Transmission Charging Methodologies Forum & CUSC Issues Steering Group

13th June 2018

Welcome

Rachel Tullis, National Grid ESO

Housekeeping

- Fire alarms
- Facilities
- Red Lanyards

Actions

TCMF Mon	Request	Agenda Item	Action	Owner	Notes	Target Date	Status
Dec-17	PB	AOB	Make enquiries re missing website content specifically in relation to previous mods (TCMF members asked to advise when they come across any additional missing content)	RT	We are planning to get get all archived modifications available on the website, however this will take some time due to the volume of material. Proposal forms, Workgroup reports, FMRs and decision letters will be uploaded. In the meantime any specific requests can be sent to the cusc.team@nationalgrid.com.	Oct-18	On-going
Apr-18	PM	Updating the Statement of Works Process	Query was raised around a guidance document on small embedded generation, that is currently available on NG's website. NG was asked to look into the content.	RT	We will update the guidance doucment following modification process to reflect any changes to the CUSC.	End of CMP298 Mod Process	On-going

Today's TCMF

- CUSC Modifications Update
- Action Update – BSUoS Related Incentivised Metrics
- RFI Open Letter for CMP286/287
- Charging of Co-located Generation
- Open Letter – Compliance with EU Regulation 838/2010
- Five Year Indicative View of TNUoS Tariffs August 2018
- CUSC Mod to clarify calculation of circuit specific expansion factors for HVDC and Subsea circuits

Today's CISG

User Commitment Open Letter

AOB

CUSC Modifications Update

Joseph Henry, Code Admin

New Modifications

- **CMP300 - Cost reflective Response Energy Payment for Generators with low or negative marginal costs**

- CMP300 was presented by DRAX to CUSC Panel on 25 May 2018

- Panel decided Modification would follow standard workgroup and Authority Decision Route

- Code Administrator to seek Workgroup members, which workgroups scheduled to commence in Autumn 2018

Upcoming Working Groups

- CMP288/289 – 22 June 2018
- CMP286/87 – 6 July 2018
- CMP291/295 - 12 July 2018
- CMP 280/281 – July 2018, date TBC

Workgroup Developments

- **CMP280/81 – Workgroup consultation for CMP280 to be released in June. Further workgroup needed for CMP281, to be held in July 2018.**

- CMP 286/87 – Request For Information released to industry on 1 June 2018. Industry have 20 working days to respond, with next workgroup scheduled for 6 July 2018

- CMP288/289 – workgroup held in May, with a second scheduled for 22 June 208.

Ofgem decisions

- **Ofgem decisions and pending decisions since last TCMF:**

There have been no decisions made this month

Dashboard - CUSC

New Modifications	In-flight Modifications	Modifications put out for consultation	Modifications on hold
1	17	4	3

Workgroups Held (May)	Authority Decisions	Workgroups Scheduled
3	0	3

CUSC Modification Prioritisation Discussion Industry Update

Joseph Henry, Code Admin

How does Panel prioritise?

- There are **17** inflight CUSC Modifications
- **11** of these modifications are at **Workgroup Stage**

Complexity	**The defect has implications for many different areas of the energy system which need to be taken into consideration throughout the process. The technical complexity and cross code impact of the modification will most likely require significant use of industry time and a higher than average number of workgroups to conclude the process.**
Importance	**The perceived value & risk associated with the proposed modification. The value / risk could be considered from a number of different perspectives i.e. financial / regulatory / licence obligations both directly for customer and end consumers more generally.**
Urgency	**A modification which requires speedy consideration within the code governance process, as well as the timescales for implementation within the respective code.**

How will prioritisation work on an enduring basis?

- *Discussion at **each** monthly Panel meeting across Grid Code and CUSC on current inflight modifications*
- *Each **new** modification tabled at the respective Panel meeting is assessed against the prioritisation criteria and added to the prioritisation table*
- ***Prioritisation table** to be published following this meeting and on a monthly basis as part of the Modification register so transparent to Industry*
- *Link to website area to be circulated to distribution list following this meeting*
- ***Timelines** have been agreed using the prioritisation table*

The CUSC Prioritisation table (Workgroups)

Modifications at Workgroup Stage	Workgroup development	Workgroup Report submission
CMP280 'Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users and **CMP281** Removal of BSUoS Charges From Energy Taken From the National Grid System by Storage Facilities	June 2018 - July 2018	*Timeline agreed: July submission*
CMP286 'Improving TNUoS Predictability through Increased Notice of the Target Revenue used in the TNUoS Tariff Setting Process' and **CMP287** 'Improving TNUoS Predictability through Increased Notice of Inputs Used in the TNUoS Tariff Setting Process'	June 2018 - October 2018	*Timeline agreed: October submission*
CMP288' Explicit Charging Arrangements for Customer Delays' and **CMP289'** Consequential change to support the introduction of explicit charging arrangements for customer delays and backfeeds via CMP288'	June 2018 - December 2018	*Timeline Agreed: December 2018*
CMP291 'The open, transparent, non-discriminatory and timely publication of the harmonised rules for grid connection (in accordance with the RfG, DCC and HVDC) and the harmonised rules on system operation (in accordance with the SOGL) set out within the Bilateral Agreement(s) exhibited in the CUSC.' And **CMP295** 'Contractual Arrangements for Virtual Lead Parties (Project TERRE)'	July 2018 - December 2018	*Timeline Agreed: December 2018*
CMP298 - Updating the Statement of Works process to facilitate aggregated assessment of relevant and collectively relevant embedded generation	September 2018 - January 2019	*Timeline Agreed: January 2019*
CMP285 'CUSC Governance Reform – Levelling the Playing Field'	June 2018 - August 2018	*Timeline agreed: August submission*
CMP292 'Introducing a Section 8 cut-off date for changes to the Charging Methodologies	September 2018 - January 2019	*Proposed: January 2019*
CMP300 - Cost reflective Response Energy Payment for Generators with low or negative marginal costs	September 2018 - January 2019	*Proposed: January 2019*

Action Update – BSUoS Related Incentivised Metrics

Joseph Donohoe, National Grid ESO

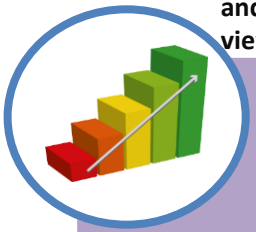
The ESO is now operating under a new performance evaluation framework

nationalgrid

ofgem
This year

2019/20 onwards

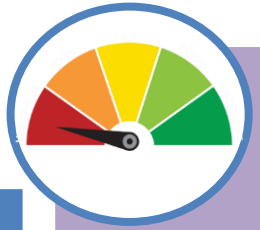
Ofgem / Panel reviews ESO Plan to ensure it is comprehensive, challenging and reflective of stakeholder views



1) Establish ESO Forward Plan, deliverables and Performance Metrics

Panel: Mid year review to provide feedback to ESO

2) Monitor performance throughout the year



3) Final performance evaluation

Panel: evaluates ESO performance for each principle, based on clear ex-ante criteria

4) Decision on financial payment / penalty (*by Ofgem*)

ofgem

GEMA makes decision on financial payment/ penalty. For 2018/19 there will be a max cap/floor of ±£30m

We will be assessed on how we deliver and perform against Roles & Principles

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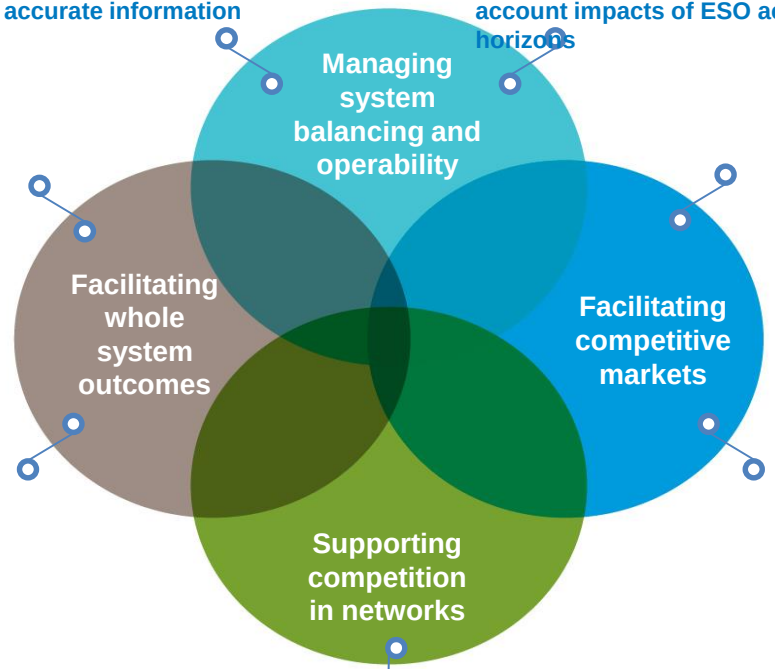
Principle 1: Support market participants to make informed decisions by providing user friendly, comprehensive and accurate information

Principle 2: Drive overall efficiency and transparency in balancing services, taking into account impacts of ESO actions across time horizons



Principle 5: Coordinate across system boundaries to deliver efficient network planning and development

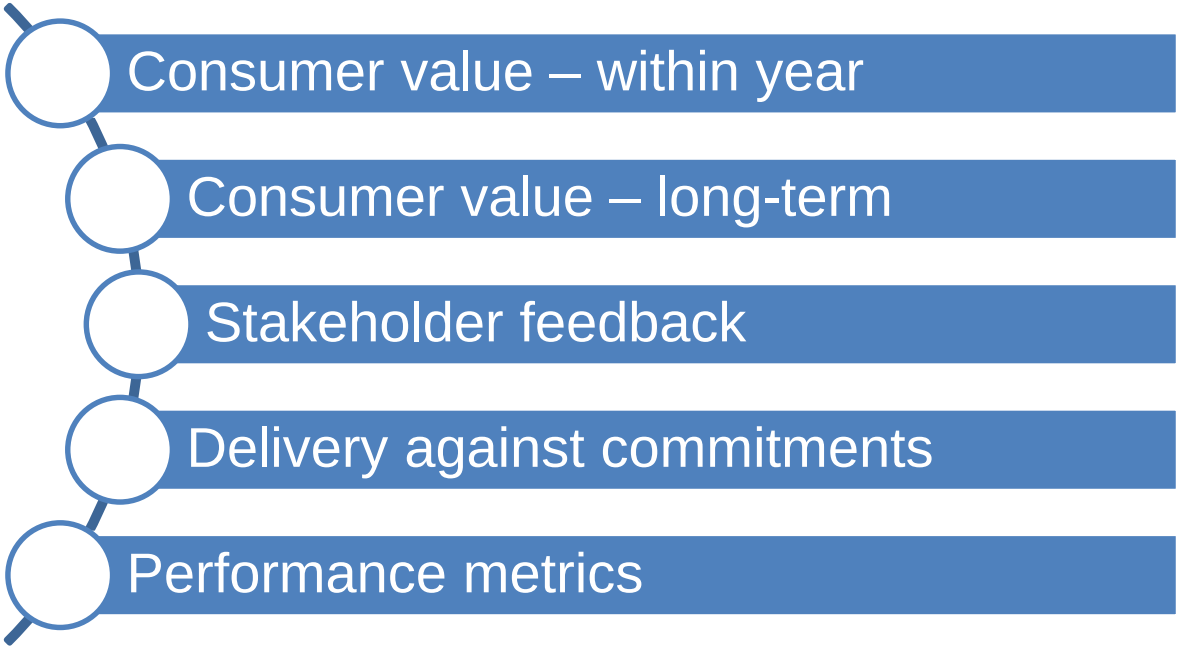
Principle 3: Ensure the rules and processes for procuring balancing services, maximise competition where possible and are simple, fair and transparent

Principle 6: Coordinate effectively to ensure efficient whole system operation and optimal use of resources

Principle 4: Promote competition in the wholesale and capacity markets

Principle 7: Facilitate timely, efficient and competitive network investments

Our Performance will be measured against five criteria



Performance metrics

- We published a suite of 18 performance metrics alongside our Forward Plan in March
- Performance metrics act as a proxy for performance against each of the principles
- Detail on all of the performance metrics can be found in the Performance Metrics Definition Document: https://www.nationalgrid.com/uk/about-grid/our-role-industry/future-electricity-system-operator

Half-hourly BSUoS forecasting

- The ESO proposed the following performance measures:
  - Exceeds baseline expectations: Greater than 95% forecasts published on the National Grid website before 08:00 each publication day for Tuesday to Saturday forecasts, and by 17:00 on Fridays for Sunday to Monday forecasts (the agreed schedule).
  - Meets baseline expectations: 85-95% forecasts published on the National Grid website by the agreed schedule. Meeting baseline expectations would not be expected to generate an incentive payment.
  - Below baseline expectations: Fewer than 85% forecasts published on the National Grid by agreed schedule.
- New processes and platforms need to be in place, together with people to run them. A 100% publication target would require ‘gold-plating’ of service agreements, resource availability etc., incurring a significant additional cost of production.
- We have not produced this information before, and we believe to do so to schedule 85-95% of the time will be challenging

BSUOS Billing (1/3)

- There are two aspects of BSUoS billing that are important to customers: good quality and timeliness.
- The prime focus of the Billing team in the coming year is to improve the quality of the BSUoS bills.

- **Query response time:** time taken to respond with a tailored acknowledgment and query reference number to customer BSUoS queries, measured as a percentage of queries acknowledged <1 business day following receipt.
- Exceeds baseline expectations:
  - >95% initial response within one business day of receipt.
- Meets baseline expectations:
  - 90-95% initial response within one business day of receipt.
- Below baseline expectations:
  - <90% initial response within one business day of receipt.
- Baseline: 2017/18 – 80%

BSUOS Billing (2/3)

- **Query resolution time:** time taken to resolve/close BSUoS queries, measured as a percentage queries resolved in less than two weeks following receipt.
- Exceeds baseline expectations:
  - >70% of queries resolved in less than two weeks following receipt.
- Meets baseline expectations:
  - 60-70% of queries resolved in less than two weeks following receipt.
- Below baseline expectations:
  - <60% of queries resolved in less than two weeks following receipt.
- Historic performance:
  - Baseline performance across April to September 2017 – 53% closed in two weeks.

BSUOS Billing (3/3)

- The **timeliness** measure will take the total number of billing runs due each day according to the BSUoS payment calendar and compare the actual number completed against this to give a percentage figure.
- Exceeds baseline expectations:
  - >98% billing runs on time.
- Meets baseline expectations:
  - 95-98% billing runs on time.
- Below baseline expectations:
  - <95% billing runs on time.
- Historic performance:
  - FY 2016-17 89% billing runs on time.
  - FY 2017-18 97% billing runs on time.

- **Action**: Add link to Ofgem's ESO Incentives reporting guidance website:
  - https://www.ofgem.gov.uk/publications-and-updates/decision-modify-nget-s-licence-introduce-new-eso-reporting-and-incentives-arrangements-april-2018

Appendix information

Additional information: Half-hourly BSUoS forecasting

- BSUoS forecast is currently broken down to monthly resolution. This forecast will provide a best view of expected BSUoS costs to the market at a single point in time.
- Stakeholders have told us that a granular forecast of BSUoS would help them make better informed balancing decisions.
- It drives reduced costs to consumers through better functioning markets due to market participants not having to include as much risk premia in their submitted Balancing Mechanism (BM) bid/offer prices to compensate for the uncertainty and volatility of daily and per settlement-period Balancing Services Use of System (BSUoS) costs.
- This forecast will provide a best view of expected BSUoS costs to the market at a single point in time. This will ensure that all participants have the opportunity to benchmark and optimise their commercial positions against a consistent basis, and one that reflects the expected operational context of the next 24 hours.

Additional information: BSUoS Billing

- In recent years, there has been a substantial increase in the number of BSUoS payers and bills so there is a requirement for the ESO to make sure that the quality of service is maintained despite the increasing workload. For example,
  - The number of customers we invoice daily has increased by 65% between April 2014 and January 2018.
  - The number of BMUs registered has increased from just over 2,000 in April 2014 to over 3,250 in January 2018.
- New providers are often new to the industry and require more support to understand their bill. Maintaining the element of billing on schedule while improving the quality makes this a useful output.

Risk premia RFI – CMPs 286 & 287

Harriet Harmon, National Grid ESO

Why an RFI?

- Cost/benefit analysis of CMPs 286/7;
  - Benefits case rests on premia reduction – cannot accurately quantify without info
- Uniquely able to aggregate risk premium data as not competitors with you;
  - No commercial interest in knowing your ppu premia!
- One of our core roles under our Forward Plan is to facilitate competitive markets;
  - Variety of ways, including analysis industry cannot undertake itself

Specific Questions - summary

- Ultimately, aim is to understand the ppu impact to consumers (percentage and real);

- We're asking:
  - Do you use a premium for TNUoS now?
  - What is it for different contracts (NHH/HH12/24/36 months)?
  - Would CMPs 286/7 lead directly to a reduction?
  - What would it look like for different contracts?

- There's a section for further commentary/explanatory notes (optional)
- **Action**: Letter and pro-forma has been uploaded to the TCMF website, for June, along with this slidepack.

Next steps

- Deadline for response is 30th June 2018;
  - Responses should be sent to harriet.harmon@nationalgrid.com
- CUSC already contains confidentiality provisions between us as ESO and you as Suppliers;
  - If you want ESO to sign specific NDAs, send them through to Harriet (counterparty is **National Grid Electricity Transmission plc**)
- Anonymised & aggregated data only to be provided to workgroup, Panel and Ofgem
  - Granular data won't be shared unless ESO compelled to (legal or regulatory compliance)

Charging of Co-located Generation

Urmi Mistry, National Grid ESO

Defect

- **Current TNUoS** charging arrangements are setup in a manner that **do not allow for cost reflective charging** of **multiple technologies** behind a **single connection**.

Consolidated Connection Charging Matrices

For a consolidated connection with multiple fuel types that have common charging characteristics then the current charging methodology would remain appropriate

Transport Model Categories

Tariff Model Categories	Co-Location and Predominant Fuel Type	Carbon	Low Carbon
Conventional		Coal and Gas	
Intermittent			Wave and Tidal

For a consolidated connection with multiple fuel types that have different charging characteristics, the current charging arrangements may not adequately cater for a single Power Station being connected to the Transmission System.

Transport Model Categories

Tariff Model Categories	Co-Location and Predominant Fuel Type	Carbon	Low Carbon
Conventional		Storage	
Intermittent			Wind

AND

Current charging methodology continues to be appropriate

Current charging methodology may not continue to be appropriate

Why this needs to be addressed?

- Increasing amount of co-located connection applications.
- Need to ensure there is a level playing field with all industry participants.
- To facilitate markets and competition in a transparent way.

Options

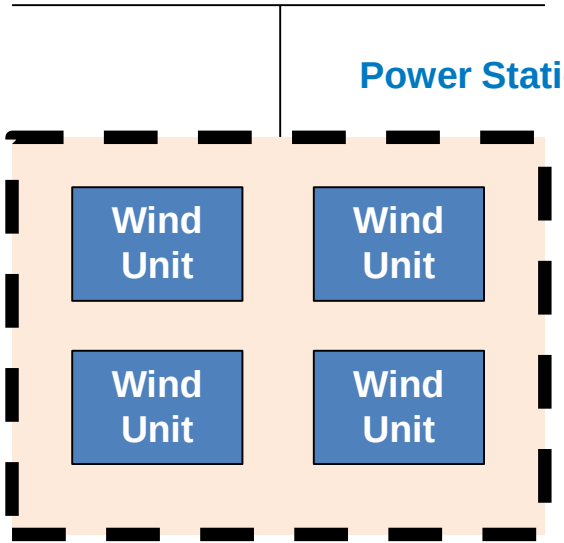
Options			Pros	Cons
Define dominant fuel type in Code			Easiest option to implement.	Not cost reflective.
Pro-rata Charging	Specific technology ID		Clear and neat way to distinguish different types.	Unwanted impacts on the BSC and significant impacts on IS systems.
	Create a form of ratio of TEC	Fixed	Transparent, cost reflective and implementable for all generation.	Does not charge actual transmission capacity used by that specific technology behind the point of connection.
		Forecast	Consistent with approach to other TNUoS payer.	Subjective, difficult to implement, gameable and not transparent.
Forecast/Output MWh charging			Charged for actual use of the system.	Complex and against current industry work direction.

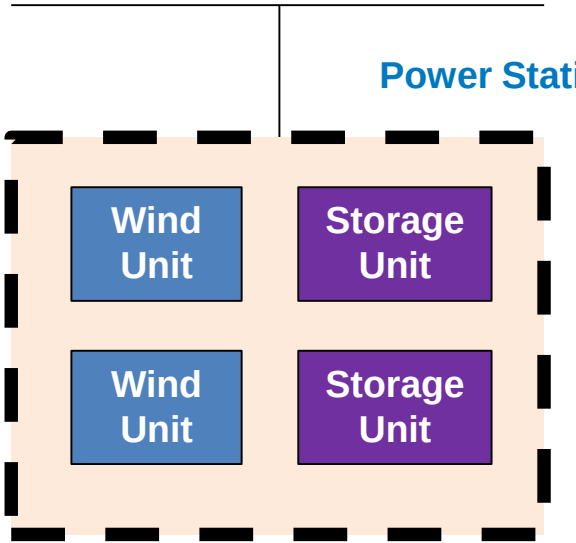
- **Others options considered – Do nothing or conduct a broader review.**

Options

- The defect looks at how TEC, for the purposes of charging, is treated.
- Aims to **assign TEC for one power station** to different fuel types, ensuring cost reflectivity and truer representation of impacts on the system.
- Not moving TEC from or to any other party.

Options


Power Station
Wind Unit
Wind Unit
Wind Unit
Wind Unit


Power Station
Wind Unit
Storage Unit
Wind Unit
Storage Unit

Next Steps

- Develop options further with industry.
- Raise a modification proposal at a later date.

Questions for TCMF

- Thoughts on proposed options?
- Is this something we can develop through TCMF or would a separate workshop be preferable?

Open Letter – Compliance with EU Regulation 838/2010

Jon Wisdom, National Grid ESO

Link

- Compliance with European Regulation 838/2010 Open Letter

Five Year Indicative View of TNUoS Tariffs August 2018

Paul Wakeley, National Grid ESO

National Grid TNUoS Team

Louise Schmitz

Development of Commercial and Charging Arrangements; CUSC and Charging Futures
TNUoS forecasting and setting

Paul Wakeley

Forecasting, setting and billing TNUoS to recover £2.7bn of TO Revenue per year from generators, demand and suppliers

Tom Selby

Jo Zhou

Alice Grayson

Jennie Groome

Andrew Havvas

Jessica Rivalland

Paul Hitchcock

TNUoS Tariff forecasting and setting

Billing

Context

Nov/Dec 2017

Five Year TNUoS Forecast published for 2018/19 to 2022/23

Brought forward, in response to feedback, from Feb 18 due to changes introduced by CMP264/265

August 2018

Five Year View of TNUoS scheduled for 2019/20 to 2023/24

Feedback

- We have listened to your feedback on our **Five Year View of TNUOS**
- We want to make the next paper more useful to our customers

- For August 2018 we **propose**:
  - Best view indicative tariffs for each year
  - A number of scenarios for both residual and locational tariffs
  - Discussion of effect of start of RIIO-T2 price control

- Next steps
  - We propose to gather feedback from our customers in June 2018. This will be via TCMF and an open letter.

What can you expect in August's information paper

- "Best View" Indicative Tariffs for each year in full detail

19/20 (June Forecast)	2020/21	2021/22	2022/23	2023/24

RIIO-T2 price control

Impact of next price control on Tariffs

- The next RIIO-T2 price control is expected to start on 1 April 2021.
- The CUSC requires **various parameters** to be updated at that point for the 2021/22 tariffs, but are dependent on each TOs RIIO ‘deal’

Assumption in Five Year View for 2021/22

Maximum Allowed Revenue	**AGIC**	**Security Factor = 1.8**	**Generation Zones = 27**
Expansion Constant (£/MWkm)	**Offshore Tariffs**	**Expansion Factors**	
Increase by RPI		**Modelled as no change**	

What can you expect in August's information paper

- **Individual scenarios showing effect on tariffs**

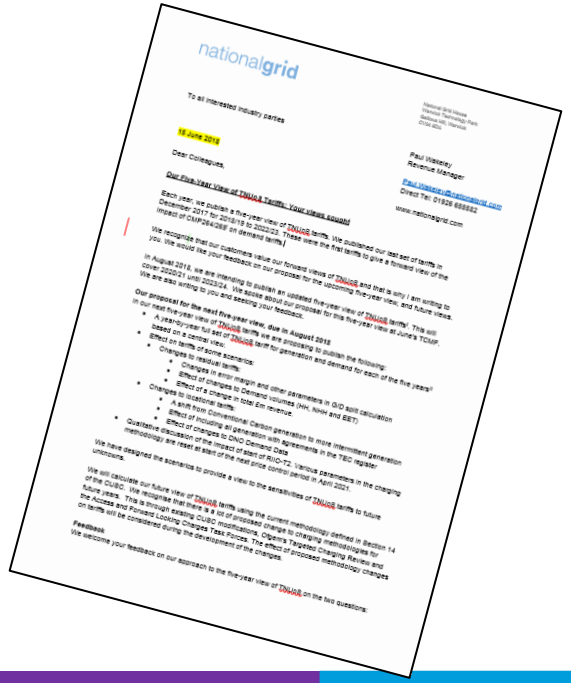
Residual	Locational
• Changes in error margin and other parameters in G/D split calculation • Effect of change in demand volumes (HH, NHH and Embedded Export volumes) • Effect of additional £m of Revenue	• A shift from Conventional Carbon generation to more intermittent generation • Contracted TEC vs Best View • Effect of changes to DNO Demand Data

Next Steps

- Immediate reaction / feedback to our proposals

- **We will write to all industry parties about our proposal and seek feedback. Closing date 6th July.**

- We'll be seeking your feedback on:
  - our proposed scenarios for August 2018 paper
  - further ideas that could be incorporated in to future papers



More help? Further questions?

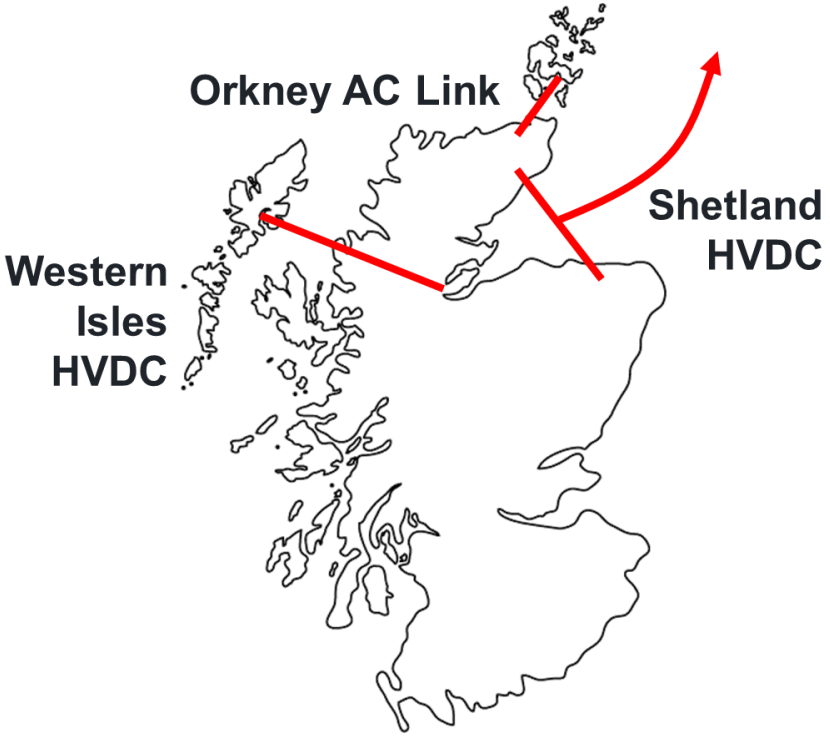
Contact us	Charging.enquiries@nationalgrid.com 01926 654633
Website	www.nationalgrid.com/tnuos

CUSC Modification to clarify calculation of circuit specific expansion factors for HVDC and subsea circuits

Paul Wakeley, National Grid ESO

May TCMF

- At May TCMF we agreed to put forward a modification to clarify the calculation of the expansion factors for AC Subsea and HVDC circuits.
- **Today, we are sharing the draft legal text**
- We intend to raise the modification at the June CUSC Panel, with a recommendation to proceed straight to Code Administration Consultation
- Nothing in this affect the calculation for OFTO owned offshore cables.



Upcoming links that would be affected

Background

- Circuits are modelled in the transport model, to set the locational TNUoS tariffs.
- Circuits are “stretched” by the ‘expansion factor’ to account for different types and voltages of circuits.
- Onshore circuits use a table of standard expansion factors defined each price control.

- **HVDC circuits and AC Subsea circuits have significantly different costs**
  - Therefore, a specific expansion factor was introduced by CMP213 for these circuits.

The Defect

- There is potential for different interpretations of the CUSC wording introduced under CMP213 for this issue.

- **What does the CUSC say?**
  - 14.15.14 The circuit expansion factors for HVDC circuits and AC subsea cables are determined on a case by case basis using the **costs which are specific to individual projects** containing HVDC or AC subsea circuits.
  - 14.15.75 AC sub-sea cable and HVDC circuit expansion factors are calculated on **a case by case basis using actual project costs** (Specific Circuit Expansion Factors).
  - 14.15.76 For HVDC circuit expansion factors **both the cost of the converters and the cost of the cable are included** in the calculation.
  - *Especially when considered against the more prescriptive offshore wording.*

Proposal (discussed at May's TCMF)

nationalgrid

- Proposed to treat 14.15.76 as a complete list, and apply the same principle to subsea circuits
- Therefore for HVDC/Subsea Circuit Specific Expansion Factors, cost:

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

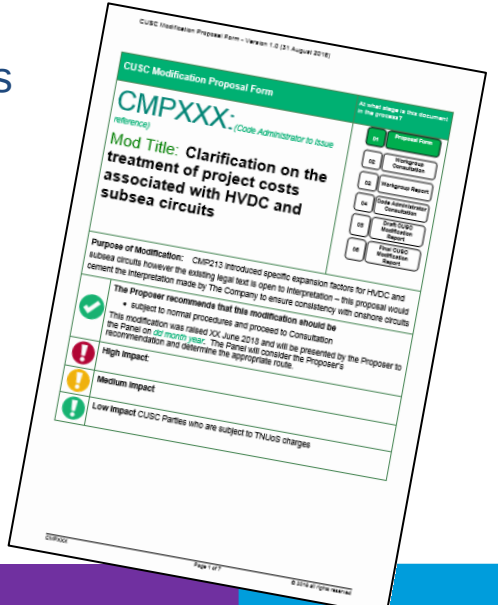
Proposed Legal Text

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

- **Proposal**
  - 14.15.76 — Calculation of HVDC circuit expansion factors, and AC sub-sea circuit expansion factors, shall include only: the cost of the converters (where applicable); and the cost of the cable; and a percentage of the total project overhead costs, defined as the combined costs of the cables and converters (as relevant) divided by the total capital cost of the project.

Next Steps

- Any feedback on our legal text proposal
- We now intend to raise the modification at the June CUSC Panel
  - Proposer's recommendation, as confirmed at TCMF in May, is to proceed straight to Code Administration Consultation
  - Not self-governance as material impact on specific parties


CUSC Modification Proposal Form

CMPXXX- (Code Administrator to issue reference)

Mod Title: Clarification on the treatment of project costs associated with HVDC and subsea circuits

Purpose of Modification: CMP213 introduced specific expansion factors for HVDC and subsea circuits however the existing legal text is open to interpretation – this proposal would cement the interpretation made by The Company to ensure consistency with onshore circuits

The Proposer recommends that this modification should be
- subject to normal procedures and proceed to Consultation

This modification was raised XX June 2018 and will be presented by the Proposer to the Panel on dd month year. The Panel will consider the Proposer's recommendation and determine the appropriate route.

High Impact:

Medium Impact

Low Impact CUSC Parties who are subject to TNUoS charges

CUSC Issues Steering Group (CISG)

User Commitment Open Letter

Richard Smith, National Grid ESO

Background

- CUSC last updated in April 2013 following CMP192
- Over time Customers and Stakeholders have made us aware of specific areas where the current framework may not meet its objectives
- Our open letter is not intended to be an overall review of User Commitment
  - We recognise that the CFF work will be looking at the wider issue of user commitment and had not intended this letter to be seen as duplicating that work
- The open letter is a customer engagement piece to seek feedback on specific issues which customers may have.

Question?

- *Are there any specific areas of the User Commitment methodology in CUSC which you consider would benefit from revision? Specifically: -*
  - *Long lead time high value schemes*
  - *Distributed/Embedded Generation*
  - *Wider Works Security Methodology*
  - *Any Other?*

Next Steps

- Discuss open letter at TCMF (today)
- If you would like to discuss any issue further, please contact richard.smith5@nationalgrid.com
- Responses to open letter due 29/06/17
- National Grid to review responses and next steps

AOB

Rachel Tullis, National Grid ESO

AOB Additional Links

- **Action:** BSUoS Charging Circular - 2018-19 ESO Incentive Recovery (published 25th May 2018)
  - https://www.nationalgrid.com/uk/electricity/charging-and-methodology/balancing-services-use-system-bsuos-charges

Next meetings

July

11

Wednesday

August

8

Wednesday

Will be an 10:30am start unless otherwise notified.

August's TCMF will be held in London.

We value your feedback and comments

If you have any ***questions*** or would like to give us ***feedback*** or share ***ideas***, please email us at:

cusc.team@nationalgrid.com

Also, from time to time, we may ask you to participate in surveys to help us to improve our forum – *please look out for these requests*

Close