UNC Modification	At what stage is this document in the process?
# UNC 0678B: ## Amendments to Gas Transmission Charging Regime	01 Modification 02 Workgroup Report 03 Draft Modification Report 04 Final Modification Report

Purpose of Modification:

The purpose of this Modification Proposal is to amend the Gas Transmission Charging regime in order to better meet the relevant charging objectives and customer/stakeholder provided objectives for Gas Transmission Transportation charges and to deliver compliance with relevant EU codes (notably the EU Tariff Code).

	The Proposer recommends that this Modification should be treated as an Alternative to Modification 0678 and should proceed as such under broadly the same timetable agreed with the Authority.
	High Impact: All parties that pay NTS Transportation Charges and / or have a connection to the NTS, and National Grid NTS.
	Medium Impact: N/A
	Low Impact: N/A

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Timetable

The Proposer recommends the same timetable as set for Modification 0678 is adhered to as far as practicable. That timetable is set out below, is evolving and now includes an additional date: Workgroup 7a. The views expressed by the Proposer at those Workgroups that have already taken place are consistent with the content of this Modification. A pre-Modification discussion was provided to the Workgroup 0678 on 05 of February.

Workgroup 1 - "Approach. Compliance"	29 January 2019
Workgroup 2 - "Integration of RPM, FCC, Revenue Recovery and existing contracts"	31 January 2019
Workgroup 3 - "Multipliers and Discounts. 'Shorthaul' approach" (part of NTSCMF)	05 February 2019
Workgroup 4 - "Compliance. FCC"	11 February 2019
Workgroup 5 - "Non-transmission charges. Final overview"	13 February 2019
Workgroup 6 - "Workgroup Report"	14 February 2019
Workgroup 7 - "Workgroup Report"	18 February 2019
Workgroup 7a – "Assessment of Alternative solutions"	20 February 2019
Workgroup 8 - "Workgroup Report"	25 February 2019
Workgroup 9 - "Workgroup Report"	27 February 2019
Workgroup 10 - "Workgroup Report. Compliance"	04 March 2019
Workgroup 11 – "Finalise Workgroup Report"	06 March 2019
Draft Modification Report issued for consultation	08 March 2019
Consultation Close-out for representations	05 April 2019

Any questions?

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Final Modification Report available for Panel	12 April 2019	
Modification Panel decision	18 April 2019	
Final Modification Report issued to Ofgem	23 April 2019	

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1 Summary

What

This Modification proposes to introduce a new Gas Transmission Charging regime that produces stable and predictable transportation charging and is compliant with the -EU Tariff Code (Regulation 2017/460). This Modification also takes into account the decision to reject UNC0621[1] and its Alternatives citing areas of non-compliance. This Proposal addresses the areas of compliance identified in this decision.

Why

The Transportation Charging Methodology currently in place for the calculation of Gas Transmission charges, and the methodology to recover Transmission Owner (TO) and System Operator (SO) revenue through Entry and Exit charges, have been in place for a number of years. Whilst there have been some incremental changes in the last ten years, the basic approach to calculating Entry and Exit Capacity charges and the approach to revenue recovery has not substantially changed.

[1] See https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/page/2018-12/Ofgem%20Decision%20Letter%200621.pdf

A critique of the current Long Run Marginal Cost (LRMC) methodology (undertaken by the NTSCMF – concluding in January 2017[2] – with updated analysis presented during development of UNC Modification Proposal 0621 in April 2018[3]) identified that it is too volatile, unpredictable and does not provide stability of charges for Users.

How

This Modification proposes to introduce changes to the charging framework by way of making changes to UNC TPD Section Y. It will also be necessary to make changes to other sections of the UNC TPD (Sections B, E and G), the Transition Document and EID Section B).

At its core, this Modification proposes to move from a Reference Price Methodology (RPM) that calculates the capacity prices using the Long Run Marginal Cost (LRMC) method to one that is based on a Capacity Weighted Distance (CWD) approach. It also proposes an updated approach with changes to capacity pricing multipliers, capacity discounts and interruptible pricing review to better meet the required objectives.

It introduces some terminology from the EU Tariff Code, specifically 'Transmission Services Revenue' and 'Non-Transmission Services Revenue'. The revenues will map across to TO and SO revenues thereby not changing the total revenue to be collected through Transportation charges. The more material change will be the amendments to the charging methodologies in calculating the charges that will be applied to recover the allowed revenues from NTS network Users through the Transportation charges.

This Modification also introduces, for some aspects of this methodology change, UNC mechanisms to review and refine components of the charging framework, notably the Forecasted Contracted Capacity (FCC), capacity pricing multipliers and interruptible pricing, over time so they continue to better facilitate the relevant methodology objectives[4] and support the evolution of the GB charging regime.

This Proposal should be treated as an Alternative to National Grid's 0678 Modification as it differs from it in the following key areas:

- It introduces an Optional Capacity charge to replace the current Optional Commodity Charge. Modification 0678 does not include any optional charge.
- ~~Transmission Services Revenue Recovery Charges will not be applied to any Existing capacity contracts. Modification 0678 restricts the non-application of these charges to Existing capacity at Storage Facilities.~~
- A Forecasted Contracted Capacity methodology will be developed and, via this Modification, be included in the UNC. Modification 0678 seeks to capture the methodology outside of the UNC in a new methodology statement.
- Rules relating to capacity transfers (secondary trades) are missing from Modification 0678 but are included here.
- The Proposer recommends that implementation be as soon as possible for legal and compliance purposes but that charges arising from the new methodology take effect from 01 October 2020. In settling on this the Proposer has taken regard of industry views on the very low likelihood of

[2] Material at https://www.gasgovernance.co.uk/ntscmf/subg1page

[3] Material at https://www.gasgovernance.co.uk/0621/200418

[4] As described in Standard Special Condition A5: 'Obligations as Regard Charging Methodology' of the NTS Licence, paragraph 5.

achieving a 01 October 2019 date for new charges (with requisite notice periods). The Proposer also notes that the 0621 modification proposals used this model to separate the date of implementation (to be before 31 May 2019 for compliance purposes) and the date on which charges from the new methodology were intended to take effect (01 October 2019).

2 Governance

Justification for Consideration as an Alternative to Modification 0678

This Modification addresses the same issues that have been raised under Modification 0678; if either Modification were to be implemented then it would result in major changes to Section Y of the UNC, effectively introducing a new charging methodology for gas transmission. This Modification has many common features to Modification 0678 but the Proposer believes it improves on the solution being proposed by National Grid's 0678. In many respects, this Modification 0678B is to Modification 0678 what Modification 0621C was to Modification 0621.

The timetable that has been set for finalising the Workgroup Report for Modification 0678 is very aggressive but approved by Ofgem under a request for urgency. Being conscious of the need for urgency and the arguments in support of urgency contained within Modification 0678, this Modification should as far as possible follow the same timetable as Modification 0678 so that both proposals can be considered by Panel, industry and Ofgem at the same time, making for an efficient governance process. It is the view of the Proposer that raising this Modification as a new Modification, which may or may not be granted urgent status, would result in a different timetable, would require separate workgroup meetings, be consulted on separately, be considered by Panel separately and would therefore make for an unnecessarily complex and inefficient process. This could severely impact the intentions behind the urgency that has been granted for Modification 0678.

In summary, this Modification has been raised as a valid alternative solution to the one being proposed under Modification 0678.

Justification for Authority Direction

This Modification proposal is recommended to be sent to the Authority for direction as it is likely to have a material effect on commercial activities relating to the shipping, transportation and supply of gas because, if implemented, it is likely to have a material impact on the allocation of charges across NTS networks Users.

Requested Next Steps

This Modification should be treated as an Alternative to Modification 0678. It should proceed as such under the same timetable as agreed with the Authority for Modification 0678 as far as practicable.

3 Why Change?

Drivers

3.1. The methodology which is currently in place for the calculation of Gas Transmission Transportation charges, and the methodology to recover TO and SO revenue through Entry and Exit charges, has been in place for a number of years. Whilst there have been some changes in the last ten years, the basic approach to calculating NTS Entry and Exit Capacity charges and the approach to revenue recovery arrangements have not substantially changed. What has been seen is change in the patterns of capacity booking behaviours, and the impact on the

charges as a result due to the interactivity inherent within the methodology, that were not anticipated. An additional regulatory driver for changes to the charging framework is the EU Tariff Code[5] and this Modification has been developed with EU Tariff Code compliance in mind. The 3 non-compliance issues identified by Ofgem in their decision letter on Modification 0621 and its Alternatives~~es~~ have informed this Modification.

3.2. As a result of changing behaviours, such as increased uptake in short term zero-priced capacity, there is an increase in reliance on commodity charges to recover TO revenue. Zero-~~-~~priced capacity has arguably resulted in overbooking of capacity, surplus to User's' requirements. The high TO commodity charges, driven largely by the zero-priced capacity can also result in unstable and unpredictable charges. Other charges, such as the NTS Optional Commodity charge (also referred to as "Shorthaul"), have also seen a significant increase in ~~its~~their use which has impacted on other charges in a way that was not originally envisaged.

Mapping Revenues

3.3. Within the collection of revenue there are some changes to the terminology used to assign the revenue for the purposes of ultimately calculating charges. These changes are required by the EU Tariff Code. This relates to mapping TO Revenue and SO Revenue to Transmission Services Revenue and Non-Transmission Services Revenue. This does not affect the actual allowed revenue National Grid will be required to recover through the charges.

3.4. There are a number of targeted charges in the current methodology and it is necessary to consider which revenue they will contribute towards:

3.4.1. The Distribution Network (DN) Pensions Deficit Charge and NTS Meter Maintenance Charge, under the EU Tariff Code (Article 4), do not fall into the specific criteria for Transmission Services. This Modification proposes that these will be classified as Non-Transmission Services charges thereby contributing towards Non-Transmission Services Revenue.

3.4.2. The St. Fergus Compression charge will be a Non-Transmission Services charge.

3.4.3. The methodologies to calculate these charges (DN Pensions Deficit, NTS Meter Maintenance and St. Fergus Compression) are not proposed to be reviewed at this time. Whilst these could be considered as either Transmission Services or Non-Transmission Services, providing it is approved by the National Regulatory Authority (NRA), it is proposed this is a pragmatic way to charge for these items.

3.4.4. Certain charges in respect of NTS Capacity (but not including Overrun Charges) or the surrender of NTS Capacity are classified as components of SO allowed revenue but, as they are levied in respect of a Transmission Service, they need to be included within Transmission Services Charge revenue.

~~3.4.3.~~

[5] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2017.072.01.0029.01.ENG&toc=OJ:L:2017:072:FULL

Reference Price Methodology (RPM)

3.5. The current RPM (including the adjustments applied ~~in order~~ to calculate capacity charges) produces charges that are volatile and unpredictable. This causes challenges for investment decisions and in predicting operational costs for connected parties year on year and as such, is a key area to be addressed.

3.6. Through an assessment of RPMs[6], the main Alternative considered from the current method was the CWD model. By design this approach is generally more predictable, less volatile and more stable in nature and is more suited to a system that is about use and revenue recovery associated to use rather than linked to investment (marginal pricing).

3.7. The proposed use of CWD in the RPM resolves some of the~~is~~ issues by narrowing the range of prices and as such making them more predictable. This makes the RPM more relevant to how the NTS is used and expected to be used. It would better suit the current and future expectations for the NTS and maximising its use (driven through market behaviour) rather than using an RPM built on the foundation of continued expansion whilst continuing to provide some locational diversity in charges through the use of locational capacity and the average distances applied under the CWD approach.

3.8. As a result of changing the RPM, any adjustments, discounts and other charges must be reviewed in order to avoid unintended consequences and to ensure that a clear impact assessment (including any Ofgem Impact Assessment) can be carried out on the total impact of these adjustments, discounts and other charges to NTS customers and to the end consumer.

3.9. This Proposal considers EU compliance with the EU Tariff Code which has a deadline to implement the changes by 31 May 2019. Price changes would apply from 01 October 2020 or in line with a decision by Ofgem to implement. A 1 October date for the application of new charges is necessary to accommodate the commercial and contractual planning cycle of gas industry participants: commercial contracts are structured around the gas year (1 October to 30 September) and rely on having good foreknowledge of what transmission charging arrangements are likely to be. For example, some contracts may be based on the existence of "short-haul" arrangements whilst others will depend on counterparties having a good understanding of the basic charging components such as how any revenue under-recovery will be treated by National Grid. Mid-year changes to the structure of the charges or the rules on how they will apply would promote uncertainty and undermine trading activity that is necessary to help promote GB market liquidity.

3.10. This Proposal also seeks to establish a framework for review and update of key inputs to the newly established RPM which will further the objectives of the RPM.

[6] See https://www.gasgovernance.co.uk/ntscmf/subg1model

3.11. This Proposal aims to simplify the charging methodology, limiting aspects of the methodology whereby some charges can materially impact other charges and by also eliminating the influence between Transmission and Non-Transmission Services.

3.12. The RPM is based on a Capacity Weighted Distance (CWD) set of calculations that recognises network capacities and pipeline distances as key factors in determining how National Grid's allowed revenues are apportioned among the NTS entry and exit points. This provides a level of cost-reflectivity that recognises the on-going cost of investment in the network. For example, investment in mains replacement (e.g. Feeder 9), the provision of potential incremental capacity at Milford Haven, future investment in gas compressors, and general pipeline maintenance all have capacity and/ or distance cost-drivers attached to them. By contrast, a Postage Stamp model is devoid of any cost-reflectivity and would result in an outcome whereby gas entering and exiting the network over a distance of hundreds of ~~kilometers~~kilometres would attract the same charge as gas entering and exiting the network over a few metr~~e~~rs. The CWD approach therefore provides a degree of cost-reflectivity that remains relevant for the GB gas networ~~r~~k.

Forecasted Contracted Capacity (FCC)

3.13. The proposed changes to the charging regime may result in changes to commercial behaviours in the procurement of capacity rights. The proposal for a ~~f~~Forecasted ~~of c~~Contracted~~ual c~~Capacity (FCC) will be a key input into the reference price calculation.

3.14. It is proposed that FCC be a forecast of capacity bookings at each Entry and Exit Point. The values will be determined in accordance with new rules to be included as part of this proposal and to be incorporated in Section Y of the UNC. The methodology is proposed to be linked to a forecast of GB demand on the NTS for the tariff year for which reference prices are being produced. It will also review the historical capacity bookings, ~~(~~where capacity has been allocated at a price greater than zero at each Entry and Exit Point, and forecast flow levels, to determine a value that will inform the proportion of capacity bookings for each specific Entry and Exit Point.

3.15. It is proposed that FCC values for each entry and exit point will be updated annually in accordance with the rules established under this Modification, and updated in the appropriate transportation charging statement and charging models. This update of FCC values will, at an appropriate point, take account of any behavioural changes in capacity procurement observed under the revised charging regime with the aim of aligning the FCC to actual bookings.

3.16. The FCC will be determined ahead of each tariff year and will be communicated to industry as part of the publication of charges. The methodology will be kept under review as part of these updates and any changes to the methodology would be subject to a new UNC modification proposal.

Multipliers

3.17. Adjustments or separate charges can be applied in the calculation of the Entry and Exit Capacity Reserve Prices. These can serve a number of functions such as to acknowledge any potential risk associated with the type of Entry or Exit Capacity, to facilitate the recovery of revenues where relevant or beneficial to do so, and to encourage behaviours along with ensuring National Grid fulfils any relevant obligations.

3.18. Multipliers are applied to the Reference Price to produce the Reserve Price. Under the EU Tariff ~~c~~Code (Article 13), the Multipliers for Interconnection Point (IP) quarterly standard capacity products and for IP monthly standard capacity products should be no less than 1 and no more than 1.5. For IP daily standard capacity products and IP within-day standard capacity products, the Multipliers should be no less than 1 and no more than 3. For the IP daily standard capacity products and IP within-day standard capacity products, the multipliers may be less than 1 but higher than 0, or higher than 3~~,~~ where duly justified.

3.19. Beyond 30 September 2020, or in line with the implementation of this Modification, Multipliers for IPs need to be consulted on each year (as per Article 28 of the EU Tariff code). Multipliers applicable to all Entry and Exit Points from ~~implementation of this Modification~~the Effective Date are provided in the relevant part of section 5 ~~-~~of this Modification (Reserve Prices produced from Reference Prices).

Discounts

3.20. The pricing of Interruptible (Entry) / Off-peak (Exit) capacity will change from the current pricing approach. It will be consistent with the EU Tariff Code Article 16 and applied to all points. The changes proposed permit an adjustment to the relevant firm entry or exit Reserve Price in the calculation of a non-zero Reserve Price and the calculation of that Reserve Price for interruptible products.

3.21. The adjustment applied ~~will be proportional to~~takes account of the probability of interruption and will be forward looking based upon an expectation of interruption over the coming year. An adjustment factor ('A' factor) may also be applied to reflect the estimated economic value of the product which will be factored into the assessment. Together, the probability of interruption and the 'A' factor make up the adjustment to be applied to the Reserve Price of the equivalent standard firm capacity product. The interruptible adjustment applicable to all Entry and Exit Points from ~~implementation~~the Effective Date of this Modification are provided in the relevant part of section 5 (Interruptible (Entry) and Off-peak (Exit) Capacity).

3.22. Based on an assessment by National Grid of instances of interruption ~~of~~in the previous ten years, ~~-~~and their having applied the trends observed to a range of probability calculations, a discount above 10% is not supported. This remains the case even where an adjustment factor is applied and interruption levels at the most 'problematic' sites are taken in isolation. Overall, the probability of interruption for the ~~vast~~great majority of sites is very low (but not zero). Given this, and ~~in order~~ to maintain a degree of consistency in respect of the value of the discount, ~~we have proposed~~ a banding approach is adopted whereby the resultant discount value is rounded up to the nearest 10%. Consequently, ~~such that~~ the expectation is that a change to this discount will only ~~change~~be justified where there is a *material* change to the frequency of interruption on the System.

3.23. Within the EU Tariff Code there are requirements to apply further discounts for storage capacity, where that discount must be at least 50%. This minimum discount is specific to storage in order to avoid double charging and in recognition of the general contribution to system flexibility and security of supply of such infrastructure. An enduring storage discount value is proposed but it is recognised that EU Tariff Code provides for the charging regime to be reviewed, as a whole, at least every 5 years.

3.24. Any specific 'site type' discounts contemplated by the EU Tariff Code (Article 9) are applied to the Reserve Price to produce a final Reserve Price for the particular Firm Entry or Exit Capacity product at that particular point. The adjustment for Entry Points and Exit Points will be based on the values specified in the Transportation Statement. The specific capacity discount applicable to all Entry and Exit Storage Points from ~~implementation of this Modification~~the Effective Date are provided in the relevant part of section 5 (Specific Capacity Discounts).

Revenue Recovery

3.25. The proposals incorporate a mechanism to manage the consequence of under or over recovery of revenues from Transmission Services Capacity Charges. The approach advocated is a capacity-based charge (which for the avoidance of doubt may be positive or negative) ~~-~~on an enduring basis and is ~~applied~~levied ~~to~~on the Fully Adjusted ~~all~~ ~~c~~Capacity (at any points) apart from that classified as 'Existing Contracts' in order to give full effect to the provisions detailed in Article 35 of the EU Tariff Code. The Fully Adjusted capacity will be net of capacity trades and buy-backs.

3.26. From ~~implementation~~the Effective Date, the charging framework for Transmission Services Revenue will become 100% capacity-based.

3.26.1. The calculation of the capacity prices will, at the time of calculation, take into account the revenue shortfall from any discounts referred to in the above paragraphs in order to adjust the reserve prices such that the amount forecast to be under collected as a result of these discounts is reduced.

3.26.2. The approach in 3.24 means that less revenue will be required to be collected from the Transmission Services Revenue Recovery charges than if it were not carried out.

Optional Capacity Charge

3.27. The proposal will introduce a new approach to NTS optional charging that will enable National Grid to continue to offer transportation services that result in the efficient use of its gas network. The new method is a natural extension of the capacity weighted distance methodology. Optional Capacity Charges will be generated by formulae described in the Solution section below. The Optional Capacity charge arrangements will, in the view of the Proposer, provide for a more cost-reflective application of the CWD Methodology, encourage greater use of the NTS by way of avoiding inefficient bypass (whether via onshore or offshore gas pipelines) and facilitate the delivery of gas to the GB market. It will also support the efficient flow of gas across all GB ~~i~~Interconnection ~~p~~Points.

Existing Contracts

3.28. Provisions will apply for Entry Capacity allocated up to 06 April 2017.

3.28.1. These are Existing Contracts, as outlined in Article 35 in EU Tariff Code where the "*contract or capacity booking concluded before the entry into force of the EU Tariff Code – 06 April 2017, such contracts or capacity bookings foresee no change in the levels of capacity and/or commodity based transmission tariffs except for indexation, if any*".

3.28.2. The capacity procured and revenue expected to be recovered under Existing Contracts impacts the application of the CWD charging model (specifically when determining

Reference Prices at Entry Points) and calculation of Transmission Services Revenue Recovery Charges.

3.29. EU Tariff Code Article 17 requires that *"…the level of transmission tariffs shall ensure that the transmission services revenue is recovered by the transmission system operator in a timely manner…*" and that "…*the under- or over-recovery of the transmission services revenue shall be minimised…*".

~~3.29.~~3.30. Accordingly, to ensure that the References Prices determined by the proposed CWD RPM provide a level of revenue recovery as close to target as possible (thereby minimising amounts needing to be collected via revenue recovery mechanisms), the capacity already booked and revenue levels already 'set' in respect of Existing Contracts *are netted off* the aggregate capacity and aggregate revenue figures entered into the revenue allocation step (weighted cost) of the CWD RPM. Consistent with this aspiration, an additional scaling factor is applied to Reference Prices to account for the anticipated under collection driven by the application of any discounts (e.g. interruptible and specific capacity discounts). The impact of this step is the same for all points within the RPM as the revenue additive is input as a feature of the RPM calculation in the CWD approach. This limits any potential distortions as proportionally all points pick up an uplift within the RPM proportionate the CWD reference price they receive.

~~3.30.~~3.31. The alternative approach of *inclusion* of capacity already booked and revenue levels already 'set' via Existing Contracts in the CWD RPM effectively 'double counts' any capacity and revenue for the relevant Entry Points and would have the consequence of setting Reference Prices at Entry Points *too low* to recover the target revenue. Inclusion of these elements in the CWD RPM would therefore be inconsistent, and arguably non-compliant, with Article 17.

~~3.31.~~3.32. Recognising that Article 6(3) of the EU Tariff Code requires that "…*the same reference price methodology shall be applied to all entry and exit points*…" it is nevertheless the case in GB that Existing Contracts only occur at Entry Points. Should Existing Contracts have additionally existed at Exit Points it would have been necessary for the equivalent netting off to take place in respect of Exit Point to ensure compliance. Given the GB position, application of this at Entry Points only is not in conflict with Article 6(3).

Capacity Trades

3.33. Rules for capacity trades via the secondary market are required in relation to the application of Transmission Services Revenue Recovery charges. The proposal to apply these charges to a shipper's net/ fully adjusted capacity entitlement means that the liability for these charges in respect of the traded capacity rests with the transferee not the transferor. The alternative of tying the liability to a shipper's registered primary capacity might result in higher systems costs but the Proposer would welcome views on this from Industry as the proposal is assessed.

Effective Date for the charges driven by this proposal

3.34. The Effective Date of this proposal can be any date as determined by Ofgem.

~~3.32.~~ In order to facilitate the changes from the Effective Date, it will be necessary to take into consideration actual and anticipated revenues to be collected up this point to determine the target revenue to be applied for the remainder of the regulatory year.

Aspects of the GB Charging Regime where there are no proposals for change:

The following is a list of items for which changes are not being proposed at this time but could be the next steps in the evolution of the GB charging regime.

- Auction Structure – All timings for auctions will be as per prevailing terms (including any changes implemented to comply with CAM).
- Entry/Exit Split – No change is proposed to the current 50:50 split.
- Gas Year/Formula Year – the Formula Year (April to March) and Gas Year (October to September) will be retained.
- DN Pensions Deficit Charge – No change to the calculation or the application of the charge.
- St. Fergus Compression Charge – No change is proposed to the calculation or the application of the charge.
- NTS Metering Charge - No change is proposed to the calculation or the application of the charge
- Shared Supply Meter Point Administration Charges - No change is proposed to the calculation or the application of the charge
- Allocation Charges at Interconnectors - No change is proposed to the calculation or the application of the charge
- Categorisation of Entry and Exit Points – Maintain the link to the Licence for categorisation.
- Seasonal Factors – Not used in current methodology and propose not to introduce.
- Fixed Pricing – As per Modification 0611, Amendments to the firm capacity payable price at IPs.
- Allowed Revenue – No change as per the Licence.
- Principles and application of Interruptible – As per prevailing terms. In respect of IPs, the terms implemented pursuant to Modification 0500, EU Capacity Regulations - Capacity Allocation Mechanisms with Congestion Management Procedures.

4 Code Specific Matters

Reference Documents

There are summary documents available on each of the topics (mentioned in the solution section of the Modification ~~p~~Proposal) which have been discussed at NTSCMF and sub-groups related to the gas charging review, which are available at: http://www.gasgovernance.co.uk/ntscmf/subg1page and http://www.gasgovernance.co.uk/ntscmf/subg1model.

Uniform Network Code (UNC) Section Y:

https://www.gasgovernance.co.uk/TPD

UNC European Interconnection Document (EID):

http://www.gasgovernance.co.uk/EID

EU Tariff Code:

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2017.072.01.0029.01.ENG&toc=OJ:L:2017:072:FULL

Implementation Document for the Network Code on Harmonised Transmission Tariff Structures for Gas (Second Edition)

https://www.entsog.eu/public/uploads/files/publications/Tariffs/2017/TAR1000_170928_2nd%20Implementation%20Document_Low-Res.pdf

Uniform Network Code (UNC) Section B:

https://www.gasgovernance.co.uk/TPD

NTS Transportation Statements:

http://www.gasgovernance.co.uk/ntschargingstatements

Customer and Stakeholder Objectives:

http://www.gasgovernance.co.uk/ntscmf/060916

Gas Transmission Charging Review (GTCR) and associated update letters:

https://www.ofgem.gov.uk/gas/transmission-networks/gas-transmission-charging-review

Knowledge/Skills

An understanding of UNC TPD ~~the~~ Section Y Part A ~~within the UNC~~, NTS Transportation Statements, the UNC EID ~~within the UNC~~, UNC TPD Section B ~~within the UNC~~, the EU Tariff ~~c~~Code, GTCR documentation and the customer / stakeholder objectives developed within NTSCMF would be beneficial.

Definitions

Table 1 gives a definition of terms used in this Modification.

Table 1: Definitions used in the Modification

Term (Abbreviation)	Description
Capacity Weighted Distance (CWD) Model	The CWD model produces the Transmission Services Reference Prices and, with additional adjustments, produces the Transmission Services Reserve Prices. The CWD approach fundamentally requires three main inputs: • A revenue value ~~is required~~, which will be the target revenue required to be recovered from Transmission Services Charges; • A distance matrix for the average connecting distances on the NTS; and • A capacity value for each Entry and Exit point that will be the ~~Forecasted Contracted Capacity (~~FCC~~)~~ (which is ~~mentioned~~described later in this section). ~~The CWD model produces the Transmission Services Reference Prices and with additional adjustments produces the Transmission Services Reserve Prices.~~
Effective Date	The date from which the Modification will take effect as determined by Ofgem.~~later of:~~ • ~~the last day of the month in which Ofgem issues its letter directing implementation of this Proposal; and~~

	• ~~31 May 2019~~
Existing Contracts (ECs) ~~**(for the purposes of this Modification)**~~	Arrangements relating to Long Term Entry capacity allocated before 06 April 2017 (Entry into Force of EU Tariff Code)
Forecasted Contracted Capacity (FCC)	The capacity input to the RPM that will be used in the Transmission Services capacity charges calculation that will be determined via a CWD methodology. An FCC value is required for every Entry and Exit point.
Formula Year	The period of twelve months commencing on 01 April at 05:00 hours
Long Run Marginal Costs (LRMC) Model	The current underlying RPM used in the calculation of the Entry and Exit Capacity Prices. Whilst there are different approaches in Entry and Exit as to how secondary adjustments are applied, the underlying LRMC principles are there in both. The LRMC approach is an investment focused methodology where the intention is to have strong locational signals to facilitate decision making. More information is available in TPD Section Y of the UNC.
Multipliers	The factor applied to the respective proportion (runtime) of the Reference Price ~~in order~~ to calculate the Reserve Price for non-yearly standard capacity product.
Network Distances (for the purposes of modelling in the RPM)	A matrix of distances used in the RPM that are the pipeline distances on the NTS.
Non-Transmission Services	The regulated services other than transmission services and other than services regulated by Regulation (EU) No 312/2014 that are provided by the transmission system operator;
Non-Transmission Services Revenue	The part of the allowed or target revenue which is recovered by non-transmission tariffs
Reference Price	Price for a capacity product for firm capacity with a duration of one year, which is applicable at entry and exit points and which is used to set capacity based transmission tariffs. This will be produced in p/kWh/a (pence per kWh per annum).
Reference Price Methodology (RPM)	The methodology applied to the part of the transmission service revenue to be recovered from capacity based transmission tariffs with the aim of deriving Reference Prices. Applied to all entry and exit points in a system. The RPM therefore is the framework to spread certain costs / revenues (relevant to the methodology in place) to the Entry and Exit points and thereby on to network users.
Reserve Price	**Reserve Price for Yearly standard capacity** = the Reference Price

	Reserve Price for Non- yearly standard capacity is calculated by applying any Multipliers (if applicable). This will be produced in p/kWh/d (pence per kWh per day).
Target Revenue	This is the revenue required to be recovered from a particular set of charges.
Transmission Services	The regulated services that are provided by the transmission system operator within the entry-exit system for the purpose of transmission.
Transmission Services Revenue	The part of the allowed or target revenue which is recovered by transmission tariffs.
Transportation Statement	The ~~Transportation S~~Statement containing the Gas Transmission Transportation Charges applicable for a specified period.

5 Solution

This Modification proposal seeks to amend TPD Section Y, Part A (The Gas Transmission Transportation Charging Methodology) of the UNC, by changing the methodology for the calculation of gas transmission transportation charges. Changes to TPD Sections B (System Use and Capacity), E (Daily Quantities, Imbalances and Reconciliation), G (Supply Points), the Transition Document and European Interconnection Document (EID) Section B (Capacity) are also required.

Mapping of the revenue to Transmission Services revenue and Non-Transmission Services revenue

Transmission Services Charges

It is proposed that Transmission Services charges will be collected via:

- Transmission Services Capacity charges made up of;
    - Transmission Entry Capacity charges (including NTS Transmission Services Entry Capacity Retention Charge);
    - Transmission Exit Capacity charges;
    - Optional Capacity charges
- Transmission Services Entry Revenue Recovery charges;
- Transmission Services Exit Revenue Recovery charges; and
- NTS Transmission Services Entry Charge Rebate.

Non-Transmission Services Charges

It is proposed that Non-Transmission Services charges will be collected via:

- General Non-Transmission Services Entry and Exit Charges;
- St Fergus Compression Charges;
- NTS Metering Charges;

- DN Pensions Deficit charges;
- Shared Supply Meter Point Administration charges; and
- Allocation Charges at Interconnectors

It is proposed that for the purposes of determining revenue to be collected via Transmission Services charges and Non-Transmission Services charges:

- revenue expected to be recovered via Transmission Services Charges will be equal to the Transmission Owner (TO) allowed revenue; and
- revenue expected to be recovered via Non-Transmission Services Charges will be equal to the System Operator (SO) allowed revenue.

It is proposed that the following exceptions apply in respect of the above principles:

- NTS Metering Charges (as a component of TO allowed revenue) will be reflected as a component of Non-Transmission Services Charge revenue;
- DN Pensions Deficit Charges (as a component of TO allowed revenue) will be reflected as a component of Non-Transmission Services Charge revenue; and
- Those charges in respect of NTS Capacity (but not including Overrun Charges) or the surrender of NTS Capacity classified as a component of SO allowed revenue will be reflected as a component of Transmission Services Charge revenue.

Transmission Services Charges

Reference Price Methodology

It is proposed that a CWD approach is used in the RPM.

One RPM will be used for the calculation of Reference Prices for all Entry Points and Exit Points on the system. The RPM produces Entry and Exit Capacity Reference Prices for the applicable gas year which in turn through the relevant adjustments and calculation steps will determine the Entry and Exit Capacity Reserve Prices.

Final Reference Prices

It is proposed that the calculation of the final Reference Price for a given Entry Point or Exit point cannot be zero. If application of the CWD methodology derives a zero price, or negative price, as a result of the FCC value or the Existing Contracts (EC) influencing the CWD calculation (see below), then the Reference Price to be used for such points will be based upon the price for the closest (in terms of Weighted Average Distance as opposed to geographically) non-zero priced Entry Point (for an Entry Point) or the closest (in terms of Weighted Average Distance as opposed to geographically) non-zero priced Exit Point (for an Exit Point).

The price for the relevant Entry Point or Exit Point will be equal to the Reference Price for the closest (in terms of Weighted Average Distance as opposed to geographically) relevant Entry Point or (respectively) Exit Point adjusted in line with pro-rata relationship between the two Weighted Average Distances.

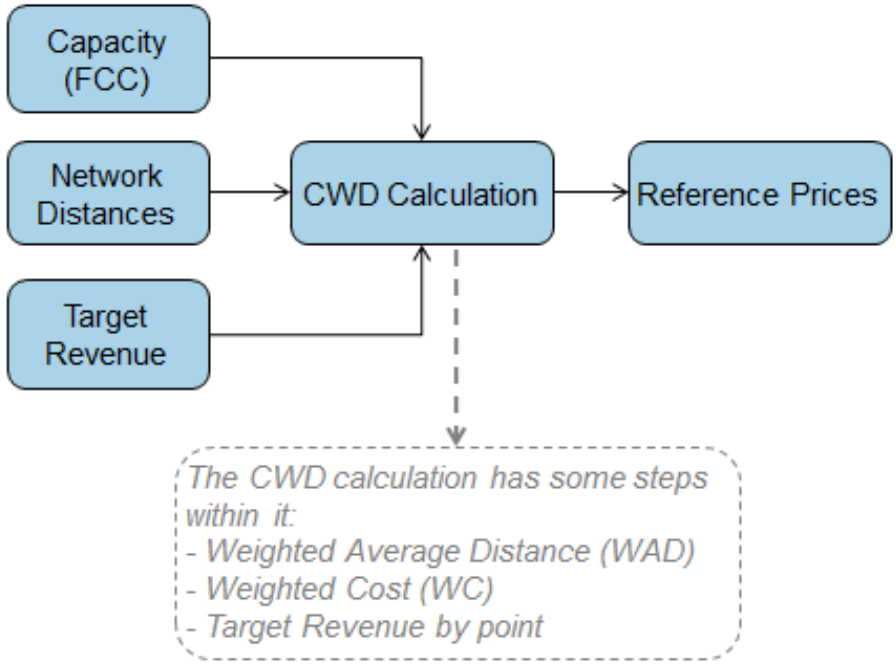
Calculations within the CWD Model

Proposed CWD Model for calculating Entry and Exit Capacity Base Reference Prices:

The proposed CWD approach fundamentally requires three main inputs (see Figure 1):

- ~~Target Entry or Exit Transmission Services Revenue - Revenue which is Allowed Revenue net of known Existing Contracts (EC) revenue.~~ Target Entry or Exit Transmission Services Revenue - Revenue which is Allowed Revenue net of known Existing Contracts (EC) revenue. Where Allowed Revenue is required to be determined in respect of a period of less than 12 months and that period is not 1 April to 31 March (National Grid's Formula Year), it is proposed that profiling factors will be applied separately to Entry and Exit Annual Allowed Revenue to determine appropriate values (respectively for Entry and Exit) for the relevant period. The target Entry and Exit revenue profiling factors will operate in such a way that within any Formula Year the tariffs will be set to minimise any under or over recovery in respect of Transmission Services.
- Network Distances – derived from a distance matrix for the average connecting distances on the NTS.
- Capacity (FCC) - FCC (by point) net of Existing Contracts (EC) capacity booked to recover the target Entry or Exit Transmission Services revenue. It should be noted that whilst TAR NC permits Existing Contracts at both Entry and Exit, there are no eligible Exit Existing Contracts in GB.

Figure 1: Proposed CWD Model for calculation of Entry and Exit Capacity Base Reference Prices



Key steps in the CWD calculations, see Table 2.

Table 2: Key steps in the CWD calculations

	Entry Capacity Calculation	Exit Capacity Calculation
Weighted Average Distance (WAD)	(Sumproduct Exit Point FCC x Distance to Entry Point) / Sum Exit Point FCC	(Sumproduct Entry Point FCC# x Distance to Exit Point) / Sum Entry Point FCC#

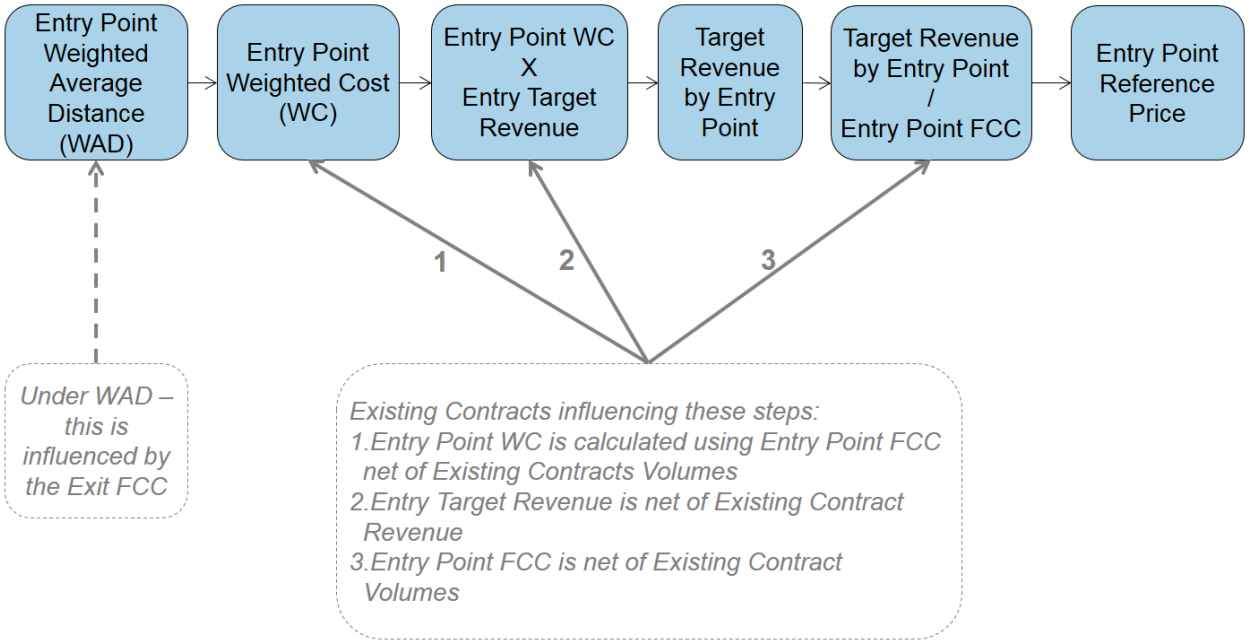
Weighted Cost (WC)	Entry Point FCC* x WAD / (Sumproduct Entry Point FCC* x WAD)	Exit Point FCC x WAD / (Sumproduct Exit Point FCC x WAD)
Target Revenue by point (TRP)	Entry Target Revenue x WC	Exit Target Revenue x WC
Reference Price (RefP)	Entry TRP / Entry Point FCC*	Exit TRP / Exit Point FCC

#Entry Point FCC – this is Gross Entry Point FCC (not reduced by capacity associated with Existing Contracts)

*Entry Point FCC – this is the Entry Point FCC net of capacity associated with Existing Contracts.

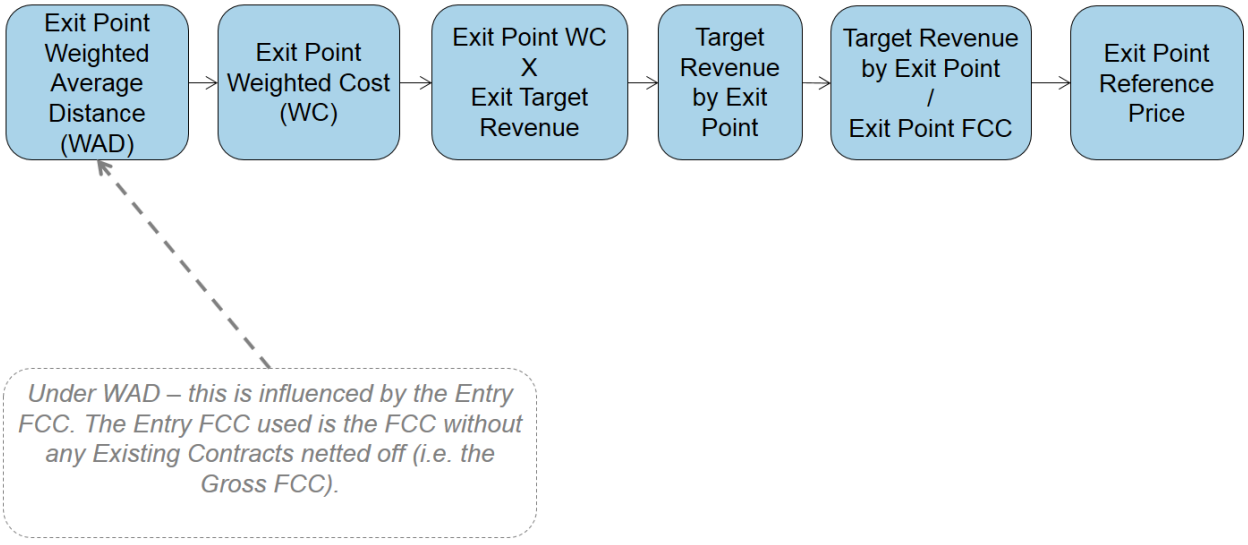
Entry Point Reference Prices are calculated in the following steps in the CWD model, see figure 2

Figure 2: Entry Point Reference Prices calculation model



Exit Point Reference Prices are calculated in the following steps in the CWD model, see Figure 3:

Figure 3: Exit Point Reference Prices calculation model



There are no eligible Exit Existing Contracts and therefore the impact of including them is zero. The same approach or methodology is applied to Entry and Exit. Were there to be any Exit Existing Contracts they would be incorporated in the same manner as Entry. As there are none, the approach outlined is the same effect as if they are zero in any algebra.

Forecasted Contracted Capacity (FCC) Methodology

~~It is proposed that the FCC for an Entry Point or an Exit Point will be equal to a forecasted value determined by National Grid. The methodology will be part of the UNC. The FCC will be updated annually and updates to FCC values will be communicated to industry as part of the annual programme for the publication of charges.~~

~~National Grid will use its reasonable endeavours to generate accurate FCC values in kWh/day for each NTS entry and exit point for the next 5 Gas Years. The following steps will be taken to produce the forecasts:~~**Overview**

1. The FCC is produced as a forecast for the subsequent 5 Gas Years.
2. The FCC values will be updated on an annual basis before setting the capacity charges for the applicable Gas Year (Y), which will be the first of the five years.
3. For the Gas Year Y, the application of this FCC Methodology will provide the actual FCC values to be used in setting tariffs with the CWD RPM.
4. The FCC is calculated for all Entry Points and Exit Points which are not Gas Distribution Networks (GDN) Exit Points by taking the greater of:
    (a) Existing Contracts (as defined in the UNC) for the relevant Gas Year (Y) (average kWh/d)
    (b) Non-zero priced historical capacity sales for previous Gas Year (Y-2) (average kWh/d)
    (c) Historical flow for previous available Gas Year (Y-2) (average kWh/d)
    (d) Forecast supply or demand for the relevant Gas Year (Y) (average kWh/d)
    (e) Planning and Advanced Reservation of Capacity Agreement (PARCA) reserved capacity, if the associated PARCA has progressed to Stage 2 for the relevant Gas Year (Y) (average kWh/d)
5. The FCC is calculated for GDN Exit Points as the latest capacity booked for the Gas Year Y-1, known at the time of setting the reference prices for Gas Year Y
6. For Gas Year Y+1, Y+2, Y+3 and Y+4 an FCC estimate for all Entry Points and Exit Points is provided in order to inform indicative prices.
7. For these Gas Years (Y+1, Y+2, Y+3 and Y+4):
    (a) This FCC Methodology will be used to determine the FCC values with the exception of the historical flows and non-zero historical capacity sales, which will continue to use Gas Year Y-2 values.
    (b) For GDN Exit Points, the FCC will be equal to the latest capacity booked for the associated Gas Year

Calculations

Entry Points

8. All Entry Points utilise the same process in the calculation of the FCC, which for the relevant Gas Year is the greater of the elements outlined in (a), (b), (c), (d) and (e) below:

(a) **Existing Contracts** for the relevant Gas Year:

i. Capacity value booked under an Existing Contract for the relevant Gas Year for which the FCC is being produced

ii. This value is then converted to an average capacity (kWh/d) booked per day over the Gas Year

(b) **Non-zero priced Historical Capacity Sold** for previous available Gas Year (average kWh/d) Y-2:

i. This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

ii. Historical sold non-zero priced capacity value for the Gas Year Y-2

iii. The values from steps 8 (b) (i) and (ii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

(c) **Historical Flow** for previous available Gas Year (average kWh/d) Y-2:

i. This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

ii. Historical annual flow value for the Gas Year Y-2

iii. The values from steps 8 (c) (i) and (ii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

(d) **Latest Updated Forecast** from data in the Gas Ten Year Statement (GTYS) for Gas Year Y:

i. Value used for the relevant Gas Year for which the FCC is being produced

ii. Exact value within the Updated Forecast used for all sites except Bacton and Onshore:

- For Bacton, sold capacity in the previous Gas Year is used as a proxy for the forecast to split to Bacton IP and Bacton UKCS
- For Onshore, sold capacity in the previous Gas Year used as a proxy for the forecast to split to all Onshore sites

iii. The values from steps 8 (d) (i) and (ii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year.

(e) **PARCA Capacity Value** if progressed to Stage 2 of the PARCA at the time of producing the FCC for Gas Year Y:

i. PARCA reserved capacity for the relevant Gas Year for which the FCC is being produced

ii. PARCA reserved capacity taken from start date of when capacity is required

iii. PARCA reserved capacity multiplied by the number of days the PARCA is applicable for in the Gas Year

iv. The value from step 8 (e) (iii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

Exit Points

9. For GDN Exit Points, the **booked capacity** will be used as the FCC:

(a) For Gas Year Y, the latest available non-zero priced capacity booked for Gas Year Y-1 will be used

i. e.g. the FCC for Gas year 2019/20 will be equal to the latest non-zero priced capacity booked for gas year 2018/19

(b) For Gas Years Y+1, Y+2, Y+3, Y+4, the capacity booked at the time of production of the FCC, will determine the FCC for the relevant Gas Year

i. e.g. the FCC for Gas year 2020/21 will be equal to the latest capacity booked for gas year 2020/21

(c) The values from steps 9 (a) and (b) will be divided by the number of days in the relevant Gas Year to obtain an average daily (kWh/d) value for relevant Gas Year

10. For all other Exit Points the same process will be used in the calculation of the FCC, which for the applicable Gas Year the FCC is produced, is the greater of the following:

(a) **Non-zero priced Historical Capacity Sold** for previous available Gas Year (average kWh/d) Y-2

i. This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

ii. Historical sold non-zero priced capacity value for the Gas Year Y-2

iii. The values from steps 10 (a) (i) and (ii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

(b) **Historical Flow** for previous available Gas Year (average kWh/d) Y-2

i. This input is the same for the calculation of the FCC for Y, Y+1, Y+2, Y+3 and Y+4

ii. Historical annual flow value for the Gas Year Y-2

iii. The values from steps 10 (b) (i) and (ii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

(c) **Latest Updated Forecast** from data in the Gas Ten Year Statement (GTYS) for Gas Year Y

i. Value used for the relevant Gas Year producing for which the FCC is being produced

ii. Exact value within the Updated Forecast used for sites

iii. The values from steps 10 (c) (i) or (ii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

(d) **PARCA Reserved Capacity** if progressed to Stage 2 of the PARCA at the time of producing the FCC for Gas Year Y

i. PARCA reserved capacity for the relevant Gas Year for which the FCC is being produced

ii. PARCA reserved capacity taken from start date of when capacity is required

iii. PARCA reserved capacity multiplied by the number of days the PARCA is applicable for in the Gas Year

iv. The value from step 10 (d) (iii) divided by the number of days in the relevant Gas Year to obtain an average daily value (kWh/d) for the relevant Gas Year

v. Information for the applicable PARCA sites is available on National Grid's website ~~https://www.nationalgridgas.com/connections/reserving-capacity-parca-and-cam~~

Exceptions

11. In the first instance, this FCC methodology will be applied. In exceptional circumstances, it may be necessary for National Grid to apply different principles to determine an FCC for a specific Entry or Exit point. This would be required to ensure reference prices and reserve prices can be generated so as not to inhibit the operation of the RPM. Examples may include, and are not limited to:

i. If an Entry or Exit Point no longer has capacity to be made available for an auction or allocation process however it remains in the Licence;

ii. If an Entry or Exit Point is not realistically expected to yield any capacity bookings due to known circumstances such as closure of a site and / or capacity cannot be made available;

iii. Other situations whereby alternative approaches are required in order to derive an FCC value for the Entry or Exit Point for which a price will be required in the given year.

Where exceptions are made, National Grid will outline, along with the publication of charges, where this has been carried out and why.

The FCC values will be calculated and published in Gas Year Y.

For a future Gas Year (Y+i), and for the relevant entry or exit point, the FCC will be the maximum of the following values:

(a) The Existing Contract capacity entitlement for Gas Year Y+i;
(b) Non-zero-priced historical capacity sales in Gas Year Y-1 (i.e. the most recently completed Gas Year);
(c) Historical gas flow in Gas Year (Y-1);
(d) The Forecast Supply (in the case of an entry point) or demand (in the case of an exit point) for Gas Year Y+i; and
(e) The PARCA capacity value, if the PARCA has progressed to PARCA Stage 2, for Gas Year Y+i

each of which will be calculated as an average kWh/ day.

The above values (a) to (e) will be established by, in the case of:

(a) Calculating the average daily Existing Contract capacity booked in Gas Year Y+i.
(b) Taking the value of the non-zero-priced historical capacity booked in Year Y-1 and dividing it by the number of days in the year.
(c) Taking the value of the historical gas flow in Year Y-1 and dividing it by the number of days in the year.
(d) Referencing the latest updated forecast from data in Ten Year Statement and

for Exit –

take the exact forecast value unless an LDZ. In the case of an LDZ, apportion the LDZ zone forecast to relevant exit points using sold capacity as the basis for apportionment

for Entry -

take the exact forecast value for all entry points except in the case of Bacton and Onshore entry points. In the case of Bacton, sold capacity will be used as a proxy to split the forecast between the Bacton IP and Bacton UKCS ASEPS. In the case of Onshore entry, sold capacity will be used as a proxy to split the forecast among all Onshore sites.

The values so established will be divided by the number of days in the year to derive an average daily value for gas year.

(e) Taking the value of the capacity reserved in the PARCA, based on progression to PARCA Stage 2, multiply this value for the number of days the PARCA is applicable for and then divide by the number of days in the Gas Year to establish the average daily value.

In determining FCC values, National Grid will use reasonable endeavours to procure and assess all relevant information necessary to derive accurate forecasts and will publish, on an annual basis, information, grouped as necessary for commercial confidentiality purposes, on how accurate the forecasts have been.

Reserve Prices produced from Reference Prices

It is proposed that Reserve Prices for capacity will be produced in p/kWh/d. The Reserve Prices will be calculated each year based on the latest available set of inputs and once published, these will be the Reserve Prices applicable for the relevant gas year regardless of when the capacity product is procured.

For example, the price payable for capacity procured in 2019 for a period in October 2025 will be the Reserve Price determined for gas year 2025/26 plus, where applicable, any premium payable. This premium will be equal to either:

- The difference between the allocated price and Reserve Price in the relevant auction when the capacity was initially contracted for ('*auction premium*'); or
- The amount specified in respect of entry capacity allocated via a PARCA Application as described in TPD B1.14 and the Entry Capacity Release Methodology Statement ('*PARCA premium*').

It is proposed that the Reserve Price for Firm capacity at an Entry Point or an Exit Point is determined by application of any applicable Multipliers to the relevant Reference Price.

~~It is proposed that Multipliers:~~

- ~~Shall not be zero for any capacity type or product;~~
- ~~Are not to be used for the purposes of managing revenue recovery;~~
- ~~Shall be calculated on an ex-ante basis ahead of the applicable year.~~

It is proposed that the Multiplier applied to the Reference Prices for all Entry Point and Exit Points ~~in order~~ to determine the Reserve Price will be 1 (one)., ~~except in the case of Optional Capacity charges where payable prices for firm capacity will be established in accordance with the rules established by this modification proposal~~

Interruptible (Entry) and Off-peak (Exit) Capacity

It is proposed that the Reserve Price for Interruptible Capacity at an Entry Point and Off-peak Capacity at an Exit Point is derived by application of an ex-ante discount to the Reserve Prices for the corresponding Firm capacity products (the day ahead firm price at the relevant Entry Point and the daily firm price at the relevant Exit Point).

~~It is proposed that when determining the level of discount applied in respect of Interruptible and Off-peak Capacity from 01 October 2019 or implementation date of this Modification should it be after, the likelihood of interruption and the estimated economic value of the Interruptible or Off-peak capacity products are used to determine a discount value (as per Article 16 of EU Regulation 2017/460). It is further proposed to adopt a 'banding approach' for the period commencing 01 October 2019 or implementation date should it be after and for subsequent years, such that the proposed discount value will be rounded up to the nearest 10%:~~

It is proposed that ~~for the period commencing 01 October 2019, or the implementation date of this Modification should it be after,~~ the discount applied in respect of Interruptible and Off-peak Capacity:

- At Entry Points is 10%; and
- At Exit Points is 10%.

Specific Capacity Discounts

It is proposed that Specific Capacity Discounts will be applied to the Reserve Prices in respect of Firm and Interruptible/Off-peak Capacity at the Points detailed below.

It is proposed that in respect of **storage sites**, (locations where the type of Entry point/Offtake is designated as a 'Storage Site' in National Grid's Licence (Special Condition 5F Table 4B for Entry Points, and Special

Condition 5G Table 8 for Exit Points) the applicable Specific Capacity Discount for a given gas year will be equal to 50%.

It is proposed that in respect of **Liquefied Natural Gas (LNG) sites**, (locations where the type of Entry point is designated as a 'LNG Importation Terminal' in National Grid's Licence (Special Condition 5F Table 4B~~)) for the period commencing 01 October 2019 or implementation date of this Modification should it be later,~~ the applicable Specific Capacity Discount for a given gas year will be equal to 0%. It is proposed that no other Specific Capacity Discounts are applied.

Additional Calculation Step under CWD for Reference / Reserve Prices ~~(see para 3.22 in section 3)~~

It is proposed that the following step is applicable for Capacity Reference Prices on an enduring basis. Once the Reserve Prices have been calculated taking into account all the required Multipliers ~~(including those for Optional Capacity Charges)~~, Specific Capacity Discounts and Interruptible / Off-peak adjustment there will be an under recovery driven by the levels of discounts or adjustments (e.g. Interruptible / Off-peak adjustment and Specific Capacity Discounts) and by an anticipated uptake of the Optional Capacity Charge (see below). This anticipated under recovery will result in the need for an adjustment to be applied to the CWD calculation in order to recalculate Reference Prices, and therefore Reserve Prices, such that the under-recovery is estimated to be zero or close to zero. This will be applied to the Entry and Exit Capacity calculations to recalculate the Entry and Exit Capacity Reference Prices and Reserve Prices for all Entry and Exit points and in doing so will minimise the size of the Transmission Services Entry and Exit Revenue Recovery charges.

This step within the calculation is incorporated within the RPM. This is required in order to manage the tariffs such that they are being set to recover the target revenue. ~~Without this step tariffs, would be set such that they would under-recover or not be set in a manner to aim to recover the target revenue. This impact of this step is the same for all points within the RPM as the revenue additive is input as a feature of the RPM calculation in the CWD approach. This limits any potential distortions as proportionally all points pick up an uplift within the RPM proportionate the CWD reference price they receive.~~

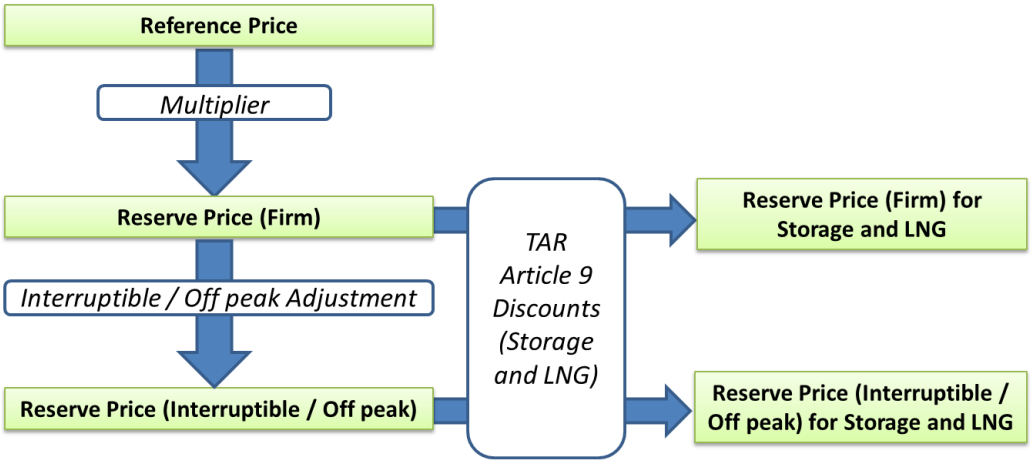
Minimum Reserve Price

It is proposed that, with the exception of Optional Capacity charges, Reserve Prices for Firm and Interruptible / Off-peak capacity (determined following the application of any relevant Multipliers, Specific Capacity Discounts, or Interruptible / Off-peak adjustments) will be subject to a minimum value (collar) of 0.0001p/kWh/d. In respect of applicable Optional Capacity charges, the payable price will not be rounded up to this collar and invoice amounts will be calculated as specified in the Optional Capacity charge section below.

Summary of Reserve Price Derivation

The following diagram (see Figure 4) summarises the proposed approach to the derivation of Reserve Prices (from the applicable Reference Price) for both Firm and Interruptible / Off-peak Capacity products (including Capacity at Storage and LNG sites).

Figure 4: Reserve Price derivation



Capacity Step Prices

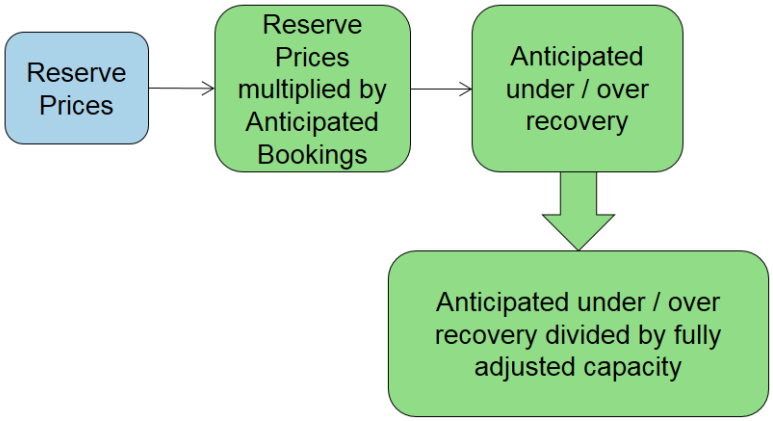
For the purposes of capacity step prices used in the QSEC Auction, it is proposed that these will be an additional 5% of the applicable Reserve Price or 0.0001 p/kWh/Day, whichever is the greatest, per step.

Transmission Services Revenue Recovery Charges

It is proposed that where a proportion of revenue could be under/over recovered (i.e. compared to the target Transmission Services revenues) as a consequence of the application of Reserve Prices applicable for the following gas year, a revenue recovery mechanism is applied.

The Transmission Services Revenue Recovery charges (Transmission Services Entry Revenue Recovery charge and Transmission Services Exit Revenue Recovery charge) will be calculated after the Reserve Prices have been determined and will be calculated as follows (see Figure 5) for Entry and Exit in the same way:

Figure 5: Transmission Services Revenue Recovery Mechanism



It is proposed that the 'Anticipated Bookings' value will be based on National Grid's forecast of capacity bookings and will therefore be used to forecast the anticipated under or over recovery. The fully adjusted capacity value used to determine the Transmission Services Entry Revenue Recovery charge will exclude Existing Contracts since the charge will not apply to Existing Contracts. It is proposed that the Transmission Services Revenue Recovery charge rate may be updated by National Grid ~~only once~~ within the gas year.

For the avoidance of doubt, such a charge rate adjustment would be subject to the existing notice requirements for variation of Transportation Charge rates.

It is proposed that the Transmission Services revenue recovery mechanism is capacity based and applied as additional capacity charges to all fully adjusted capacity except Existing Contracts. The Transmission Services Entry and Exit ~~r~~Revenue ~~r~~Recovery charges for this period will be produced in p/kWh/d. For the avoidance of doubt, any Entry Capacity (except Existing Contracts) or Exit Capacity booked for the applicable year would be subject to Revenue Recovery charges.

It is proposed that in respect of adjustments (including as a consequence of trades) to available Entry Capacity, where the adjustment is executed:

- Up to and including 05 April 2017, the Capacity will be treated as Entry Capacity procured via Existing Contracts; or
- Subsequent to 05 April 2017, the Capacity will not be treated as Entry Capacity procured via Existing Contracts.

~~Storage Facilities~~

~~The application of these new charging proposals to storage facilities will not distinguish between facilities for which dedicated NTS entry or exit capacity has been made available and facilities for which NTS entry or exit capacity has been provided via ASEPs for which capacity for non-storage purposes can also be procured ("Combined ASEPs"). Modification Proposal 0662 has been raised to ensure there is no discrimination in the treatment of storage-related NTS entry capacity at Combined ASEPs and it is proposed that the intended solution determined under proposal 0662 is incorporated into this wider charging proposal and developed here. This is effectively achieved by not applying the Transmission Services Entry Revenue Recovery charge to all Existing Capacity.~~

NTS Optional Capacity Charge

The new method will provide for ~~reduced~~optional entry and exit capacity reserve charges at applicable entry and exit system points, replacing the Optional Commodity Charge. Effectively, specific ~~multipliers~~distance ratios are applied to entry and exit capacity reserve prices to establish payable prices. Consistent with the current code rules, Non-Transmission Services commodity charges will not be payable on qualifying gas entry or exit flows. Transmission Services Revenue Recovery charges will be payable so that all capacity entitlements make a contribution to Transmission Services Revenue under-recovery. This recognises that cost savings would not be made by profiling the use of capacity on an alternative pipeline, i.e. that the rental for such a pipeline would likely include some form of minimum bill payment. This principle is further captured by the inclusion of a System Utilisation Factor that will reflect, in the determination of Optional Capacity Charges, the general extent to which the NTS is being under-utilised. Such under-utilisation is deemed to apply to entry and exit points under the arrangements described in this section.

The NTS Optional Capacity Reserve Charges will apply to an Applicable Quantity (Q) calculated on each gas day:

Q = MIN {CAPen, CAPex, FLOWen, FLOWex } where

CAPen = User's net firm entry capacity entitlement on the day at the applicable ASEP,

CAPex = User's net firm exit capacity entitlement on the day at the applicable exit point,

FLOWen = User's gas flow entry allocation on the day at the applicable ASEP, and

FLOWex = User's gas flow exit allocation on the day at the applicable exit point.

For an applicable entry and exit point combination, the NTS Optional Capacity Reserve Charges to be levied on the Applicable Quantity are calculated as follows:

NTS Optional Entry Capacity Charge = D / CWDen x RPen/ SUF and

NTS Optional Exit Capacity Charge = D/ CWDex x RPex/ SUF where

D is the straight-line distance between the entry and exit point,

CWDen is the capacity weighted distance for the entry point,

CWDex is the capacity weighted distance for the exit point,

RPen is the prevailing capacity reserve price for the entry point,

RPex is the prevailing capacity reserve price for the exit point, and

SUF is the System Utilisation Factor.

The System Utilisation Factor (SUF) will be calculated as the sum of the FCC values for all entry and exit points divided by the obligated capacity levels for all entry and exit points. A Shipper will therefore accept that in applying for an Optional Capacity Charge arrangement, it will be deemed to be renting capacity at a price that is adjusted so as to pay for a deemed quantity of under-utilised NTS capacity. The SUF will be calculated, and published in the Transportation Statement, once per year in advance of the relevant Gas Year and in line with normal charge notification periods.

The capacity weighted distances will be those derived under the RPM.~~with reference to the approach set out in the EU Tariff code. The capacity values to be used in the calculation will be the Obligated Capacities specified in National Grid Gas's Gas Transporter's Licence. The distances will be the actual network distances between entry and exit points and shall be determined by National Grid.~~

The Optional Capacity Charges therefore reflect that proportion of the costs, allocated by the capacity weighted distances at the relevant entry and exit points under a Capacity Weighted Distance charging methodology, that would be attributed to a dedicated pipeline bypassing the NTS.

Non-Transmission Services charges will not be levied on the Applicable Quantity (Q) but Transmission Services Revenue Recovery ~~(TO)~~ charges will be levied on the Applicable Quantity.

Normal Transmission Services charges ~~or~~and Non-Transmission Services charges will apply, as appropriate, to those capacities or gas flows not covered by the Applicable Quantity (Q):

WAPen = the shipper's weighted average price of relevant ~~firm~~ entry capacity entitlements held on the day;

WAPex = the shipper's weighted average price of relevant ~~firm~~ exit capacity entitlements held on the day;

Where CAPen > Q, WAPen will apply to (CAPen – Q) units of the User's entry capacity entitlement.

Where CAPex > Q, WAPex will apply to (CAPex – Q) units of the User's exit capacity entitlement.

Where FLOWen > Q, Non-Transmission Services entry charges will apply to (FLOWen – Q) units of the User's entry allocation.

Where FLOWex > Q, Non-Transmission Services exit charges will apply to (FLOWex – Q) units of the User's exit allocation.

NTS Optional Capacity Charges will not apply where either the entry or exit point is a gas storage facility or where the exit point is an NTS/DN offtake because gas has not finally left the NBP when it has flowed via these system points. Also, an exit point can be associated with only one entry point/ASEP for the purpose of attracting NTS Optional Capacity Charges.

If there is more than one exit point associated with an ASEP for the purposes of establishing optional charges then

(a) the ASEP firm entry capacity entitlement will be apportioned to each of the optional charge arrangements pro rata, based on the relative size of the firm exit capacity entitlements and

(b) the ASEP entry flow will be apportioned to each of the optional charge arrangements pro rata, based on the relative size of the exit flows.

It is appropriate that all gas using the NTS attracts a charge for doing so. It is therefore reasonable to apply a minimum distance limitation such that D is no less than 0.1km to ensure that the NTS Optional ~~c~~Capacity charges are positive numbers.

National Grid NTS will notify relevant shipper Users of the NTS Optional Capacity charges and the date from which they are to apply, as they would for the normal set of transportation charges.

Optional Capacity Charges will be quoted or notified to an accuracy of 6 (six) decimal places and will be accompanied by the value of each variable in the relevant Optional Capacity Charge formula described above.

In the determination of invoice amounts, the values of each variable in the relevant Optional Capacity Charge formula will be used, not the quoted Optional Capacity Charge. This will circumvent any restrictions on Optional Capacity Charges that may be imposed by information systems limitations, e.g. limiting charges to 4 decimal places or by imposing a minimum charge of 0.0001 p/kWh/day. The following example illustrates how invoices should be determined (an SUF of "1" is implied):

Example - Optional Entry Capacity Charge for 1 day.

D	30	km
CWDen	270	km
RPen	0.0002	p
Actual OCC (=D/CWDen*RPen)	0.000022	p (rounded)
Minimum Charge (systems limitation)	0.000100	p
Applicable Quantity	30,000,000	kWh
Invoice using Actual OCC	£6.67	
Invoice using Minimum Charge	£30.00	

The invoiced amount will therefore be £6.67

Transition Arrangements for Optional Capacity Charge

A transition run-in period will be the 150-day period date before the date on which charges from the new proposals take effect or such period, if less, depending on the Effective Date as determined by Ofgem. A commencement date of 01 October 2020 is recommended, from which new charges should apply.

At the commencement of the run-in period, National Grid will:

(a) provide a written statement to each shipper, that has optional commodity charge arrangements in place, that details the Optional Capacity Charges to apply to the optional charge arrangements. The shipper will be offered a one-off opportunity to terminate the optional charge arrangements for specified optional charge arrangements in which case National Grid will cancel the arrangements accordingly on behalf of the shipper. Shippers will have 1 month to respond to the offer to terminate; and

(b) Notify shippers holding optional charge supply point offers of the Optional Capacity Charges that will apply from the commencement date and that the terms of the offers will be deemed to be amended accordingly from that date.

Except where a shipper elects to terminate an optional charge arrangement in accordance with sub-paragraph (a) above, shippers will be required to use the usual supply point administration processes to amend or cancel optional charge arrangements.

Capacity Trades

Transmission Services Revenue Recovery charges in respect of capacity traded on the secondary market will be applied to the traded quantity, meaning that the transferee in such a transaction will be liable for payment of these charges. This rule will also apply in respect of any Existing Capacity that is transferred.

The above solution in relation to Existing Contracts is not the proposer's preferred outcome – it would be reasonable for any such capacity that is traded to continue to not attract the Transmission Services Entry Revenue Recovery charge. However, the Proposer anticipates there being systems delivery (timing) and cost implications for providing such a solution and has therefore proposed the above.

NTS Transmission Services Entry Charge Rebate

~~The charge mechanism reduces any Transmission Services entry over-recovery. The process may be triggered at the end of the formula year. It is proposed that this will be applied as a Transmission Services entry capacity credit.~~ It is proposed that this will be applied as a Transmission Services entry capacity credit. The charge mechanism reduces any Transmission Services entry over-recovery. The process may be triggered at the end of the Formula Year.

NTS Transmission Services Entry Capacity Retention Charge

NTS Entry Capacity Substitution is where National Grid moves unsold non-incremental Obligated Entry Capacity from one (donor) ASEP to meet the demand for incremental Obligated Entry Capacity at a different (recipient) ASEP. It is proposed that where a User elects to exclude capacity at potential donor ASEPs from being treated as substitutable capacity without having to buy and be allocated the capacity it is required to take out a "retainer".

It is propsed that:

- The retainer is valid for one year, covering all QSEC auctions (including ad-hoc auctions) held in this period. National Grid will exclude the relevant quantity from the substitution process, but the retainer will not create any rights to the User to be allocated or to use the capacity. The retainer will

not prevent Users (including the User taking out the retainer) from buying that capacity at the ASEP in question in the period covered by the retainer;.

- The retainer is subject to a one-off charge which is payable via an ad hoc invoice raised within 2 months of the QSEC auction allocations being confirmed. If a User wishes to protect capacity for more than one year, then a further retainer must be obtained each year and a charge will be payable each year for which a retainer is taken out.

- Where any capacity covered by a retainer is allocated, a refund of the retention fee may be made; for example, for a retainer taken out for Gas Year 2013/14 in January 2010, a refund can be triggered by an allocation at the relevant ASEP made during a QSEC auction in 2010, 2011 and 2012, and an AMSEC auction in 2013 and 2014.

- NTS Entry Capacity Retention Charges, ~~in regard to~~regarding non-incremental Obligated Entry Capacity, are calculated based on the minimal capacity charge rate of 0.0001 pence per kWh per day applying over a time period of 32 quarters; this equates to 0.2922 p/kWh of Entry Capacity retained.

- NTS Entry Capacity Retention Charges and refunds ~~in regard to~~regarding non-incremental Obligated Entry Capacity are treated as Transmission Services.

Non-Transmission Services Charging

It is proposed that revenue due for collection via General Non-Transmission Services Entry and Exit Charges will be equal to the Non-Transmission Services revenue minus the DN Pensions Charges, NTS Meter Maintenance Charges, St. Fergus Compressor Charges, Shared Supply Meter Point Administration Charges and Allocation Charges at Interconnectors.

The revenue due for collection via General Non-Transmission Services Entry and Exit Charges will be recovered through a flow based charge as a flat unit price for all Entry Points and Exit Points. It is proposed that the St. Fergus Compressor Charges and General Non-Transmission Services Entry and Exit Charge rates may be adjusted at any point within the gas year.

It is proposed that this is applied to all flows excluding Storage flows unless it is flowed as “own use” gas at the Storage point, and excluding flows in respect of Applicable Quantities where Optional Capacity Charge arrangements apply. .

The General Non-Transmission Services charge will be produced in p/kWh.

Where Allowed Revenue for Non-Transmission Services is required to be determined in respect of a period of less than 12 months and that period is not 01 April to 31 March (National Grid’s Formula Year), it is proposed that profiling factors will be applied separately to Entry and Exit Annual Allowed Revenue in order to determine appropriate values (respectively for Entry and Exit) for the relevant period. The target Entry and Exit revenue profiling factors will operate in such a way that within any Formula Year the tariffs will be set to minimise any under or over recovery in respect of Non-Transmission Services.

Treatment of under/over recovery (K) – after each formula year

It is proposed that a separate under or over revenue recovery (otherwise known as the "K" value) will be calculated for Transmission Services and Non-Transmission Services for the ~~f~~Formula ~~y~~Year. This will be different to the TO and SO "K" values however the principle of reconciling Transmission Entry and Exit revenues separately will remain.

It is proposed that the approach and calculation will be specified in the UNC, to be approved by Ofgem. In addition to Transmission and Non-Transmission being reconciled this Modification also proposes to have reconciliation between Entry and Exit under Transmission Services.

Transmission Services Revenue:

It is proposed to maintain a 50/50 split between Entry and Exit (for the purposes of allocating revenues to the charges to recover Transmission Services Entry and Exit Revenues). It is also proposed to maintain the separate reconciliation of Entry and Exit for Transmission Services, as per the current approach for TO charges. This would continue to mean that Entry and Exit, under Transmission Services, when reconciled would not result in Entry impacting Exit or vice versa.

The applicable year's Transmission Service Revenue will be split 50:50 between revenue to collect on Entry Capacity charges and revenue to collect on Exit Capacity charges. This value will then be added to any under/over recovery (Transmission Services K value) which was calculated in y-2 (two years ago) and split between Entry and Exit in the correct proportion, to make the applicable revenue which will be used in the CWD model to calculate the capacity charges.

Non-Transmission Services Revenue:

It is proposed that all those charges in respect of Non-Transmission Services shall contribute towards Non-Transmission Services revenue recovery. All charges are set on an ex-ante basis.

It is proposed that any under or over recovery attributed to the charges, other than the Non-Transmission Services Entry and Exit Charge, shall not be subject to reconciliation with any K value (Non-Transmission Services K value) adjusting the Non-Transmission Services Revenue recovery charge. Non-Transmission Services revenue ~~charge~~ will be added to the Non-Transmission Services K value which was calculated in y-2 (two years ago) which will be used to calculate the applicable year's Non-Transmission Services Revenue which will be used for calculation of the Non-Transmission Services Charges.

Effective Date for the charges driven by this proposal

The Effective Date of this proposal can be any date as determined by Ofgem.

Where the Effective Date of the Proposal necessitates changes to reserve prices taking effect on dates other than 01 October, National Grid will require an Ofgem derogation from its obligation under Standard Special Condition A4(2) of its licence which limits changes to reserve prices to once a year and for such change to only take effect on the aforementioned date.

For the avoidance of doubt, for all Entry Points and Exit Points, the revised arrangements will apply in respect of the payable price for capacity allocated for the Effective Date onwards. This rule applies regardless of whether the Effective Date falls within the overall period of tranche of capacity (i.e. within a period of a quarterly or annual allocation).

In any event, it will be necessary to take into consideration actual and anticipated revenues to be collected up to the Effective Date to determine the target revenue to be applied for the remainder of the Formula year.

Reconciliations are undertaken under the current regime, such as reconciling commodity charges, updating flow values and incorporating the OCC and reconciliation of commodity charges to account for

eligible flows. These will continue to ensure that charges for the applicable period up to the Effective Date are accurately charged.

Transportation Charges: Information Publication

It is proposed that information in respect of Transportation Charges will be published in accordance with table 3 below.

Table 3: Publication dates for Transportation Charges

	Data Item	Publication	Issued by*:
Transmission Services	Forecasted Contracted Capacity	Charging Model	~~01 August2 months prior to effective date**~~To the extent possible, in accordance with usual publication timescales**
	CWD Distances	Charging Model	
	Capacity Reference Prices	Transportation Statement	
	Multipliers	Transportation Statement	
	Capacity Reserve Prices	Transportation Statement	
	Interruptible Adjustment (Entry)	Transportation Statement	
	Interruptible Adjustment (Exit)	Transportation Statement	
	Specific Capacity Discounts (Storage)	Transportation Statement	
	Specific Capacity Discounts (LNG)	Transportation Statement	
	Revenue Recovery Charge (Entry)	Transportation Statement	
	Revenue Recovery Charge (Exit)	Transportation Statement	
Non-Transmission Services	Non-Transmission Services Charges	Transportation Statement	
	DN Pension Deficit Charges	Transportation Statement	
	NTS Metering Charges	Transportation Statement	
	St Fergus Compression Charges	Transportation Statement	
	SSMP Administration Charges	Transportation Statement	
	Allocation Charges at Interconnectors	Transportation Statement	

*Issued by means the date by which the listed information will be consolidated and published in the relevant publication. The information in this table will be published and made available in steps via the relevant notice and supporting material which may be before the date listed. The publication dates may also be changed depending on the ~~implementation of this Modification~~Effective Date.

** Unless the Authority provides the necessary approval for a ~~shorter~~different notice period to be provided.

6 Impacts & Other Considerations

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

N/A

Consumer Impacts

There will be impact on different consumer groups but the allowed revenue collected by National Grid NTS will not change. The Gas Transportation Charges recover a set amount of monies from Users of the NTS that will not change in the event of implementation of this Proposal. These amounts are the allowed revenues determined in line with National Grid's Licence. Under these proposals, the overall amount of money that is being recovered does not change in line with the Licence. This Proposal does provide a new overall framework that will essentially distribute the same amount over a changing base of Customers in a way that is different to the current regime, with all Users of the NTS contributing towards the costs of the NTS by picking up Transportation Charges.

The nature of how the overall revenue is charged downstream from NTS Charging will depend on how other market participants will accommodate charges into their respective charges.

Cross Code Impacts

None

EU Code Impacts

EU Tariff Code compliance is considered as part of this Proposal.

Central Systems Impacts

There will be impacts on Gemini and UK Link invoicing systems. These impacts are being assessed. The CDSP, Xoserve, has been consulted on all stages of development of this project and National Grid will continue to ensure this is the case.

7 Relevant Objectives

Table 4: Impact of the Modification on the Relevant Objectives

Impact of the Modification on the Relevant Objectives:	
Relevant Objective	Identified impact
a) Efficient and economic operation of the pipe-line system.	Positive
b) Coordinated, efficient and economic operation of (i) the combined pipe-line system, and/ or (ii) the pipe-line system of one or more other relevant gas transporters.	None
c) Efficient discharge of the licensee's obligations.	Positive
d) Securing of effective competition: (i) between relevant shippers; (ii) between relevant suppliers; and/or (iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant shippers.	Positive

e) Provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards… are satisfied as respects the availability of gas to their domestic customers.	None
f) Promotion of efficiency in the implementation and administration of the Code.	None
g) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	Positive

Demonstration of how the Relevant Objectives are furthered:

a) Efficient and economic operation of the pipe-line system

The whole charging package contained in this Modification has been designed to encourage fair and efficient access to the pipe-line system. The expected more stable and predictable charges compared with what is generated from the current methodology should encourage more stable and predictable use of the system by shippers -something that should in turn help National Grid generate accurate capacity usage forecasts for setting charges in future. The removal of free capacity products is an important aspect of the proposal as is the inclusion of an Optional Capacity charge (to replace the Optional Commodity Charge). Without an Optional Capacity Charge there will likely be an increased incentive for the use of some system bypass pipelines because some of the charges being generated by CWD produce counter-intuitive outcomes – high exit charges for large sites located close to entry points (the same argument could be made had the reference price methodology been Postage Stamp.) By improving the predictability of the use of the system National Grid should be better placed and better prepared to operate it in a more efficient manner. By encouraging efficient use of the system by shippers (e.g. by avoiding inefficient bypass) National Grid will ensure that its operations can be economically optimised so that costs are kept as low as possible on a pence/ kWh flowed basis.

At the same time, this Modification recognises that the current level of Optional Commodity Charge discounts applied to Transmission Owner (TO) charging has become distorted in recent years by their structural link to the rising level of TO Commodity charges. Thise Modification is therefore designed to promote efficiency and economy in the use of the NTS pipeline system by reducing the level of ~~discounts~~revenue under-recovery to a more appropriate level, whilst addressing the underlying structural design of the Optional charging methodology and thus providing a robust, enduring basis for dis-incentivising inefficient NTS by-pass.

c) Efficient discharge of the licensee's obligations.

The Modification will ensure that necessary enhancements and changes are made to the charging methodology holistically, enabling Users to comprehend the implications for the whole suite of gas transmission charging. This is much more preferred and efficient than had the changes been made in a fragmented or incomplete manner.

d) Securing of effective competition between relevant shippers;

The Modification is expected to result in more stable and predictable capacity charges which will be conducive to enhancing competition in gas shipping and gas supply. This is further helped by not applying capacity-based Transmission Services revenue recovery charges to Existing capacity, providing shippers with confidence that once a contract for capacity has been struck it will, as far as legal requirements permit, be honoured.

The Optional Capacity charge solution will allow shippers to compete more effectively at proximate offtakes, including power stations, without having to build their own (inefficient) by-pass pipelines. It will also

facilitate gas flows across Interconnection Points, encourage gas trading and help to attract gas to the GB market.

g) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

The proposed changes ~~to TPD B and EID B (where applicable) support~~provide for the implementation of ~~the new charging methodology and arrangements including those elements required to comply with~~ the EU Tariff Code. This Modification has taken into consideration the views expressed by Ofgem in their Modification 0621 Decision Letter and the 3 features of the 0621 Modification and its Alternatives that Ofgem consider to be non-compliant. The Modification is therefore based wholly on capacity charges for the recovery of Transmission Services Revenue and there is no special treatment for entry capacity purchased after 5th April 2017 in respect of Transmission Services Revenue Recovery Charges (sometimes referred to as "Interim Contracts").~~.~~ The Optional Capacity Charge solution is consistent with Ofgem's Decision Letter in respect of EU Tariff code compliance in that charges are wholly capacity-based and no artificial distance cap is introduced A statement of compliance is provided in Appendix 1.

Table 5: Impact of the Modification on the Relevant Charging Methodology Objectives

Impact of the Modification on the Relevant Charging Methodology Objectives:	
Relevant Objective	Identified impact
a) Save in so far as paragraphs (aa) or (d) apply, that compliance with the charging methodology results in charges which reflect the costs incurred by the licensee in its transportation business;	Positive
aa) That, in so far as prices in respect of transportation arrangements are established by auction, either: (i) no reserve price is applied, or (ii) that reserve price is set at a level - (I) best calculated to promote efficiency and avoid undue preference in the supply of transportation services; and (II) best calculated to promote competition between gas suppliers and between gas shippers;	Positive
b) That, so far as is consistent with sub-paragraph (a), the charging methodology properly takes account of developments in the transportation business;	Positive
c) That, so far as is consistent with sub-paragraphs (a) and (b), compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers; and	Positive
d) That the charging methodology reflects any Alternative arrangements put in place in accordance with a determination made by the Secretary of State under paragraph 2A(a) of Standard Special Condition A27 (Disposal of Assets).	None
e) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	Positive

This Modification proposal does not conflict with:

(i) Paragraphs 8, 9, 10 and 11 of Standard Condition 4B of the Transporter's Licence; or

(ii) Paragraphs 2, 2A and 3 of Standard Special Condition A4 of the Transporter's Licence;

as the charges will be changed at the required times and to the required notice periods.

Demonstration of how the Relevant Objectives are furthered:

a) Save in so far as paragraphs (aa) or (d) apply, that compliance with the charging methodology results in charges which reflect the costs incurred by the licensee in its transportation business;

The Capacity Weighted Distance (CWD) basis for allocating costs and setting reference prices is expected to provide a platform for more stable and predictable capacity reserve prices compared with the current Long Run Marginal Cost methodology. Some shortcomings with the CWD approach have been identified, in particular the production of some relatively high exit capacity prices for sites located close to some entry points. However, the inclusion of Optional Capacity charge arrangements in this Modification provides a means of correcting such anomalies and provides a more intuitively correct outcome when considering the cost-reflectivity of the charges.

The current Long Run Marginal Cost (LRMC) reference price methodology was designed to provide economic signals indicating where it would be economic for customers to acquire capacity on the NTS, i.e. it provided locational price signals. This approach was relevant during the period when the network was expected to expand so that informed and efficient network usage would be encouraged. Today, however, expansion of the network is likely to be limited and gas demand has been following a generally downward trend in most recent years. Therefore, an LRMC approach is not best suited to the current usage and requirements of the NTS and will not provide such a relevant, cost-reflective approach to charging as it has in the past.

A new approach to paying for Transmission Services~~these~~ costs, reflecting how the NTS is now used, is therefore required; a methodology that more fairly distributes costs among the Users of the system and that recognises that historical decisions on how the network was developed over many years should not in future unduly dictate how charges are set in future.

A Postage Stamp methodology has its appeal – it's simple and generally equalises entry and exit charges for users. However, a Postage Stamp method is not in any way cost-reflective: capital costs employed to support the current NTS infrastructure (e.g. for maintenance and replacement) or for maintaining gas pressures and delivering gas throughout the gas network (e.g. compressors) intuitively have a distance-related component to them. In light of this, a Capacity Weighted Distance (CWD) method is much more sensible and more appropriately reflects the complex nature of the NTS.

A CWD reference price methodology has therefore been adopted in this proposal to provide a balanced cost-allocation approach, one which recognises the changing use of the NTS yet one that retains some locational price signals. It is the view of the Proposer that CWD provides a more reasonable basis for setting cost-reflective reference prices during this phase of the NTS' life but it requires and relies on the addition of an Optional Capacity charge solution to make it even more reasonable.

The inclusion of a workable Optional Capacity charge solution is critical to enhancing the cost-reflectivity of the methodology. CWD would produce counter-intuitive capacity charges for some combinations of entry and exit points, e.g. high entry and exit charges when the exit point is in close proximity to the entry point, such as St Fergus and Peterhead power station or Bacton UKCS and the Interconnector UK exit point. It is therefore essential to incorporate a meaningful and enduring Optional Capacity charge solution to resolve such anomalies in order to provide a holistic solution that results in better charging outcomes.

aa) That, in so far as prices in respect of transportation arrangements are established by auction, either:

(i) no reserve price is applied, or

(ii) that reserve price is set at a level -

(I) best calculated to promote efficiency and avoid undue preference in the supply of transportation services; and

(II) best calculated to promote competition between gas suppliers and between gas shippers; and

(II) best calculated to promote competition between gas suppliers and between gas shippers;

The proposed changes to the balance of reserve prices among capacity products of different durations will ensure that a much fairer price is paid by shippers generally compared with the current situation where short-term entry and exit capacity can be readily purchased free of charge. This will help to significantly reduce the situation where parties that choose, or for business reasons are required, to purchase capacity on a long-term basis are disadvantaged and who, because of revenue under-recovery provisions such as has been witnessed with TO commodity charges, end up paying well in excess of their fair share of transmission costs. This rebalancing of charges and fairer allocation of costs is conducive to better promoting competition between gas suppliers and between gas shippers.

b) That, so far as is consistent with sub-paragraph (a), the charging methodology properly takes account of developments in the transportation business;

From a legal and regulatory perspective, the new methodology will ensure that the requirements of EU network codes can be fully adhered to, thus ensuring that the required transportation developments, especially, at Interconnection Points, are realised. From an operational perspective, the transportation business will need to change to meet changing demand patterns and changing sources of gas supply, presenting it with a challenge for the long-term transportation of gas to consumers and with a need to provide more flexibility to meet more unpredictable within-day changes to supply and demand patterns. The new charging approach under this Modification provides a significantly more balanced suite of capacity purchase options that will lead to more predictable costs for shippers and more appropriate payments in respect of the use of the day to day and within-day use of the system.

c) That, so far as is consistent with sub-paragraphs (a) and (b), compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers

The expected greater predictability and stability of charges will help gas shippers to better plan their future deliveries of gas to the market, will lead to less uncertainty for new entrants and generally provide a better basis for promoting competition in gas shipping and gas supply.

e) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

A statement of compliance is set out in Appendix 1 and describes how EU Tariff Code compliance is taken into account in this Modification proposal. Accordingly, implementation of this Proposal would ensure that the GB arrangements are compliant with the EU Tariff Code. The decision to reject UNC Modification ~~UNC~~0621 and its Alternatives highlighted three areas of compliance that needed to be addressed (Interim Contracts, Transition Period and commodity-based 'Short-haul'). This proposal addresses these by:

- Not proposing the creation of Interim Contracts as defined in the 0621 proposals;
- Not having a transition period for the introduction of the methodology changes; and
- Creating a capacity-based charge, with no artificial distance cap, to manage avoidance of inefficient bypass and to promote further market benefits.

8 Implementation

Implementation of this Modification is proposed to be in line with an Ofgem decision. The Proposer recommends that charges derived from the implementation of this proposal should take effect from 1

October 2020 and/or that normal notice periods for advising industry of transmission prices should be applied (e.g. 150 days' notice of indicative charges).

The Proposer considers that the proposal can be implemented prior to 01 October 2020 to ensure compliance with relevant legislation as soon as possible and that the date from which resultant transmission charges take effect can then follow.

A 01 October start date for new charges to take effect and sufficient notice of new charges is necessary to enable shippers and traders to efficiently plan and establish contractual arrangements with their counterparties without undue regulatory risk. It is the view of the Proposer that a 01 October 2019 charge effective date will be extremely difficult to achieve given the additional governance tasks likely to be undertaken by Ofgem following submission of the Final Workgroup Report, i.e. a possible Regulatory Impact Assessment and the consultation required by Article 26 of the EU Tariff ~~c~~Code.

If the ~~e~~Effective ~~d~~Date for charges is not a 1 October date, then this will give rise to different treatments for Interconnection Points (IPs) and non-IPs: The IP charges will be set for a year in accordance with the EU Tariff network code but non-IP charges will change within-year meaning that charges derived from different charging methodologies will be in force simultaneously for IPs and non-IPs for a period of time that will conflict with Article 6(3) of the EU Tariff network code. Implementation arrangements for a within-Gas Year ~~e~~Effective ~~d~~Date might require changes to National Grid's Gas Transporters Licence and other activities that cannot be prescribed by this Modification.

9 Legal Text

Text Commentary

To be provided later

Text

To be provided later

10 Recommendations

Proposer's Recommendation

The Proposer recommends that this Modification should be treated as an Alternative to Modification 0678 and therefore it should proceed as such under the same timetable as that agreed with the Authority for Modification 0678 as far as practicable.

11 Appendix 1

Views of the Proposer of 0678B on Compliance with COMMISSION REGULATION (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas.

This commentary focuses only on those articles of the EU Tariff Network Code that the Modification 0678 Workgroup identified as requiring compliance assessment.

Article 4. Transmission and non-transmission services and tariffs

1.A given service shall be considered a transmission services where both of the following criteria are met:

(a) the costs of such service are caused by the cost drivers of both technical or forecasted contracted capacity and distance;

(b) the costs of such service are related to the investment in and operation of the infrastructure which is part of the regulated asset base for the provision of transmission services.

Where any of the criteria set out in points (a) and (b) are not complied with, a given service may be attributed to either transmission or non-transmission services subject to the findings of the periodic consultation by the transmission system operator(s) or the national regulatory authority and decision by the national regulatory authority, as set out in Articles 26 and 27.

The identification of costs to be allocated to Transmission Services is consistent with Modification 0678. Transmission Services charges are generally those that are described as Transmission Owner charges under the current charging methodology.

2.Transmission tariffs may be set in a manner as to take into account the conditions for firm capacity products.

All Transmission Services charges are capacity-based and are derived from a single Reference Price Methodology. This includes the Optional Capacity Charges that Shipper Users can pay if they believe they are more appropriate for their configuration of entry and exit capacity requirements. The inclusion of an Optional Capacity Charge will: promote more cost-reflective charges for large NTS offtakes, attract gas to the GB market with benefits for market liquidity and security of supply, facilitate flows across Interconnection Points, maintain CCGT competitiveness, encourage new NTS connections, and help avoid the inefficient bypass of the NTS whether via onshore and offshore pipelines or by LNG tanker.

3.The transmission services revenue shall be recovered by capacity-based transmission tariffs.

All Transmission Services revenue will be recovered by capacity charges.

As an exception, subject to the approval of the national regulatory authority, a part of the transmission services revenue may be recovered only by the following commodity-based transmission tariffs which are set separately from each other:

(a) a flow-based charge, which shall comply with all of the following criteria:

(i) levied for the purpose of covering the costs mainly driven by the quantity of the gas flow;

(ii) calculated on the basis of forecasted or historical flows, or both, and set in such a way that it is the same at all entry points and the same at all exit points;

(iii) expressed in monetary terms or in kind.

(b) a complementary revenue recovery charge, which shall comply with all of the following criteria:

(i) levied for the purpose of managing revenue under- and over-recovery;

(ii) calculated on the basis of forecasted or historical capacity allocations and flows, or both;

(iii) applied at points other than interconnection points;

(iv) applied after the national regulatory authority has made an assessment of its cost-reflectivity and its impact on cross-subsidisation between interconnection points and points other than interconnection points.

4.The non-transmission services revenue shall be recovered by non-transmission tariffs applicable for a given non- transmission service. Such tariffs shall be as follows:

(a) cost-reflective, non-discriminatory, objective and transparent;

(b) charged to the beneficiaries of a given non-transmission service with the aim of minimising cross-subsidisation between network users within or outside a Member State, or both. Where according to the national regulatory authority a given non-transmission service benefits all network users, the costs for such service shall be recovered from all network users.

Non-Transmission Services charges are to be levied in a manner consistent with the current method for the recovery of System Operator costs. Some costs will be in the form of specific service charges; the remainder will be recovered via a postalised commodity charge on all entry and exit gas flows (excluding storage facility flows).

Article 5 Cost allocation assessments

1.The national regulatory authority or the transmission system operator, as decided by the national regulatory authority, shall perform the following assessments and shall publish them as part of the final consultation referred to in Article 26:

(a) a cost allocation assessment relating to the transmission services revenue to be recovered by capacity-based transmission tariffs and based exclusively on the cost drivers of

(i) technical capacity; or

(ii) forecasted contracted capacity; or

(iii) technical capacity and distance; or

(iv) forecasted contracted capacity and distance;

(b) a cost allocation assessment relating to the transmission services revenue to be recovered by commodity-based transmission tariffs, if any, and based exclusively on the cost drivers of:

(i) the amount of gas flows; or

(ii) the amount of gas flows and distance.

2.The cost allocation assessments shall indicate the degree of cross-subsidisation between intra-system and cross- system network use based on the proposed reference price methodology.

3.The cost allocation assessment referred to in paragraph 1(a) shall be carried out as follows:

(a) the transmission services capacity revenue to be obtained from intra-system network use at both all entry points and all exit points shall be divided by the value of the relevant capacity cost driver(s) for intra-system network use in order to calculate the intra-system capacity ratio, which is defined as a monetary unit per measurement unit, such as in euro per MWh/day, in accordance with the following formula:

[Formula]

Where:

(b) the transmission services capacity revenue to be obtained from cross-system network use at both all entry points and all exit points shall be divided by the value of the relevant capacity cost driver(s) for cross-system network use in order to calculate the cross-system capacity ratio, which is defined as a monetary unit per measurement unit, such as in euro per MWh/day, in accordance with the following formula:

[Formula]

(c) the capacity cost allocation comparison index between the ratios referred to in points (a) and (b), which is defined in percentage, shall be calculated in accordance with the following formula:

[Formula]

4.The cost allocation assessment referred to in paragraph 1(b) shall be carried out as follows:

(a) the transmission services commodity revenue to be obtained from intra-system network use at both all entry points and all exit points shall be divided by the value of the relevant commodity cost driver(s) for intra-system network use in order to calculate the intra-system commodity ratio,

which is defined as a monetary unit per measurement unit, such as in euro per MWh, in accordance with the following formula:

[Formula]

(b) the transmission services commodity revenue to be obtained from cross-system network use at both all entry points and all exit points shall be divided by the value of the relevant commodity cost driver(s) for cross-system network use in order to calculate the cross-system commodity ratio, which is defined as a monetary unit per measurement unit, such as in euro per MWh, in accordance with the following formula:

[Formula]

(c) the commodity cost allocation comparison index between the ratios referred to in points (a) and (b), which is defined in percentage, shall be calculated in accordance with the following formula:

[Formula]

5.The transmission services revenue to be obtained from intra-system network use at entry points referred to in paragraphs 3(a) and 4(a) shall be calculated as follows:

(a) the amount of allocated capacity or, respectively, flows attributed to the provision of transmission services for cross- system network use at all entry points shall be deemed equal to the amount of capacity or, respectively, flows attributed to the provision of transmission services for cross-system network use at all exit points;

(b) the capacity and, respectively, flows, determined as set out in point (a) of this paragraph shall be used to calculate the transmission services revenue to be obtained from cross-system network use at entry points;

(c) the difference between the overall transmission services revenue to be obtained at entry points and the resulting value referred to in point (b) of this paragraph shall be equal to the transmission services revenue to be obtained from intra-system network use at entry points.

6.Where distance is used as a cost driver in combination with technical or forecasted contracted capacity or flows, the capacity weighted average distance or, respectively, commodity weighted average distance shall be used. Where the results of the capacity, or respectively commodity cost allocation comparison indexes referred to in paragraph 3(c) or, respectively paragraph 4(c), exceed 10 percent, the national regulatory authority shall provide the justification for such results in the decision referred to in Article 27(4).

The detailed information used for setting charges will enable the relevant cost assessments to be carried out and judged by the National Regulatory Authority. It is to be expected that National Grid will make available to the NRA all necessary data to facilitate compliance with this Article. This could include detail relevant to Existing Capacity Contracts that are afforded price protection under Article 35 of this code, enabling assessments to either include or exclude Existing capacities and revenues if considered appropriate.

Article 6 Reference price methodology application

1.The reference price methodology shall be set or approved by the national regulatory authority as set out in Article 27. The reference price methodology to be applied shall be subject to the findings of the periodic consultations carried out in accordance with Article 26 by the transmission system operator(s) or the national regulatory authority, as decided by the national regulatory authority.

Implementation 0f Modification 0678B will be subject to a decision made by the National Regulatory Authority.

2.The application of the reference price methodology shall provide a reference price.

Reference prices will be generated by the proposed Reference Price Methodology.

3.The same reference price methodology shall be applied to all entry and exit points in a given entry-exit system subject to the exceptions set out in Articles 10 and 11.

The same Reference Price Methodology for setting charges, including Optional Capacity Charges, will apply to all entry and exit points.

4.Adjustments to the application of the reference price methodology to all entry and exit points may only be made in accordance with Article 9 or as a result of one or more of the following:

(a) benchmarking by the national regulatory authority, whereby reference prices at a given entry or exit point are adjusted so that the resulting values meet the competitive level of reference prices;

Optional Capacity Charges will be informed by a "System Utilisation Factor" that can be regarded as a form of system-wide load-factor. This will mean that these charges will be increased so as to recover system costs that correspond to full capacity utilisation at the relevant entry and exit points.

(b) equalisation by the transmission system operator(s) or the national regulatory authority, as decided by the national regulatory authority, whereby the same reference price is applied to some or all points within a homogeneous group of points;

(c) rescaling by the transmission system operator(s) or the national regulatory authority, as decided by the national regulatory authority, whereby the reference prices at all entry or all exit points, or both, are adjusted either by multiplying their values by a constant or by adding to or subtracting from their values a constant.

Any rescaling of charges will be done with the aim of setting charges to recover National Grid's full allowed revenue. Rescaling will take into consideration any estimated revenue over or under-recovery as a result of the application of specific discounts or multipliers for firm capacity products.

Article 7 Choice of a reference price methodology

The reference price methodology shall comply with Article 13 of Regulation (EC) No 715/2009 and with the following requirements.

It [the Reference Price Methodology] shall aim at:

(a) enabling network users to reproduce the calculation of reference prices and their accurate forecast;

The Reference Price Methodology for setting Transmission Services Charges is deterministic and with the availability of key data inputs, e.g. allowed revenue, Forecasted Contracted Capacities and network distances, the prices can be readily reproduced. For Non-Transmission Services, either bespoke or postalised charges are set as they are under the current methodology.

(b) taking into account the actual costs incurred for the provision of transmission services considering the level of complexity of the transmission network;

The Capacity Weighted Distance basis for setting Transmission Services Charges naturally includes network distance as a cost-driver. The investment made in transporting gas should be intuitively correlated with the price to be paid for transporting gas and distance is a key factor not only for investment already made by National Grid but also for capital costs associated with maintenance, mains replacement and new gas compression.

(c) ensuring non-discrimination and prevent undue cross-subsidisation including by taking into account the cost allocation assessments set out in Article 5;

(d) ensuring that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system;

(e) ensuring that the resulting reference prices do not distort cross-border trade.

The methodology is deterministic and does not distinguish between Interconnection Points and Non-Interconnection Points. It is necessary, however, to allow for the different pricing of Existing Contracts as required by Article 35 of this code. Any distortion of prices borne out of the Article 35 requirements will reduce over time and probably disappear completely within 10 years.

Article 8 Capacity weighted distance reference price methodology

1.The parameters for the capacity weighted distance reference price methodology shall be as follows:

(a) the part of the transmission services revenue to be recovered from capacity-based transmission tariffs;

(b) the forecasted contracted capacity at each entry point or a cluster of entry points and at each exit point or a cluster of exit points;

(c) where entry points and exit points can be combined in a relevant flow scenario, the shortest distance of the pipeline routes between an entry point or a cluster of entry points and an exit point or a cluster of exit points;

(d) the combinations of entry points and exit points, where some entry points and some exit points can be combined in a relevant flow scenario;

(e) the entry-exit split referred to in Article 30(1)(b)(v)(2) shall be 50/50. Where entry points and exit points cannot be combined in a flow scenario, this combination of entry and exit points shall not be taken into account.

2.The reference prices shall be derived in the following sequential steps:

(a) the weighted average distance for each entry point or each cluster of entry points and for each exit point or each cluster of exit points shall be calculated, taking into account, where relevant, the combinations referred to in paragraph 1(d), in accordance with the following respective formulas:

(i) for an entry point or cluster of entry points, as the sum of the products of capacity at each exit point or cluster of exit points and the distance from this entry point or cluster of entry points to each exit point or cluster of exit points, divided by the sum of capacities at each exit point or cluster of exit points:

[Formula]

(ii) for an exit point or cluster of exit points, as the sum of the products of capacity at each entry point or cluster of entry points and the distance to this exit point or cluster of exit points from each entry point or cluster of entry points, divided by the sum of capacities at each entry point or cluster of entry points:

[Formula]

(b) the weight of cost for each entry point or each cluster of entry points and for each exit point or each cluster of exit points shall be calculated in accordance with the following respective formulas:

[Formula]

(c) the part of the transmission services revenue to be recovered from capacity-based transmission tariffs at all entry points and the part of the transmission services revenue to be recovered from capacity-based transmission tariffs at all exit points shall be identified by applying the entry-exit split;

(d) the part of the transmission services revenue to be recovered from capacity-based transmission tariffs at each entry point or each cluster of entry points and for each exit point or

each cluster of exit points shall be calculated in accordance with the following respective formulas:

[Formula]

(e) the resulting values referred to in point (d) shall be divided by the forecasted contracted capacity at each entry point or each cluster of entry points and at each exit point or each cluster of exit points in accordance with the following respective formulas:

[Formula]

The capacity weighted distance methodology employed by this Modification 0678B is the same as for National Grid's 0678 Modification. The requirements set out this Article 8 are complied with.

Article 9 Adjustments of tariffs at entry points from and exit points to storage facilities and at entry points from LNG facilities and infrastructure ending isolation

1.A discount of at least 50 % shall be applied to capacity-based transmission tariffs at entry points from and exit points to storage facilities, unless and to the extent a storage facility which is connected to more than one transmission or distribution network is used to compete with an interconnection point.

A discount of 50% is proposed in respect of Storage Facilities.

2.At entry points from LNG facilities, and at entry points from and exit points to infrastructure developed with the purpose of ending the isolation of Member States in respect of their gas transmission systems, a discount may be applied to the respective capacity-based transmission tariffs for the purposes of increasing security of supply.

No discount is proposed for LNG Facilities.

Article 12 General provisions

1.For yearly standard capacity products for firm capacity, the reference prices shall be used as reserve prices. For non-yearly standard capacity products for firm capacity, the reserve prices shall be calculated as set out in this Chapter. For both yearly and non-yearly standard capacity products for interruptible capacity, the reserve prices shall be calculated as set out in this Chapter. The level of multipliers and of seasonal factors, set out in accordance with Article 13, and the level of discounts for the standard capacity products for interruptible capacity, set out in accordance with Article 16, may be different at interconnection points.

2.Where the tariff period and gas year do not coincide, separate reserve prices may be applied respectively: (a) for the time period from 1 October to the end of the prevailing tariff period; and (b) for the time period from the beginning of the tariff period following the prevailing tariff period to 30 September

The Modification recommends that charges be applied for a Gas Year, specifically a 1 October start date. From a practical perspective, and to allow for charge notice periods to be adhered to, it is recommended that a 1 October 2020 start date is aimed at. Implementation of the Modification would take place prior to this target date.

3.The respective reserve prices published according to Article 29 shall be binding for the subsequent gas year or beyond the subsequent gas year in case of fixed payable price, beginning after the annual yearly capacity auction, unless:

(a) the discounts for monthly and daily standard capacity products for interruptible capacity are recalculated within the tariff period if the probability of interruption referred to in Article 16 changes by more than twenty percent;

(b) the reference price is recalculated within the tariff period due to exceptional circumstances under which the non- adjustment of tariff levels would jeopardise the operation of the transmission system operator.

Prices for capacity will be set so as to apply for the duration of a Gas Year.

Article 13 Level of multipliers and seasonal factors

1.The level of multipliers shall fall within the following ranges:

(a) for quarterly standard capacity products and for monthly standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 1,5;

(b) for daily standard capacity products and for within-day standard capacity products, the level of the respective multiplier shall be no less than 1 and no more than 3. In duly justified cases, the level of the respective multipliers may be less than 1, but higher than 0, or higher than 3.

2.Where seasonal factors are applied, the arithmetic mean over the gas year of the product of the multiplier applicable for the respective standard capacity product and the relevant seasonal factors shall be within the same range as for the level of the respective multipliers set out in paragraph 1.

Multipliers will be set at a level of "1" for all standard firm capacity products. This is also the case for Optional Capacity where no adjustment is made to the price to reflect the duration of the product purchased.

Article 14 Calculation of reserve prices for non-yearly standard capacity products for firm capacity in absence of seasonal factors

The reserve prices for non-yearly standard capacity products for firm capacity shall be calculated as follows:

(a) for quarterly standard capacity products, for monthly standard capacity products and for daily standard capacity products, in accordance with the following formula:

[Formula]

(b) for within-day standard capacity products, in accordance with the following formula:

[Formula]

Reserve prices will be calculated in accordance with this Article. Charges will be applied on a daily basis.

Article 15 Calculation of reserve prices for non-yearly standard capacity products for firm capacity with seasonal factors

Seasonal factors are not proposed under this Modification and the requirements of this Article are therefore not relevant.

Article 16 Calculation of reserve prices for standard capacity products for interruptible capacity

1.The reserve prices for standard capacity products for interruptible capacity shall be calculated by multiplying the reserve prices for the respective standard capacity products for firm capacity calculated as set out in Articles 14 or 15, as relevant, by the difference between 100 % and the level of an ex-ante discount calculated as set out in paragraphs 2 and 3.

2.An ex-ante discount shall be calculated in accordance with the following formula:

[Formula]

Pro factor is the probability of interruption which is set or approved in accordance with Article 41(6)(a) of Directive 2009/73/EC pursuant to Article 28, and which refers to the type of standard capacity product for interruptible capacity;

A is the adjustment factor which is set or approved in accordance with Article 41(6)(a) of Directive 2009/73/EC pursuant to Article 28, applied to reflect the estimated economic value of the type of standard capacity product for interruptible capacity, calculated for each, some or all interconnection points, which shall be no less than 1.

3.The Pro factor referred to in paragraph 2 shall be calculated for each, some or all interconnection points per type of standard capacity product for interruptible capacity offered in accordance with the following formula on the basis of forecasted information related to the components of this formula:

[Formula]

4.As an alternative to applying ex-ante discounts in accordance with paragraph 1, the national regulatory authority may decide to apply an ex-post discount, whereby network users are compensated after the actual interruptions incurred. Such ex-post discount may only be used at interconnection points where there was no interruption of capacity due to physical congestion in the preceding gas year.

The ex-post compensation paid for each day on which an interruption occurred shall be equal to three times the reserve price for daily standard capacity products for firm capacity.

Modification 0678B's solution in respect of interruptible capacity replicates that of National Grid's 0678. An ex ante discount of 10% will be applied.

Article 17 General provisions

1.Where and to the extent that the transmission system operator functions under a non-price cap regime, the following principles shall apply:

(a) the under- or over-recovery of the transmission services revenue shall be minimised having due regard to necessary investments;

National Grid will be responsible for ensuring compliance with this Article. Modification 0678B employs only capacity-based charges for the recovery of Transmission Services revenue which removes uncertainties in revenue recovery that would arise from commodity-based charges. To set accurate ex ante capacity charges, National Grid will be required to accurately forecast capacity bookings; Modification 0678B will introduce new UNC rules and obligations to provide appropriate governance to the Forecasted Contracted Capacity Methodology.

(b) the level of transmission tariffs shall ensure that the transmission services revenue is recovered by the transmission system operator in a timely manner;

The Modification introduces capacity-based Transmission Services Revenue Recovery Charges to help National Grid comply with this provision.

(c) significant differences between the levels of transmission tariffs applicable for two consecutive tariff periods shall be avoided to the extent possible.

The Modification introduces capacity-based Transmission Services Revenue Recovery Charges to help National Grid comply with this provision.

2.Where and to the extent that the transmission system operator functions under a price cap regime or applies a fixed payable price approach set out in Article 24(b), no revenue reconciliation shall occur and all risks related to under- or over-recovery shall be covered exclusively by the risk premium. In such case Articles 18, 19(1) to (4) and 20 shall not apply.

3.Subject to the requirements of periodic consultations pursuant to Article 26 and subject to approval in accordance with Article 41(6)(a) of Directive 2009/73/EC, non-transmission services revenue may be reconciled as set out in this Chapter, mutatis mutandis.

Article 23 Calculation of clearing price at interconnection points

The clearing price for a given standard capacity product at an interconnection point shall be calculated in accordance with the following formula:

[Formula]

This Article is already accommodated within the UNC. The Modification will not amend the current arrangements.

Article 24 Calculation of payable price at interconnection points

The payable price for a given standard capacity product at an interconnection point shall be calculated in accordance with either of the following formulas:

(a) where the floating payable price approach is applied:

[Formula]

The floating payable price approach will apply and be managed accordingly by National Grid.

(b) where the fixed payable price approach is applied:

[Formula]

Article 25 Conditions for offering payable price approaches

1.Where and to the extent that the transmission system operator functions under a non-price cap regime, the conditions for offering payable price approaches shall be as follows:

(a) for cases where only existing capacity is offered:

(i) the floating payable price approach shall be offered;

(ii) the fixed payable price approach shall not be allowed.

(b) for incremental capacity and existing capacity offered in the same auction or same alternative allocation mechanism:

(i) the floating payable price approach may be offered;

(ii) the fixed payable price approach may be offered where one of the following conditions is met:

(1) an alternative allocation mechanism set out in Article 30 of Regulation (EU) 2017/459 is used;

(2) a project is included in the Union list of projects of common interest as set out in Article 3 of Regulation (EU) No 347/2013 of the European Parliament and of the Council (1).

A floating payable price approach will be employed.

2.Where and to the extent that the transmission system operator functions under a price cap regime, the floating payable price approach or the fixed payable price approach, or both, may be offered.

Article 26 Periodic consultation

1.One or more consultations shall be carried out by the national regulatory authority or the transmission system operator(s), as decided by the national regulatory authority. To the extent possible and in order to render more effective the consultation process, the consultation document should be published in the English language. The final consultation prior to the decision referred to in Article 27(4) shall comply with the requirements set out in this Article and Article 27, and shall include the following information:

(a) the description of the proposed reference price methodology as well as the following items:

(i) the indicative information set out in Article 30(1)(a), including:

(1) the justification of the parameters used that are related to the technical characteristics of the system;

(2) the corresponding information on the respective values of such parameters and the assumptions applied.

(ii) the value of the proposed adjustments for capacity-based transmission tariffs pursuant to Article 9;

(iii) the indicative reference prices subject to consultation;

(iv) the results, the components and the details of these components for the cost allocation assessments set out in Article 5;

(v) the assessment of the proposed reference price methodology in accordance with Article 7;

(vi) where the proposed reference price methodology is other than the capacity weighted distance reference price methodology detailed in Article 8, its comparison against the latter accompanied by the information set out in point (iii);

(b) the indicative information set out in Article 30(1)(b)(i), (iv), (v);

(c) the following information on transmission and non-transmission tariffs:

(i) where commodity-based transmission tariffs referred to in Article 4(3) are proposed:

(1) the manner in which they are set;

(2) the share of the allowed or target revenue forecasted to be recovered from such tariffs;

(3) the indicative commodity-based transmission tariffs;

(ii) where non-transmission services provided to network users are proposed:

(1) the non-transmission service tariff methodology therefor;

(2) the share of the allowed or target revenue forecasted to be recovered from such tariffs;

(3) the manner in which the associated non-transmission services revenue is reconciled as referred to in Article 17(3);

(4) the indicative non-transmission tariffs for non-transmission services provided to network users;

(d) the indicative information set out in Article 30(2);

(e) where the fixed payable price approach referred to in Article 24(b) is considered to be offered under a price cap regime for existing capacity:

(i) the proposed index;

(ii) the proposed calculation and how the revenue derived from the risk premium is used;

(iii) at which interconnection point(s) and for which tariff period(s) such approach is proposed;

(iv) the process of offering capacity at an interconnection point where both fixed and floating payable price approaches referred to in Article 24 are proposed.

2.The final consultation prior to the decision referred to in Article 27(4) shall be open for at least two months. Consultation documents for any of the consultations referred to in paragraph 1 may require that replies submitted in response to the consultation shall include a non-confidential version suitable for publication.

3.Within one month following the end of the consultation, the transmission system operator(s) or the national regulatory authority, depending on the entity that publishes the consultation document referred to in paragraph 1, shall publish the consultation responses received and their summary. To the extent possible and in order to render more effective the consultation process, the summary should be provided in the English language.

The detailed information provided by this Modification will help the National Regulatory Authority or the Transmission System Operator to fulfil the obligations described in this Article.

Article 27 Periodic national regulatory authority decision-making

1.Upon launching the final consultation pursuant to Article 26 prior to the decision referred to in Article 27(4), the national regulatory authority or the transmission system operator(s), as decided by the national regulatory authority, shall forward the consultation documents to the Agency.

2.The Agency shall analyse the following aspects of the consultation document:

(a) whether all the information referred to in Article 26(1) has been published;

(b) whether the elements consulted on in accordance with Article 26 comply with the following requirements:

(1) whether the proposed reference price methodology complies with the requirements set out in Article 7;

(2) whether the criteria for setting commodity-based transmission tariffs as set out in Article 4(3) are met;

(3) whether the criteria for setting non-transmission tariffs as set out in Article 4(4) are met.

3.Within two months following the end of the consultation referred to in paragraph 1, the Agency shall publish and send to the national regulatory authority or transmission system operator, depending on which entity published the consultation document, and the Commission the conclusion of its analysis in accordance with paragraph 2 in English. The Agency shall preserve the confidentiality of any commercially sensitive information.

4.Within five months following the end of the final consultation, the national regulatory authority, acting in accordance with Article 41(6)(a) of Directive 2009/73/EC, shall take and publish a motivated decision on all items set out in Article 26(1). Upon publication, the national regulatory authority shall send to the Agency and the Commission its decision.

5.The procedure consisting of the final consultation on the reference price methodology in accordance with Article 26, the decision by the national regulatory authority in accordance with paragraph 4, the calculation of tariffs on the basis of this decision, and the publication of the tariffs in accordance with Chapter VIII may be initiated as from the entry into force of this Regulation and shall be concluded no later than 31 May 2019. The requirements set out in Chapters II, III and IV shall be taken into account in this procedure. The tariffs applicable for the prevailing tariff period at 31 May 2019 will be applicable until the end thereof. This procedure shall be repeated at least every five years starting from 31 May 2019.

The detailed information provided by this Modification will help the National Regulatory Authority or the Transmission System Operator to fulfil the obligations described in this Article.

Article 28 Consultation on discounts, multipliers and seasonal factors

The detailed information provided by this Modification will help the National Regulatory Authority to fulfil the obligations described in this Article.

Article 30 Information to be published before the tariff period

1.The following information shall be published before the tariff period in accordance with the requirements set out in Articles 31 and 32 by the national regulatory authority or the transmission system operator(s), as decided by the national regulatory authority:

(a)information on parameters used in the applied reference price methodology that are related to the technical characteristics of the transmission system, such as:

(i) technical capacity at entry and exit points and associated assumptions;

(ii) forecasted contracted capacity at entry and exit points and associated assumptions;

(iii) the quantity and the direction of the gas flow for entry and exit points and associated assumptions, such as demand and supply scenarios for the gas flow under peak conditions;

(iv) the structural representation of the transmission network with an appropriate level of detail;

(v) additional technical information about the transmission network, such as the length and the diameter of pipelines and the power of compressor stations.

(b) the following information:

(i) the allowed or target revenue, or both, of the transmission system operator;

(ii) the information related to changes in the revenue referred to in point (i) from one year to the next year;

(iii) the following parameters:

(1) types of assets included in the regulated asset base and their aggregated value;

(2) cost of capital and its calculation methodology;

(3) capital expenditures, including:

(a) methodologies to determine the initial value of the assets;

(b) methodologies to re-evaluate the assets;

(c) explanations of the evolution of the value of the assets;

(d) depreciation periods and amounts per asset type.

(4) operational expenditures;

(5) incentive mechanisms and efficiency targets;

(6) inflation indices.

(iv) the transmission services revenue;

(v) the following ratios for the revenue referred to in point (iv):

(1) capacity-commodity split, meaning the breakdown between the revenue from capacity-based transmission tariffs and the revenue from commodity-based transmission tariffs;

(2) entry-exit split, meaning the breakdown between the revenue from capacity-based transmission tariffs at all entry points and the revenue from capacity-based transmission tariffs at all exit points;

(3) intra-system/cross-system split, meaning the breakdown between the revenue from intra-system network use at both entry points and exit points and the revenue from cross-system network use at both entry points and exit points calculated as set out in Article 5.

(vi) where and to the extent that the transmission system operator functions under a non-price cap regime, the following information related to the previous tariff period on regarding the reconciliation of the regulatory account:

(1) the actually obtained revenue, the under- or over-recovery of the allowed revenue and the part thereof attributed to the regulatory account and, if applicable, sub-accounts within such regulatory account;

(2) the reconciliation period and the incentive mechanisms implemented.

(vii) the intended use of the auction premium.

(c) the following information on transmission and non-transmission tariffs, accompanied by the relevant information related to their derivation:

(i) where applied, commodity-based transmission tariffs referred to in Article 4(3);

(ii) where applied, non-transmission tariffs for non-transmission services referred to in Article 4(4);

(iii) the reference prices and other prices applicable at points other than those referred to in Article 29.

2.In addition, the following information shall be published with regard to transmission tariffs:

(a) explanation of the following:

(i) the difference in the level of transmission tariffs for the same type of transmission service applicable for the prevailing tariff period and for the tariff period for which the information is published;

(ii) the estimated difference in the level of transmission tariffs for the same type of transmission service applicable for the tariff period for which the information is published and for each tariff period within the remainder of the regulatory period.

(b) at least a simplified tariff model, updated regularly, accompanied by the explanation of how to use it, enabling network users to calculate the transmission tariffs applicable for the prevailing tariff period and to estimate their possible evolution beyond such tariff period.

3.For the points excluded from the definition of relevant points referred to in point 3.2(1)(a) of Annex I to Regulation (EC) No 715/2009, the information on the amount of forecasted contracted capacity and the forecasted quantity of the gas flow shall be published as set out in point 3.2(2) of Annex I to Regulation (EC) No 715/2009.

The detailed information provided by this Modification will help the National Regulatory Authority or the Transmission System Operator to fulfil the obligations described in this Article.

Article 31 Form of publication

1.The information referred to in Articles 29 and 30 shall be published as set out in Article 32 via a link on the platform referred to in point 3.1.1(1)(h) of Annex I to Regulation (EC) No 715/2009 to the website of the respective entity. Such information shall be accessible to the public, free of charge and of any limitations as to its use. It shall be published:

(a) in a user-friendly manner;

(b) in a clear, easily accessible way and on a non-discriminatory basis;

(c) in a downloadable format;

(d) in one or more of the official languages of the Member State and, unless one of the official languages of the Member State is English, to the extent possible, in English.

2.The following information shall be published for interconnection points on the platform referred to in point 3.1.1(1)(h) of Annex I to Regulation (EC) No 715/2009: (a) at the same time as set out in Article 29, the reserve prices for standard capacity products for firm capacity and for standard capacity products for interruptible capacity; (b) at the same time as set out in Article 30, a flow-based charge referred to in Article 4(3)(a), where applied.

3.The information referred to in paragraph 2 shall be published in the following manner:

(a) as set out in paragraph 1(a) to (c);

(b) in English;

(c) in a standardised table which shall include at least the following information:

(i) the interconnection point;

(ii) the direction of the gas flow;

(iii) the names of the relevant transmission system operators;

(iv) the start and the end time of the product;

(v) whether the capacity is firm or interruptible;

(vi) the indication of the standard capacity product; (vii) the applicable tariff per kWh/h and per kWh/d in the local currency and in the euro taking into account the following:

(1) where the applied capacity unit is kWh/h, the information on the applicable tariff per kWh/d shall be non- binding, and vice versa;

(2) where the local currency is other than the euro, the information on the applicable tariff in euro shall be non-binding. In addition, at the same time as set out in Article 30, such standardised table shall include the simulation of all the costs for flowing 1 GWh/day/year for each interconnection point in the local currency and in the euro subject to point vii(2).

4.Where the information referred to in paragraph 2 is different from the respective information referred to in paragraph 1, the respective information referred to in paragraph 1 shall prevail.

The detailed information provided by this Modification will help the National Regulatory Authority or the Transmission System Operator to fulfil the obligations described in this Article.

Article 32 Publication notice period

The deadline for the publication of the information set out in Articles 29 and 30 shall be as follows:

(a) for the information set out in Article 29, no later than thirty days before the annual yearly capacity auction;

(b) for the information set out in Article 30, no later than thirty days before the respective tariff period;

(c) for the respective transmission tariffs updated within the tariff period as set out in Article 12(3), immediately after the approval in accordance with Article 41(6)(a) of Directive 2009/73/EC.

Each update of the transmission tariffs shall be accompanied by information indicating the reasons for the changes in their level. Where Article 12(3)(b) is applied, it shall also be accompanied by the updated report referred to in Article 29(b) for the respective types of standard capacity products for interruptible capacity.

The Modification does not propose any changes to the current publication notice periods provided by National Grid. The current notice periods are compliant with this Article.

Article 35 Existing contracts

1.This Regulation shall not affect the levels of transmission tariffs resulting from contracts or capacity bookings concluded before 6 April 2017 where such contracts or capacity bookings foresee no change in the levels of the capacity- and/or commodity-based transmission tariffs except for indexation, if any.

The Modification fully complies with this requirement in that system entry capacity purchased prior to 6th April 2017 will attract only the fixed capacity price contracted for. Transmission Services Revenue Recovery Charges, which are to be capacity-based, will not apply to Existing Contracts thereby affording the full contractual protection prescribed by this Article 35.

2.The contract provisions related to transmission tariffs and capacity bookings referred to in paragraph 1 shall not be renewed, prolonged or rolled over after their expiration date.

3.Before 6 May 2017, a transmission system operator shall send the contracts or the information on capacity bookings, if any, referred to in paragraph 1 to the national regulatory authority for information.