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	B	The TOs 'real' post-tax cost of equity sourced from row 39 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
Gearing	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	C	The TOs notional gearing (i.e. percentage of the TOs regulatory asset value (RAV) which is notional debt) sourced from row 40 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
WACC	**4.756%**	**4.646%**	**4.553%**	**4.459%**	**4.371%**	**4.201%**	**4.019%**	**4.019%**	D = (AxC)+(Bx(1-C))	The 'real' Vanilla Weighted Average Cost of Capital (WACC) calculated as a weighted percentage of debt/equity relative to the notional percentage of RAV which is debt/equity
Tax	20.00%	20.00%	20.00%	20.00%	19.00%	19.00%	19.00%	17.00%	E	The corporation tax rate set by HMRC and sourced from row 120 of the Tax Trigger sheet for the relevant TO within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
pre-tax WACC	**5.544%**	**5.434%**	**5.340%**	**5.247%**	**5.110%**	**4.939%**	**4.758%**	**4.664%**	F = (AxC)+((B/(1-E))*(1-C))	The 'real' pre-tax WACC calculated in the same way as the Vanilla WACC other than the post-tax cost of equity is converted to a pre-tax basis using the relevant corporation tax rate
RPI return	**5.54%**	**5.43%**	**5.34%**	**5.25%**	**5.11%**	**4.94%**	**4.76%**	**4.66%**	G = ROUND(F,2)	For simplicity and consistent, the pre-tax WACC is rounded to two decimal places. **This is the figure that will be used to replace the current 6%**
MEA delta	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	H	CMP 306 proposes to retain the 1.5 percentage points differential between the rate of return applied to Modern Equivalent Asset (MEA) valued assets compared to those inflated using the Retail Price Indices (RPI)
MEA return	**7.04%**	**6.93%**	**6.84%**	**6.75%**	**6.61%**	**6.44%**	**6.26%**	**6.16%**	I = G+H	

Rate of Return SHE	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	(e.g what 20/21 could look like)	
CoD	2.92%	2.50%	2.15%	1.79%	1.51%	1.16%	1.00%	1.00%		A
CoE	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%		B
Gearing	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**	**55.000%**		C
WACC	4.76%	4.53%	4.33%	4.13%	3.98%	3.79%	3.70%	3.70%		D = (AxC)+(Bx(1-C))
Tax	**20.000%**	**20.000%**	**20.000%**	**20.000%**	**19.000%**	**19.000%**	**19.000%**	**17.000%**		E
pre-tax WACC	**5.54%**	**5.31%**	**5.12%**	**4.92%**	**4.72%**	**4.53%**	**4.44%**	**4.35%**		F = (AxC)+((B/(1-E))*(1-C))
RPI return	5.54%	5.31%	5.12%	4.92%	4.72%	4.53%	4.44%	4.35%		G = ROUND(F,2)
MEA delta	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**		H
MEA return	**7.04%**	**6.81%**	**6.62%**	**6.42%**	**6.22%**	**6.03%**	**5.94%**	**5.85%**		I = G+H

Notes
The TOs 'real' pre-tax cost of debt sourced from row 38 of the relevant TO worksheet within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
The TOs 'real' post-tax cost of equity sourced from row 39 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
The TOs notional gearing (i.e. percentage of the TOs regulatory asset value (RAV) which is notional debt) sourced from row 40 of the relevant TO worksheet within Ofgem's RIIO-ET1 PCFM
The 'real' Vanilla Weighted Average Cost of Capital (WACC) calculated as a weighted percentage of debt/equity relative to the notional percentage of RAV which is debt/equity
The corporation tax rate set by HMRC and sourced from row 120 of the Tax Trigger sheet for the relevant TO within Ofgem's RIIO-ET1 Price Control Financial Model (PCFM)
The 'real' pre-tax WACC calculated in the same way as the Vanilla WACC other than the post-tax cost of equity is converted to a pre-tax basis using the relevant corporation tax rate
For simplicity and consistent, the pre-tax WACC is rounded to two decimal places. **This is the figure that will be used to replace the current 6%**
CMP 306 proposes to retain the 1.5 percentage points differential between the rate of return applied to Modern Equivalent Asset (MEA) valued assets compared to those inflated using the Retail Price Indices (RPI)

Average rate of return across the TOs	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Min	5.25%	5.13%	5.03%	4.92%	4.72%	4.53%	4.40%	4.32%
Max	5.54%	5.43%	5.34%	5.25%	5.11%	4.94%	4.76%	4.66%
Min v Max	***0.29%***	***0.30%***	***0.31%***	***0.33%***	***0.39%***	***0.41%***	***0.36%***	***0.34%***
Average (mean)	**5.44%**	**5.29%**	**5.16%**	**5.03%**	**4.87%**	**4.69%**	**4.53%**	***4.44%***

Supporting commentary

WACC is the Vanilla Weighted Average Cost of Capital, as defined in the RIIO price control financial handbook:
https://www.ofgem.gov.uk/system/files/docs/2017/08/et1_handbook_-_v2.0.pdf

The Vanilla Weighted Average Cost of Capital is Ofgem's preferred way of expressing the rate of return allowed on the Regulatory Asset Values (RAV) of price controlled network companies. The use of Vanilla WACC means that the company's tax cost is separately calculated as a discrete allowance so that only the following have to be factored in:

- the pre-tax cost of debt - i.e. the percentage charge levied by lenders, and
- the post tax cost of equity – i.e. the percentage return equity investors expect to actually receive, weighted according to the price control gearing assumption.

"Real Vanilla WACC" is used which gives a lower percentage than "Nominal Vanilla WACC" would (when inflation is positive). This is because inflation isn't taken into account in the determination of the Real Vanilla WACC percentage.

In limited circumstances Ofgem also use a pre-tax WACC, which comprises a pre-tax cost of debt and a pre tax cost of equity weighted together by the gearing level.

The pre-tax WACC is proposed to be used for CMP 306, and where the cost of equity, expressed on a post-tax basis in the Vanilla WACC, is uplifted by corporation tax in the relevant year. Otherwise the calculation of the Vanilla WACC and pre-tax WACC is the same.

14 Annex 3: Workgroup Consultation Responses

CUSC Workgroup Consultation Response Proforma

CMP306 'Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital'

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 **08 May 2019** to cusc.team@nationalgrideso.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Shazia Akhtar at Shazia.akhtar2@nationalgrideso.com

These responses will be considered by the Workgroup at their next meeting at which members will also consider any Workgroup Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup Report which is submitted to the CUSC Modifications Panel.

Respondent:	Matthew Paige-Stimson
Company Name:	National Grid Electricity Transmission Plc
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	**For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology 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).

Standard Workgroup consultation questions

Q	Question	Response
1	**Do you believe that CMP306 Original proposal, better facilitates the Applicable CUSC Objectives?**	We believe the Proposal better facilitates objectives (b), (c) and (e) in supporting TO licensee undertakings and doing so through efficient CUSC administration. However, it is unclear at this stage whether the Proposal better facilitates objective (a), in respect of competition in generation, for two main reasons. 1. The rate of return applied to a connection will vary by TO network, causing regional charging differences which BETTA tried to avoid on the principle of creating a level playing field for transmission connections across the whole of the Great Britain. We believe variance in rates of return and thence connection charges may undermine objective (a). 2. Customers who choose to capitally contribute to the cost of connection assets at time of commissioning, often fully, have capital contributions calculated including the prevailing year's rate of return. The Proposal may distort customer's decision making when considering whether to capitally contribute to connection assets or pay over time. Whilst the extent of generation users' connection assets is more limited than for demand and distribution users, and therefore more limited in practical impact, we believe these elements need further consideration by the Working Group.
2	**Do you support the proposed implementation approach?**	We believe the implementation needs to be earlier than 1st April 2020. We would suggest modifications for both CUSC and STC need to be made before 1st September to give certainty ahead of annual STC processes. TO Annual Charge Setting processes under the STC is requested by the SO by 1st October, with provision from the TO by the 31st October. If STC modifications, principally to STCP14-1, are also considered essential and needed before 1st October, then approval of the CUSC modification will be needed at an earlier date to give enough time for the required STC modifications for 1st September. If this CUSC change (and any corresponding STC change) cannot be implemented in time for 2020-21 Annual Charge Setting then we believe these changes should wait until the next round of Annual Charge setting a year later. We do not believe it is right for either Users or Relevant Transmission Licencees to be compelled to implement these changes during an already on-going Charging Year, given the potential confusion to Users and the procedural impacts for ESO and TOs.

Q	Question	Response
3	**Do you have any other comments?**	Yes. 1. There are other instances within CUSC Section 14, at least clauses 14.3.10, 14.3.13 and 14.4.4, that have references to 6% and 7.5%. For example, the rates of return apply to One-Off Works and as proposed, the rate of return applied to One-Off Works would still be 6% under this current Proposal. We believe that an explicit review and acknowledgement needs to be made by the Working Group of all other occurrences of 6% and 7.5% rates of return within Section 14 that, unless further amended, will be unchanged by this Proposal, with explicit recognition of the consequences of doing so, given the distortions inconsistency would create. 2. The proposed legal text "*as specified in the **latest published Ofgem price control financial model (PCFM)** relating to the relevant year*" will use the published PCFM WACC rate that is available at the time of Annual Connection Charge Setting. STCP 14-1 requires the conclusion of Annual Connection Charge Setting by 31st October in the year preceding the year for which charges are being set. Unlike the setting of TO Maximum Revenues, which is revised by 25th January with revised RPI assumptions, the STC does not *currently* require explicit revision of Connection Charges during January, ahead of the charging year. Some latitude exists within STCP 14-1 for the SO to request updated information at its discretion but there is no formal connection charge setting beyond 31st October Without further STC modifications, the Annual Connection Charge Setting will be concluded by 31st October each year and the forecast WACC for the charging year will therefore be the rate from the November PCFM two years before the charging year. More generally, the PCFM WACC rates for future years are only "**forecasts"**, subject to change until the relevant years' WACC rates become historical fact. Ofgem will need to fully consider how the TO will be able to recover its permitted return, per out-turned WACC rates, given that connection charges will be made on a forecast WACC basis that will differ from out-turned WACC whatever rate model is chosen for this Proposal. This aspect must be considered further potentially by a consequential STC modification workgroup (see Q6), as this appears to be primarily a Relevant Transmission Licencee and Regulator issue.
4	**Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?**	We do not wish to formally submit an Alternative Request at this time. However, as noted in our response to Q3, the Working Group needs to account for all other occurrences of 6% and 7.5% rates of return within Section 14 outside of clause 14.3.21 and the consequences of the Proposal not including amendments to these other occurrences.

Specific questions for CMP306

Q	Question	Response
5	**Do you agree with the approach proposed by CMP306 to the MEA uplift?**	Yes, we agree that any change to the basis of rate of return for MEA assets should be addressed under a separate change proposal if considered necessary. We note from our experience that MEA asset based indexation is a choice that is rarely exercised, with our most recent MEA indexed asset being commissioned in 2009. We believe therefore that any future review of MEA based charging should first start by considering the merits of removing the choice of MEA indexation, to promote efficiency in administration of the CUSC arrangements.
6	**Do you think that the TOs should publish their individual WACC's/rate of return for MEA assets? If so, do STC modifications need to be raised to achieve this?**	Our connection charge statement already sets out the rates of return for both RPI and MEA indexed assets and we would intend to continue to publish relevant rates of return within our statement. We would expect the inclusion of our WACC rates will form part of Ofgem's considerations when approving our charging statement. Although the ESO can obtain the TO specific rates through these two mechanisms we believe an STC requirement for the TO passing its WACC rates to the SO as part of TO Annual Charge Setting would be reasonable. We believe such an STC change is necessary for CMP306 to not present a disconnect between the CUSC arrangements which only impact the ESO directly, and our own arrangements with the ESO through the STC, which we would expect to concern the ESO first and foremost. It should be noted that under current STC arrangements Annual Connection Charge Setting is concluded by 31st October, meaning that any rates of return published in TO charging statements would be those utilised in Annual Connection Charge Setting and not the PCFM rates confirmed in the following month, by 30th November, of the year preceding charging year (see our response to Q3 point 2).

Q	Question	Response
7	**Do you agree with the approach to use regional TO WACC's? If not, do you think that the average model is better, or do you have any other suggestions?**	In respect of TO Connection Charging a key element that Ofgem must consider alongside this Proposal is how it intends to make a TO whole for the out-turned rate of return, inclusive of timing adjustments, allowed in the TO's licence. It is unclear whether true-up mechanisms, at least at the end of the current price control period, in respect of Excluded Services will provide for connection revenues made upon forecast rates of return to be adjusted to connection revenues entitled to be recovered by a TO on out-turned PCFM WACC rates. Excluded Services sit outside of the k factor adjustment of revenues. This need to make Excluded Services revenue adjustments to match TO allowed out-turned WACC rate of return applies to managing the consequences of using either a forecast TO WACC rate or an ESO averaged rate of return. Notwithstanding out comments in Q1 regarding objective (a), we consider that utilising TO specific forecast WACC rates is clearer in alignment to licence arrangements exercised through the PCFM. An SO averaging of TO specific WACCs to derive a singular GB rate of return does not so clearly tie back to TO price control arrangements and would need added formalised arrangements to recognised SO specified rates in the true-up to TO price control out-turned WACC allowed return. Having underlying TO specific rates averaged to a singular SO published connection charge WACC rate would be counter to the expected cost reflectivity of charges for a specific connection to a specific network. We believe that the basis of weighting such an average WACC rate across differently sized TO connection asset portfolios would introduce added complexity with reduced transparency. Though STC modifications are consequent to any Proposal, we consider that the TO should be able to continue to recover its return according to its own forecast WACC. Were an average rate of return approach adopted by the SO in respect of connection charges to customers, we believe that the recovery of the balance of connection revenues and TO connection charges, should be managed by the SO. This needs further consideration. We note that there may be an impact upon competition due to the differential in connection charges arising from different rates of return applying to different connections in different locations. Ostensibly this risk appears to be of low materiality with WACC rates across TO licensees appearing to be relatively close, but this is a matter we feel the Working Group does need to consider further.

CUSC Workgroup Consultation Response Proforma

CMP306 'Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital'

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 **16 May 2019** to cusc.team@nationalgrideso.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Rachel Hinsley at rachel.hinsley1@nationalgrideso.com

These responses will be considered by the Workgroup at their next meeting at which members will also consider any Workgroup Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup Report which is submitted to the CUSC Modifications Panel.

Respondent:	*Andrew Sherry* *Andrew.Sherry@enwl.co.uk*
Company Name:	*Electricity North West*
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	**For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology 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).

Standard Workgroup consultation questions

Q	Question	Response
1	**Do you believe that CMP306 Original proposal, better facilitates the Applicable CUSC Objectives?**	We do believe that by making connection charges more cost reflective that this modification will better facilitate the Applicable CUSC Objectives.
2	**Do you support the proposed implementation approach?**	The proposed implementation approach is reasonable and appropriate for this modification proposal.
3	**Do you have any other comments?**	Increased transparency should enable consumers and users to benefit from cost reflective charges being levied.
4	**Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?**	No.

Specific questions for CMP306

Q	Question	Response
5	**Do you agree with the approach proposed by CMP306 to the MEA uplift?**	We are comfortable with the approach being taken in respect of the 1.5 percentage points uplift in that should this need to be reviewed it would be under a separate modification.
6	**Do you think that the TOs should publish their individual WACC's/rate of return for MEA assets? If so, do STC modifications need to be raised to achieve this?**	Publication within the Statement of Use of System Charges would be useful for impacted parties and future discussions between the TOs will inform the decision on whether STC modifications would be needed.
7	**Do you agree with the approach to use regional TO WACC's? If not, do you think that the average model is better, or do you have any other suggestions?**	The intent is to improve the cost reflectivity of connections charges, consequently it seems appropriate that regional TO WACCs be used.

CUSC Workgroup Consultation Response Proforma

CMP306 'Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital'

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 **08 May 2019** to cusc.team@nationalgrideso.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Shazia Akhtar at Shazia.akhtar2@nationalgrideso.com

These responses will be considered by the Workgroup at their next meeting at which members will also consider any Workgroup Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup Report which is submitted to the CUSC Modifications Panel.

Respondent:	*Lee Wells (lee.wells@northernpowergrid.com)*
Company Name:	*Northern Powergrid (Northeast) Ltd* *Northern Powergrid (Yorkshire) plc*
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	The consultation captures the workgroup discussions, including the defect and proposed solution. Our views are set out in response to the consultation questions below.

Standard Workgroup consultation questions

Q	Question	Response
1	**Do you believe that CMP306 Original proposal, better facilitates the Applicable CUSC Objectives?**	**Yes** - As proposer of this modification our view remains unchanged that CUSC charging objectives (b) and (c) are better facilitated as a result of this modification, for the reasons set out in the change proposal and repeated in the consultation.
2	**Do you support the proposed implementation approach?**	**Yes** - We retain our preference to implement this modification as soon as possible, ideally for 2020/21 charges.

Q	Question	Response
3	**Do you have any other comments?**	**No** - Not at this time.
4	**Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?**	**No**

Specific questions for CMP306

Q	Question	Response
5	**Do you agree with the approach proposed by CMP306 to the MEA uplift?**	**Yes** - Our view remains that the delta between the rate of return applied to RPI-linked and MEA assets is outside the scope of the change proposal so should remain at 1.5 percentage points. Any alternative approach should be considered in a different forum under a separate modification process. In any new proposal, consideration might want to be given to better understanding the source of the current delta and its size and whether it is even appropriate to index assets by two different methods?.
6	**Do you think that the TOs should publish their individual WACC's/rate of return for MEA assets? If so, do STC modifications need to be raised to achieve this?**	**Yes** - The information needed to calculate the rate of return of capital is publically available and the calculation proposed is simple. However, in terms of transparency it would benefit Users if each TO publish its specific rate of return and set out the calculation. The Electricity System Operator should then publish the figures for all TOs. We understand that an STC modification may need to be raised to achieve this depending on the approach TOs and the SO prefer to take. This should, however, have no implications for CMP306, since (as noted above) all the relevant information is public.
7	**Do you agree with the approach to use regional TO WACC's? If not, do you think that the average model is better, or do you have any other suggestions?**	**Yes** - We agree that specific TO rates of return should be used. CMP306 seeks to improve the cost reflectivity of connection charges, which is better facilitated by a TO-specific rate of return.

CUSC Workgroup Consultation Response Proforma

CMP306 'Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital'

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 **08 May 2019** to cusc.team@nationalgrideso.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Shazia Akhtar at Shazia.akhtar2@nationalgrideso.com

These responses will be considered by the Workgroup at their next meeting at which members will also consider any Workgroup Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup Report which is submitted to the CUSC Modifications Panel.

Respondent:	*Grahame Neale* *07787 261 242* Grahame.Neale@nationalgrideso.com
Company Name:	*National Grid Electricity System Operator*
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	**For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology 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).

Standard Workgroup consultation questions

Q	Question	Response
1	**Do you believe that CMP306 Original proposal, better facilitates the Applicable CUSC Objectives?**	Yes, we believe the CUSC objectives will be better facilitated by the proposal.
2	**Do you support the proposed implementation approach?**	We support the proposed implementation approach however we note that consequential changes to the STC (SO-TO Code) will be required to ensure NGESO has the required information and processes to administer the proposes required to implement the prooosal.
3	**Do you have any other comments?**	None
4	**Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?**	*If yes, please complete a WG Consultation Alternative Request form, available on National Grid's ESO website[1], and return to the CUSC inbox at* cusc.team@nationalgrideso.com

Specific questions for CMP306

Q	Question	Response
5	**Do you agree with the approach proposed by CMP306 to the MEA uplift?**	*Yes, the proposal is consistent with the current methodology for MEA (i.e. MEA = RPI + 1.5%) – any party wishing to change the methodology for MEA are welcome to do so via a separate CUSC modification proposal.*
6	**Do you think that the TOs should publish their individual WACC's/rate of return for MEA assets? If so, do STC modifications need to be raised to achieve this?**	Yes, we support the TOs stating the applicable WACC in their respective charging statement and a supporting STC modification would be beneficial to support this.

[1] https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc

Q	Question	Response
7	**Do you agree with the approach to use regional TO WACC's? If not, do you think that the average model is better, or do you have any other suggestions?**	We believe TO specific WACCs are the best approach as it is the most cost reflective whilst easier for NGESO to administer than an 'average WACC'

CUSC Workgroup Consultation Response Proforma

CMP306 'Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital'

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 **16 May 2019** to cusc.team@nationalgrideso.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Rachel Hinsley at rachel.hinsley1@nationalgrideso.com

These responses will be considered by the Workgroup at their next meeting at which members will also consider any Workgroup Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup Report which is submitted to the CUSC Modifications Panel.

Respondent:	*Tim Collins, Business Development and Regulatory Manager, SIMEC, 07718 490977, tim.collins@simec.com*
Company Name:	SIMEC International (UK) Limited
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	**For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology 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).

Standard Workgroup consultation questions

Q	Question	Response
1	**Do you believe that CMP306 Original proposal, better facilitates the Applicable CUSC Objectives?**	Yes. The allowed return on Connection Assets set out in the CUSC (6% real for RPI linked assets and 7.5% real for MEAV linked assets) has not been reviewed for many years and over time has become increasingly out of step with the Weighted Average Cost of Capital (WACC) Ofgem allows the TOs via price controls. As such, the return on Connection Assets is both non-cost reflective (because it exceeds the efficient cost of financing TO activities set by Ofgem, i.e. WACC) and detrimental to competition (because users that are liable for Connection Charges are paying excessive amounts to use Connection Assets, thereby disadvantaging them versus competitors). CMP306 facilitates: - CUSC objective (a) because it ends the undue competitive disadvantage faced by parties whose Connection Charges exceed cost reflective levels; - CUSC objective (b), because Connection Charges will be based on Ofgem's view of efficient TO financing costs (i.e. WACC), instead of an increasingly arbitrary 6% (or 7.5%) real. - CUSC objective (c), because the allowed return on Connection Charges in the use of system charging methodology will automatically adjust to reflect future changes in WACC. CMP306 offers clear benefits to the CUSC objectives and consumers and should therefore be implemented.

Q	Question	Response
2	**Do you support the proposed implementation approach?**	Yes. We agree that the proposal should be implemented 10 working days after an Authority decision and applied from the following 1st April charging year, which, on expected timings, would be April 2020.
3	**Do you have any other comments?**	No.
4	**Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?**	No.

Specific questions for CMP306

Q	Question	Response
5	**Do you agree with the approach proposed by CMP306 to the MEA uplift?**	Yes.
6	**Do you think that the TOs should publish their individual WACC's/rate of return for MEA assets? If so, do STC modifications need to be raised to achieve this?**	We believe TOs should be transparent about all their charges and make them intelligible to their customers. We are content that the TOs and ESO take a view about the need for a STC modification to codify any information exchanges.
7	**Do you agree with the approach to use regional TO WACC's? If not, do you think that the average model is better, or do you have any other suggestions?**	Yes. When Ofgem's price controls set different WACCs for the regional TOs, Ofgem has effectively determined that the efficient cost of financing each TO differs slightly. It is logical and cost reflective that any such differences are reflected in allowed returns on each TO's Connection Assets. We would add that the purpose of CMP306 is to align the Connection Charge rate of return to WACC, so any approach that maintains a discrepancy between an individual TO's Connection Charge return and its WACC would be inconsistent with CMP306's purpose.

CUSC Workgroup Consultation Response Proforma

CMP306 'Align annual connection charge rate of return at CUSC 14.3.21 to price control cost of capital'

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 **16 May 2019** to cusc.team@nationalgrideso.com Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Rachel Hinsley at rachel.hinsley1@nationalgrideso.com

These responses will be considered by the Workgroup at their next meeting at which members will also consider any Workgroup Consultation Alternative Requests. Where appropriate, the Workgroup will record your response and its consideration of it within the final Workgroup Report which is submitted to the CUSC Modifications Panel.

Respondent:	*Garth Graham (garth.graham@sse.com)*
Company Name:	*SSE Generation Ltd.*
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	**For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology 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).

Standard Workgroup consultation questions

Q	Question	Response
1	**Do you believe that CMP306 Original proposal, better facilitates the Applicable CUSC Objectives?**	We broadly concur with the view set out in the proposal as to why this Modification better meets Applicable Objectives (b) in terms of cost reflectivity and (c) taking account of developments whilst being neutral in terms of (a), (d) and (e).
2	**Do you support the proposed implementation approach?**	We agree with the proposed implementation approach set out in Section 9 of the consultation document.
3	**Do you have any other comments?**	Nothing at this time.
4	**Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?**	*No.*

Specific questions for CMP306

Q	Question	Response
5	**Do you agree with the approach proposed by CMP306 to the MEA uplift?**	We note the discussions set out on page 10 of the consultation document concerning the 1.5% MEA uplift figure being fixed. The comments set out in the report about this fixed figure would appear to suggest there could be merit in reviewing this fixed figure at this time as it could have a material effect in terms of ensuring cost reflectivity going from circa 25% (1.5% of 6%) to circa 50% (1.5% of 3%) where the reasoning around the MEA itself has not changed. To be clear, we <u>do</u> support the need in principle for the MEA uplift - it's just it would seem from the consultation document that the substantial 'growth' (from circa 25% to circa 50%) has not been adequately justified in terms of cost reflectivity.

Q	Question	Response
6	**Do you think that the TOs should publish their individual WACC's/rate of return for MEA assets? If so, do STC modifications need to be raised to achieve this?**	Given the well-established principle around transparency; namely that the presumption should always be in favour of publication, unless justified not to; we have not seen any counter arguments that justify not publishing this information. If an STC Modification is required in order to achieve this then such a Modification should progress on its merits.
7	**Do you agree with the approach to use regional TO WACC's? If not, do you think that the average model is better, or do you have any other suggestions?**	We note the discussions set out on pages 7-8 around the *regional* v *average* approach to TSO WACCs. In our view there are pros & cons with each in terms of cost reflectivity v simplicity etc., etc., and given this there could be merit in presenting both options to Ofgem, via the Original and a WACM, to allow the case to be made to Ofgem as to which one of the two is, overall, in the best interest of consumers.