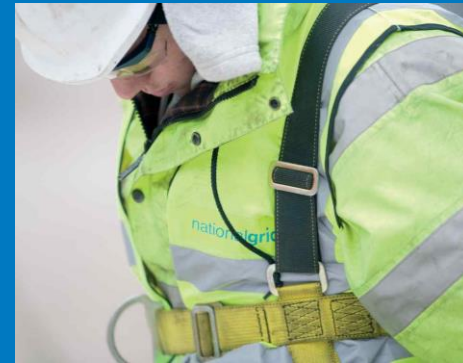


Gas Charging Review



NTSCMF – 8 June 2016

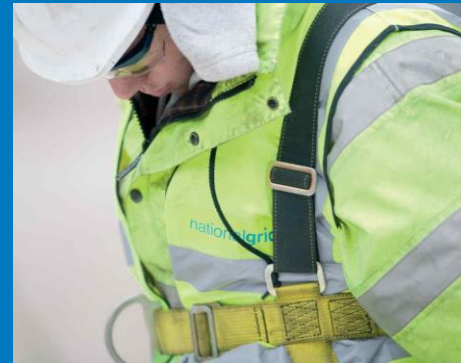
Update provided on 05 July 2016. All slides added or updated are marked with a blue star



Agenda

Area	Detail
Terms of Reference / work plan	<ul style="list-style-type: none">• Discussion for any potential changes
Options Development	<ul style="list-style-type: none">• Reference Price Methodology• Summary of June NTSCMF• Introducing Multipliers• Capacity used in Reference Price Methodology (RPM)
Workgroups	<ul style="list-style-type: none">• Use of NTSCMF• Use of additional, smaller workgroups to complement NTSCMF
EU Tariffs Code – Current Outlook	<ul style="list-style-type: none">• Key updates relevant to Gas Charging Review• Areas under discussion
Single and Dual Regime discussion	<ul style="list-style-type: none">• Flexibility of a single / dual charging regime
Next Steps	<ul style="list-style-type: none">• Future NTSCMF planning• Additional workshops planning

Gas Charging Review



Terms of Reference and work plan

Colin Williams

Terms of Reference / Objectives: Discussion

- Reminder of top five areas identified by stakeholders (as shared in previous NTSCMF meetings)

Issue	What does this mean to people? (examples to aid discussion)
Volatility	These can mean different things to different stakeholders and therefore it was necessary to explore further: <ul style="list-style-type: none"> • What these could be defined as; and • Whether they could be updated to make them more relevant ahead of more in depth development of potential options for the review; and • A method of measuring options over the current regime (e.g. using a RAG method)
Predictability	
Stability of prices	
Fairness	
Relevant objectives	

- Updates from some stakeholders being shared in July NTSCMF (http://www.gasgovernance.co.uk/sites/default/files/WWA%20NTS%20Charging%20Review_Objective_0616v2_0.pdf)
- As these are updated need to consider measurement (e.g. using a RAG Status) so the development of the charging review better meet the problems we are collectively aiming to address



Work plan for charging review:

Discussion: Where we are now

- Under the work plan some of the key areas we have shared and discussed to date:
 - Issues stakeholders have with current methodology / framework, including reviewing objectives of the review
 - Looked at Capacity Weighted Distance (CWD) and LRMC at high level to see drivers of changes (e.g. when changing capacity drivers in calculations) in capacity charges, incorporating commodity for comparison
 - Revenue reconciliations under EU Tariffs Code
 - Dual / Single regime and potential charging arrangements
 - High level principles of some alternate Reference Price Methodologies

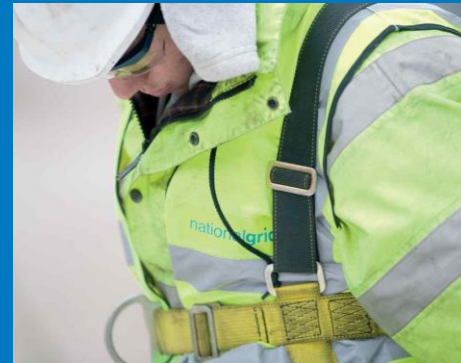


Work plan for charging review:

Discussion: What's next?

- In order to keep momentum on the review the subjects on the existing work plan need to go into more detail
- This will allow the build up of how the overall charging framework may look under potential changes incorporating multiple elements (multipliers, special provisions, different products, etc)
- Incorporate measures against current framework, objectives as these develop under NTS CMF
- See this as a way to help inform potential changes to the GB charging framework so all elements can be seen together, their interactions understood and areas to explore further

Gas Charging Review



Options Development

Colin Williams

Discussion:

Alternative Reference Price Methodologies

- Here we present a reminder of the June NTSCMF Material summarising some of the available Reference Price Methodologies that were presented to:
 - Continue the discussion for RPMs
 - Gather views on progression
- As we prepare for more in depth analysis of potential options to help form discussions it is worth keeping in mind which ones are forming the basis of options development

Discussion: Reminder of some alternative Reference Price Methodologies

Reference Price Methodology	Methodology and Application*	Comments
Postage Stamp	<ul style="list-style-type: none"> The postage stamp methodology foresees the same reference price at all Entry and Exit Points. The reference price is given by the target revenue for entry (respectively exit) divided by the total booked capacity (or a relevant proxy) 	<ul style="list-style-type: none"> Designed for a simple network May suit a relatively simple unmeshed network Does not provide investment signals
Asset Allocation	<ul style="list-style-type: none"> Considers users of the assets on the network and attributes proportion of costs accordingly (domestic, customers abroad – transitory, sub groups of transit) Where recovery of allowed revenue requires reconciliation to or from customers in other markets. 	<ul style="list-style-type: none"> May be more suitable to more transitory networks
Capacity Weighted Distance (CWD)	<ul style="list-style-type: none"> This methodology assumes that the share of the allowed revenue to be collected from each point should be proportionate to its contribution to the cost of the capacity of the system. This share of the allowed revenue, corresponding to the tariff, is based on a (uniform) unit price per capacity per distance. 	<ul style="list-style-type: none"> May suit a more usage based model rather than investment Does not use cost components in the calculation of prices, linked to revenue, capacity and distance.
Virtual Point (VP) (includes variant A and B)	<ul style="list-style-type: none"> The principle of the virtual point based approach is to determine entry and exit tariffs for each point to which the tariff applies by weighting capacity at these points according to their distance to a virtual point. The “virtual point” (theoretical location) can be either adjusted for mathematically (Variant A) or determined geographically (Variant B). 	<ul style="list-style-type: none"> VP(A) relates to the LRMC model Works for a highly meshed, complex network May suit a more investment focused model due to marginal pricing

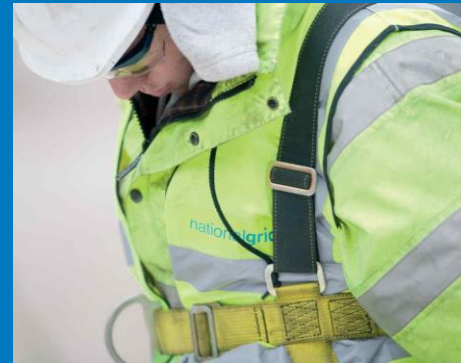
*Taken from EU Tariffs Code earlier drafting

Discussion:

Alternative Reference Price Methodologies

- For information, Virtual Point Variant A is equivalent to the current Long Run Marginal Cost pricing model (LRMC)
- At June NTSCMF we discussed some of the alternative Reference Price methodologies and discussed whether any could be discounted:
 - Agreed focus was that none should be ignored however it was sensible to use LRMC and CWD as a basis for developing options.
 - Other options or variants on RPMs can be incorporated as the options are developed

Gas Charging Review

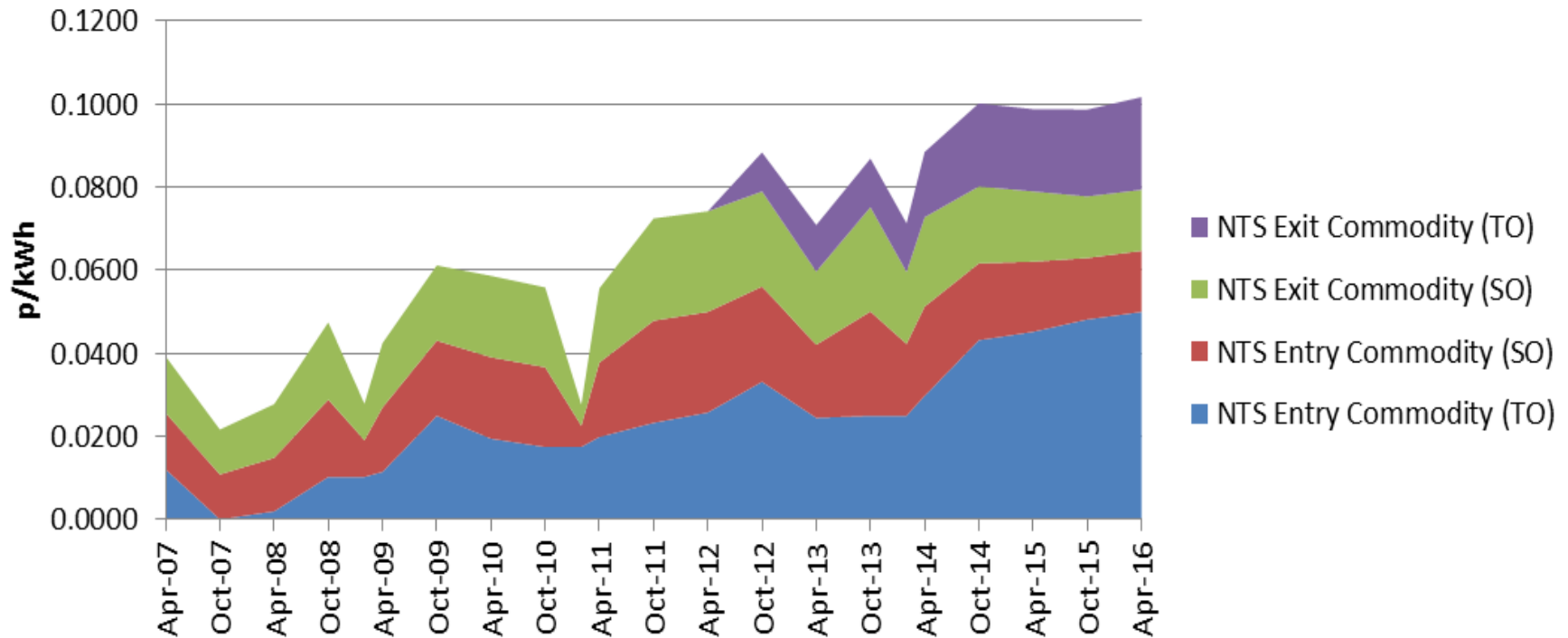


Options Development
Summary of June NTSCMF Analysis

Laura Johnson

Commodity Charges*

Commodity Rates



Feb 11 – 3rd price change

Oct 12 – when NTS Exit Commodity was introduced

Feb 14 – 3rd price change

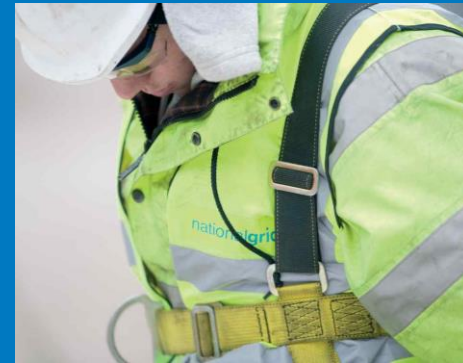
Under/over Recovery

- If do not collect revenue in applicable year from capacity charges at the moment have a commodity charge
- Under Tariff Code we will need to collect most (if not all) revenue by capacity charges
 - If we have a top up charge this can be done in a number of ways, some examples are:
 - Know we are going to under recover due to contracted forecast been incorrect so add top up element to capacity charge
 - Unknown when under recover is so feeds into revenue in 2 years time – which will effect prices in 2 years time.

Analysis – Summary

- If using Obligated level prices but only flow current capacity then would under recover revenue for applicable year
- For capacity charges to recover close to the required allowed revenue the amount booked must therefore be as close to requirements for use as possible
- With any move to capacity over commodity for TO (Transmission Services) this would likely result in behavioural changes for shippers

Gas Charging Review



Options Development

Initial look at Multipliers / consideration of capacity modelled

Capacity and Multipliers

- For Multipliers, these are adjustments applied to a reserve price for calculating prices for specific products
 - Current GB framework allows up to 100% discount, therefore a multiplier of zero, depending on the product (e.g. off-peak Exit, within day entry)
 - In line with EU Tariffs Code multipliers cannot be zero (IP only, for any Non IP the use of multipliers is a GB discussion)
- Exploring use of multipliers could help identify other elements of a reference price methodology that would need to be reviewed
- Here we show some high level impacts of using multipliers on the current framework assuming no changes to behaviours and bookings
 - Using the current framework as a basis this will help inform some of the areas that will need to be reviewed when considering multipliers

Capacity and Multipliers

- Sold capacity used as capacity booked - same data as already modelled in the CWD models
- All capacity that is booked pays the reserve price
 - Entry – MSEC prices
 - Exit – Final prices
- Multipliers
 - Greater than 1
 - Lower than 1

Entry Capacity

- If all booked capacity on Entry pay a price then will mean we would over recover the revenue
 - The reserve prices would need to be reduced to get as close as possible on amount collected to equal allowed revenue
 - Based on the MSEC June 15 reserve prices a reduction in the reserve price would need to be around 0.0113* p/kWh/day to collect the allowed revenue
 - Still keeping the minimum price of 0.0001 p/kWh/day

* Rounded to 4 decimal places

Short term and long term classification

- For the following analysis, we have split the capacity into 2 categories
 - ST
 - Entry – Day Ahead, Within Day, Daily Interruptible
 - Exit – difference between the total Capacity booked and LT Capacity Report – Sold Capacity (Enduring Annual and Annual)
 - LT
 - Entry – QSEC, MSEC
 - Exit – taken from LT Capacity report – Sold Capacity (Enduring Annual and Annual)

Entry Capacity – Multipliers on Short Term Capacity – LRMC

- If we then have multiplier of 2 for short term capacity and reserve price for long term capacity
 - The reserve price (applicable to long term bookings) would need to reduce by around 0.0076* p/kWh/day based on MSEC 15 prices
 - This reduction is on top of the decrease that we mentioned in previous slides to make sure revenue recovered matches allowed revenue
 - A large proportion of capacity booked in the short term
 - All the long term reserve prices would then be 0.0001 p/kWh/day (still keeping a minimum price of 0.00001 p/kWh/day), except for Milford Haven and St. Fergus

* Rounded to 4 decimal places



Entry Capacity – Multipliers on Short Term Capacity – LRMC

- If we then have multiplier of 0.5 for short term capacity and reserve price for long term capacity
 - If have a minimum price of 0.0001 p/kWh/day on short term capacity then there will need to be a price on long term capacity as a minimum of 0.0002 p/kWh/day
 - The reserve price (applicable to long term bookings) would need to increase by 0.0038* p/kWh/day

* Rounded to 4 decimal places

Exit Capacity – Multipliers on Short Term Capacity – LRMC nationalgrid

- If we then have multiplier of 2 for short term capacity and reserve price for long term capacity
 - The reserve price (applicable to long term bookings) would need to reduce by around 0.0044* p/kWh/day
 - Based on May 15 Exit prices for October 15

* Rounded to 4 decimal places



Exit Capacity – Multipliers on Short Term Capacity – LRMC

- If we then have multiplier of 0.5 for short term capacity and reserve price for long term capacity
 - If have a minimum price of 0.0001 p/kWh/day on short term capacity then there will need to be a price on long term capacity as a minimum of 0.0002 p/kWh/day
 - The reserve price (applicable to long term bookings) would need to increase by 0.0020* p/kWh/day

* Rounded to 4 decimal places



Capacity and Multipliers

- For Multipliers, these are adjustments applied to a reserve price for calculating prices for specific products
- Here we show some high level impacts of using multipliers on the CWD framework assuming no changes to behaviours and bookings
- This shows the changes in the prices between what is produced using the current framework and the CWD model



Entry Capacity – Multipliers on Short Term Capacity – CWD

- If we then have multiplier of 2 for short term capacity and reserve price for long term capacity
 - The reserve price (applicable to long term bookings) would need to reduce by around 0.0030* p/kWh/day based on CWD 15/16 prices
 - A minimum price for both short and long term capacity of zero
 - A large proportion of capacity booked in the short term

* Rounded to 4 decimal places



Entry Capacity – Multipliers on Short Term Capacity – CWD

- If we then have multiplier of 0.5 for short term capacity and reserve price for long term capacity
 - If have a minimum price of zero for both long term (reserve price) and short term price
 - Long term (reserve price) would increase by 0.0030* p/kWh/day

* Rounded to 4 decimal places



Exit Capacity – Multipliers on Short Term Capacity – CWD nationalgrid

- If we then have multiplier of 2 for short term capacity and reserve price for long term capacity
 - The reserve price (applicable to long term bookings) would need to reduce by around 0.0020* p/kWh/day
 - Based on CWD Exit prices for 15/16
 - A minimum price for both short and long term capacity of zero

* Rounded to 4 decimal places



Exit Capacity – Multipliers on Short Term Capacity – CWD nationalgrid

- If we then have multiplier of 0.5 for short term capacity and reserve price for long term capacity
 - If have a minimum price of zero for both long term (reserve price) and short term price
 - Long term (reserve price) would increase by 0.0015* p/kWh/day

* Rounded to 4 decimal places

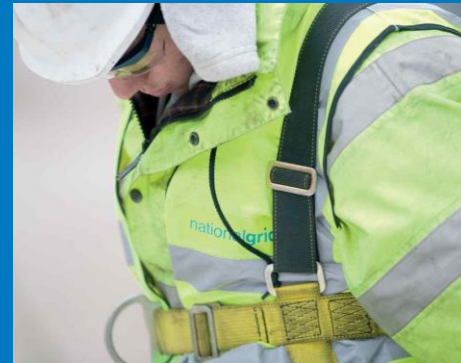
Forecasted Contracted Capacity

- Analysis shows that reserve prices need to be calculated on forecasted contracted capacity which is as close to the actuals as possible
- Suggestions are welcome on what can be used for forecasted contracted capacity

Summary

- This initial use of multipliers to review the impact, albeit without behavioural changes to capacity bookings, helps to identify that there are other elements of a reference price methodology that would need to be reviewed
- The overall charging framework will likely have many interactions that will need to be considered and incorporated
- Any Charging Review therefore needs to be looked at as a package, rather than on a single issue basis
 - E.g. RPM, alternative products, long term and short term pricing, specific arrangements, use of commodity, etc

Gas Charging Review



Workgroups

Colin Williams

Workgroups

- Currently we are using NTSCMF as the main meeting for developing options and discussing the Charging Review
 - Keep this in place as the main meeting;
 - Propose to use additional workshops to get into more of the detail to keep momentum on the review, feeding back to NTSCMF
- We considered the use of ad-hoc workshops under the ToR
- We are proposing to these additional workshops feedback outputs to NTSCMF. This will:
 - Help keep the review on track in the development of options for discussion and keep NTSCMF at a suitable level of detail;
 - Keep NTSCMF as the main forum to feed in outputs
- We will be looking to establish these in the coming months
 - Using a reduced group size compared to NTSCMF

Gas Charging Review



EU Tariff Code – Current Outlook

Colin Hamilton



EU Tariffs Code: Process Steps

- **29-30 June 2016:** 1st Formal Comitology meeting
- **Summer 2016:** translation of NCs
- **15-16 Sept. 2016:** 2nd Formal Comitology meeting with voting
- **Sept-Dec 2016:** 3 months validation by Council and Parliament
- **Jan-Apr 2017:** EC Formalities to adopt NCs
- **1 Apr 2017:** expected Entry into Force
- **31 May 2019:** expected deadline for end of implementation period of TAR NC



EU Tariffs Code – update

- **Article 3:** “alternative transmission tariffs” – this has been removed which makes a discounted capacity tariff for short-haul problematic.
 - “path-based”/ “conditional” capacity removed from the CAM amendment
 - Commission has stated that “short-haul” as understood in GB should not be prohibited
- **Article 3 & 4:** Transmission services & non-transmission services definitions essentially unchanged
 - Definition of transmission services slightly changed at comitology meeting (but not materially)
 - GB TO/SO model may largely remain



EU Tariffs Code – update

- **Article 5:** Separate cost allocation tests for capacity and commodity revenues have been retained
 - but NRA just has to justify if tests exceed 10%

- **Article 10:** Discounts now allowed at LNG facilities as well as storage sites
 - Storage to have a discount of 50% or higher
 - Discounts less than 50% allowed where facility connected to 2 or more TSOs in adjacent entry/exit systems
 - Discounts for LNG is entirely up to NRA
 - Some discussion re application of conditionality/criteria



EU Tariffs Code – update

- **Article 13:** Multipliers of less than 1 allowed for daily and within-day capacity if “duly justified”
 - Cannot be zero
 - No real push-back from MS’s about multipliers less than 1
 - ACER report on multipliers to be published by 1 April 2021
 - Unless indicated otherwise in ACER review, multiplier ceiling of 3 shall drop to 1.5 for daily products by 1 April 2023

EU Tariffs Code – update

- **Article 16:** Interruptible capacity (IPs only)
 - Ex-ante discount based on probability to interrupt
 - Can apply an adjustment factor, **A**
 - Shall be no less than 1
 - Can vary depending of duration of product
 - Can be set separately for backhaul
 - Ex-post discount still allowed
 - Ex-post compensation = 3 times daily capacity reserve price
- Daily interruptible can only be offered if firm sold out day-ahead (CAM Art. 28)



EU Tariffs Code – update

- **Article 38:** Obligation has been removed for ACER to produce “Guidance Document” on regulatory accounting principles to determine the allowed or target revenue.
 - ACER within two years must now simply undertake and publish a report on the different regulatory accounting rules applied across the EU

- **Article 39:** Article on protection of legacy fixed price capacity has been clarified to cover GB case of capacity “bookings” as well as capacity contracts
 - Article still under review and subject to change
 - Main concerns are its application to protect both fixed price capacity and fixed price commodity (for those Member States that have it)



EU Tariffs Code – update

■ Article 40: Implementation monitoring

- ENTSOG to monitor TSO implementation
- TSOs to send information to ENTSOG
 - **31 December 2017** – transparency requirements
 - **31 December 2019** – all other provisions
- ENTSOG to send information to ACER
 - **31 March 2018** – transparency requirements
 - **31 March 2020** – all other provisions
- **[April 2020]** ACER to publish report on application of reference price methodologies in Member States

■ Article 41: Power to grant derogations

- NRAs can grant derogations to interconnectors from one or more articles of TAR NC

Gas Charging Review



Single / Dual Regime discussion

Colin Williams



Discussion:

What a single regime could look like

- At May and June's NTS CMF meetings we shared for discussion the potential arrangements that may form the minimum requirements for IP or Non IP charging under the EU Tariffs Code.
- As part of the overall charging framework there is scope (subject to EU Compliance where relevant) to charge points or Users differently, subject to NRA approval.
- There was discussion around Single Regime. Here we share for discussion taking the EU Tariffs Code position (whether for IP or all points) and consider application if done across all points
 - Helps to highlight areas of potential flexibility



Discussion: What a single regime could look like

Item	Description	Single Regime (using the EU Tariffs Code and applying at all Points)*	Comments
Reference Price Methodology (RPM)	The main methodology to recover Transmission Owner Revenue	One methodology for RPM at all points. If applying EU TAR then adjusted prices under RPM each year entry and exit. All Capacity products are derived from the initial annual reserve price.	Following EU Tariffs Code, the RPM is for all points. Ability to adjust reserve prices within RPM could be applied in different ways, to be explored under charging review (e.g. fixed or variable uplift).
Multipliers	A multiplier to the annual yearly reserve price that can vary depending on product and NRA decision	Whilst IP Specific under EU Tariffs Code rules can be applied wider if choose to. Specific criteria: <ul style="list-style-type: none"> • Quarterly / Monthly – Multiplier between 1 and 1.5 • Daily, Within Day – Multiplier between 1 and 3 • For Daily, Within Day – Multiplier can be less and 1 and greater than 0 if duly justified <p>Within these rules there is flexibility to offer range of multipliers between 0 and 3 depending on the product.</p>	Even though the EU Tariffs Code article 13 is IP specific there is flexibility to have range of multipliers. At Non IPs or IPs, arrangements will be a GB conversation under charging review. Can apply different multipliers at IP and Non IP however would need to be subject to relevant objectives under GB and EU.
Commodity Charging where permitted	Permitted charges where based on flows (forecast or historical as basis) to recover a specific revenue	Under a regime where IP and Non IP have separate rules there are stricter rules around applying Commodity to IPs unless under Non Transmission Services. Could apply commodity to: <ul style="list-style-type: none"> • CRRRC for Non IPs • Shrinkage (if choose to) • Non Transmission Services (if choose this method). Non Transmission subject to methodology under GB discussion and approved by NRA. 	Commodity could therefore recover: <ul style="list-style-type: none"> • TO and SO revenues not recovered via Capacity or other targeted or specific products • Costs for shrinkage (cost to flow gas) if choose to recovery via Commodity. • Could be different from todays Commodity charge <p>To be explored under charging review.</p>

*Based on understanding of the version of the EU Tariffs Code submitted to June 2016 comitology.



Discussion:

What a single regime could look like

Item	Description	Single Regime (using the EU Tariffs Code and applying at all Points)*	Comments
Special Provisions	Any specific arrangements under EU Tariffs Code that may be afforded separate treatment	One methodology at all points. If applying EU TAR then discounts may be offered to the reserve price for Storage and LNG. Storage min 50% discount to capacity prices, LNG no minimum level specified.	Overall discount levels subject to GB discussion and NRA approval. Impacts can be explored under the charging review.
Existing Contracts	Article 39 of EU Tariffs relating to protection of legacy fixed price capacity	One methodology at all points. Where protection is applied to GB in case of capacity “bookings” as well as capacity contracts then one approach to all points.	Overall discount levels subject to GB discussion and NRA approval. Impacts can be explored under the charging review.
Other Charges	Any other products such as those whereby discounts may be afforded (e.g. product to discourage inefficient bypass)	Scope may be there to have as capacity or commodity discount. Nothing prescribed as no longer have alternative transmission tariffs.	Overall design and application subject to GB discussion and NRA approval. Options, development and impacts can be explored under the charging review.

*Based on understanding of the version of the EU Tariffs Code submitted to June 2016 comitology.

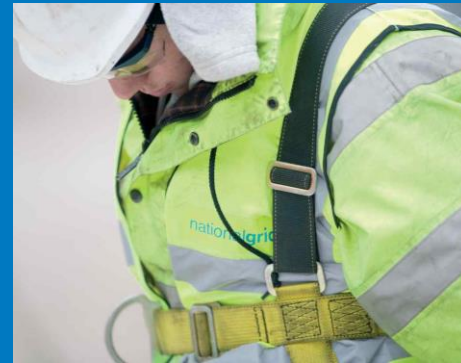


Summary:

Single regime charging arrangements

- Even if applying the same approach to all points (and user groups) there is flexibility around:
 - Levels of multipliers (range between 0 and 3 depending on product)
 - Discount levels (if applied) to Storage, LNG
 - Use of Commodity (notably on Non Transmission Services)
 - Design and application of charging products that may afford discounts or exemptions from specific charges
- All would be subject to GB discussion and NRA approvals (which would include EU Compliance)
- All can be part of the Charging Review as this must look at the overall charging framework as a package

Next Steps

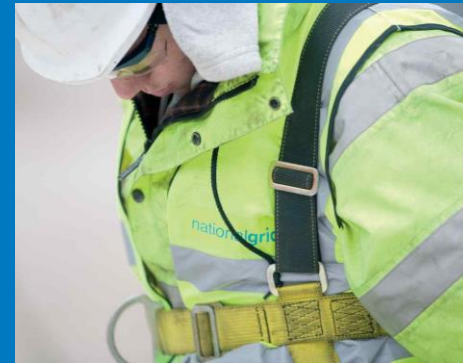




Next Steps

- Develop more detailed work plan to show how we plan to produce analysis to help develop options for discussion as part of NTS CMF and additional workshops
- Produce examples of integrating multiple, interacting elements into charging framework options including RPM (including adjustments), Multipliers (within ranges of EU Tariffs Code), Alternative arrangements, special considerations, etc.
- Plan and arrange additional workshops to support the charging review
- We welcome thoughts on proposed changes to work plan to help inform the development of the review

Contact us



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