





| UNC Modification | | At what stage is this document in the process? |
|---|---|--|
| <h1>UNC 0678B:</h1> <h2>Amendments to Gas Transmission Charging Regime</h2> | | <div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="border: 1px solid green; background-color: #008000; color: white; padding: 5px; margin-bottom: 5px;">01 Modification</div> <div style="border: 1px solid blue; padding: 5px; margin-bottom: 5px;">02 Workgroup Report</div> <div style="border: 1px solid purple; padding: 5px; margin-bottom: 5px;">03 Draft Modification Report</div> <div style="border: 1px solid orange; padding: 5px;">04 Final Modification Report</div> </div> |
| <p>Purpose of Modification:</p> <p>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).</p> | | |
|  | <p>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.</p> | |
|  | <p>High Impact: All parties that pay NTS Transportation Charges and / or have a connection to the NTS, and National Grid NTS.</p> | |
|  | <p>Medium Impact: N/A</p> | |
|  | <p>Low Impact: N/A</p> | |

| Contents | |
|----------|-----------------------------------|
| 1 | Summary 3 |
| 2 | Governance 5 |
| 3 | Why Change? 6 |
| 4 | Code Specific Matters 11 |
| 5 | Solution 14 |
| 6 | Impacts & Other Considerations 29 |
| 7 | Relevant Objectives 29 |
| 8 | Implementation 34 |
| 9 | Legal Text 34 |
| 10 | Recommendations 34 |

 Any questions?

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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.

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| 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 |
| Final Modification Report available for Panel | 12 April 2019 |

Transporter:
National Grid





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|---|---------------|--|
| Modification Panel decision | 18 April 2019 | |
| Final Modification Report issued to Ofgem | 23 April 2019 | |

List of Tables

| | |
|--|----|
| Table 1: Definitions used in the Modification | 12 |
| Table 2: Key steps in the CWD calculations | 16 |
| Table 3: Publication dates for Transportation Charges | 28 |
| Table 4: Impact of the Modification on the Relevant Objectives | 29 |
| Table 5: Impact of the Modification on the Relevant Charging Methodology Objectives..... | 31 |

List of Figures

| | |
|---|----|
| Figure 1: Proposed CWD Model for calculation of Entry and Exit Capacity Base Reference Prices | 16 |
| Figure 2: Entry Point Reference Prices calculation model | 17 |
| Figure 3: Exit Point Reference Prices calculation model | 17 |
| Figure 4: Reserve Price derivation | 20 |
| Figure 5: Transmission Services Revenue Recovery Mechanism..... | 21 |

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 forthcoming EU Tariff Code (Regulation 2017/460). This Modification also takes into account the decision to reject UNC0621¹ 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 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 2017² – with updated analysis presented during development of UNC Modification Proposal 0621 in April 2018³) 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) 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 objectives⁴ 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.

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.

- 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 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 Code⁵ 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 Alternates 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 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.

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

- 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.

Pricing Methodology

- 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 RPMs⁶, 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 this issue 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.

⁶ See <https://www.gasgovernance.co.uk/ntscmf/subg1model>

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

Forecasted Contracted Capacity (FCC)

- 3.12. The proposed changes to the charging regime may result in changes to commercial behaviours in the procurement of capacity rights. The proposal for a forecast of contractual capacity (FCC) will be a key input into the reference price calculation.
- 3.13. 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 developed with industry, to be included as part of this proposal and to be incorporated in 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. The methodology will be developed via the workgroups and NTSCMF in line with the timetable established for Modification 0678.
- 3.14. It is proposed that FCC values will be updated annually in accordance with the rules established under the Methodology, and updated in the appropriate transportation charging statement and charging models. This review 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. At the same time the FCC is reviewed and updated, there will be an additional adjustment to the reserve prices in order to account for the anticipated under collection driven by the application of any discounts (e.g. interruptible and specific capacity discounts).
- 3.15. The FCC will be reviewed ahead of each tariff year and updates 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

- 3.16. 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.
- 3.17. Multipliers are applied to the Reference Price to produce the Reserve Price. Under the EU Tariff 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.

- 3.18. 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 are provided in the relevant part of section 5 of this Modification (Reserve Prices produced from Reference Prices).

Discounts

- 3.19. 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.
- 3.20. The adjustment applied will be proportional to 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 of this Modification are provided in the relevant part of section 5 (Interruptible (Entry) and Off-peak (Exit) Capacity).
- 3.21. 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.
- 3.22. 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 are provided in the relevant part of section 5 (Specific Capacity Discounts).

Revenue Recovery

- 3.23. 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 on an enduring basis.

- 3.24. From implementation, the charging framework for Transmission Services Revenue will become 100% capacity-based.
- 3.24.1. The calculation of the capacity prices will, at the time of calculation, take into account the revenue shortfall from any discounts referred to in paragraphs 3.17 to 3.20 and 3.25 of Section 3) in order to adjust the reserve prices such that the amount forecast to be under collected as a result of these discounts is reduced.
- 3.24.2. The approach in 3.22 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

- 3.25. 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 multipliers established 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 interconnection points.

Existing Contracts

- 3.26. Provisions will apply for Entry Capacity allocated up to 06 April 2017.
- 3.26.1. This will include 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”*.
- 3.26.2. The capacity procured under these contracts impact the application of the CWD charging model (specifically when determining Reference Prices at Entry Points) and calculation of Transmission Services Revenue Recovery Charges.

Capacity Trades

- 3.27 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.

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 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 the Section Y Part A within the UNC, NTS Transportation Statements, the EID within the UNC, Section B within the UNC, the EU Tariff 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 | <p>The CWD approach fundamentally requires three main inputs:</p> <ul style="list-style-type: none"> • A revenue value is required, which will be the target revenue required to be recovered from Transmission Services; • 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 later in this section). <p>The CWD model produces the Transmission Services Reference Prices and with additional adjustments produces the Transmission Services Reserve Prices.</p> |
| Effective Date | <p>The later of:</p> <ul style="list-style-type: none"> • 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) | <p>Arrangements relating to Long Term Entry capacity allocated before 06 April 2017 (Entry into Force of EU Tariff Code)</p> |
| Forecasted Contracted Capacity (FCC) | <p>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.</p> |
| Long Run Marginal Costs (LRMC) Model | <p>The current underlying RPM used in the calculation of the Entry and Exit Capacity Prices. Whilst there are different approaches in</p> |

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| | 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 Base Reference Price in order to calculate the Reference 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 produced in p/kWh/a (pence per kWh per annum). |
| Reference Price Methodology (RPM) | <p>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.</p> <p>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.</p> |
| Reserve Price | <p>Reserve Price for Yearly standard capacity = the Reference Price</p> <p>Reserve Price for Non- yearly standard capacity is calculated by applying any Multipliers (if applicable).</p> <p>This will be produced in p/kWh/d (pence per kWh per day).</p> |
| 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 Statement containing the Gas Transmission Transportation Charges

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) and European Interconnection Document (EID) Section B (Capacity) are also required.

Mapping of the revenue to Transmission Services revenue and Non-Transmission Services revenue (see paras 3.3 and 3.4 in section 3)

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;
- 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

Transmission Services Charges

Reference Price Methodology (see paras 3.5 to 3.11 in section 3)

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 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.

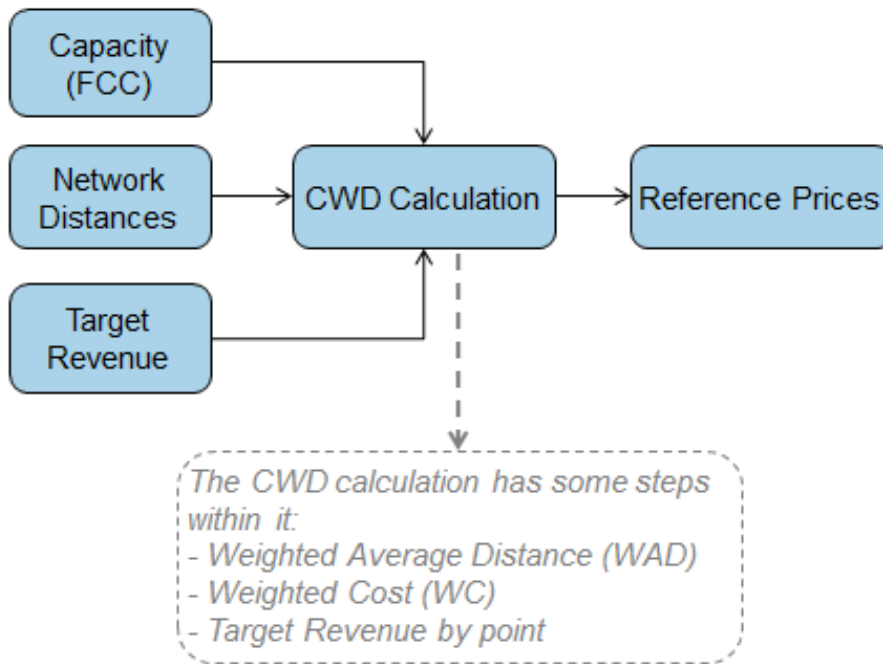
Calculations within the CWD Model

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.
- 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.

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

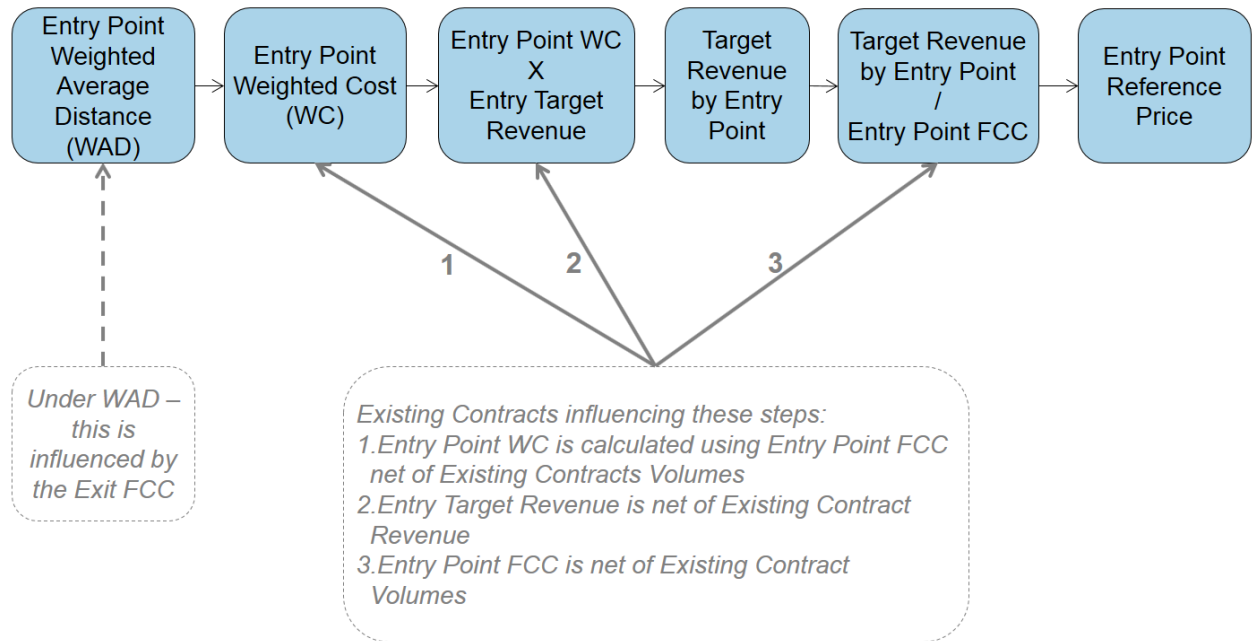
| | Entry Capacity Calculation | Exit Capacity Calculation |
|---------------------------------|--|---|
| Weighted Average Distance (WAD) | $\frac{\text{Sumproduct Exit Point FCC x Distance to Entry Point}}{\text{Sum Exit Point FCC}}$ | $\frac{\text{Sumproduct Entry Point FCC}^{\#} \text{ x Distance to Exit Point}}{\text{Sum Entry Point FCC}^{\#}}$ |
| Weighted Cost (WC) | $\frac{\text{Entry Point FCC}^* \text{ x WAD}}{\text{Sumproduct Entry Point FCC}^* \text{ x WAD}}$ | $\frac{\text{Exit Point FCC x WAD}}{\text{Sumproduct Exit Point FCC x WAD}}$ |
| 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.

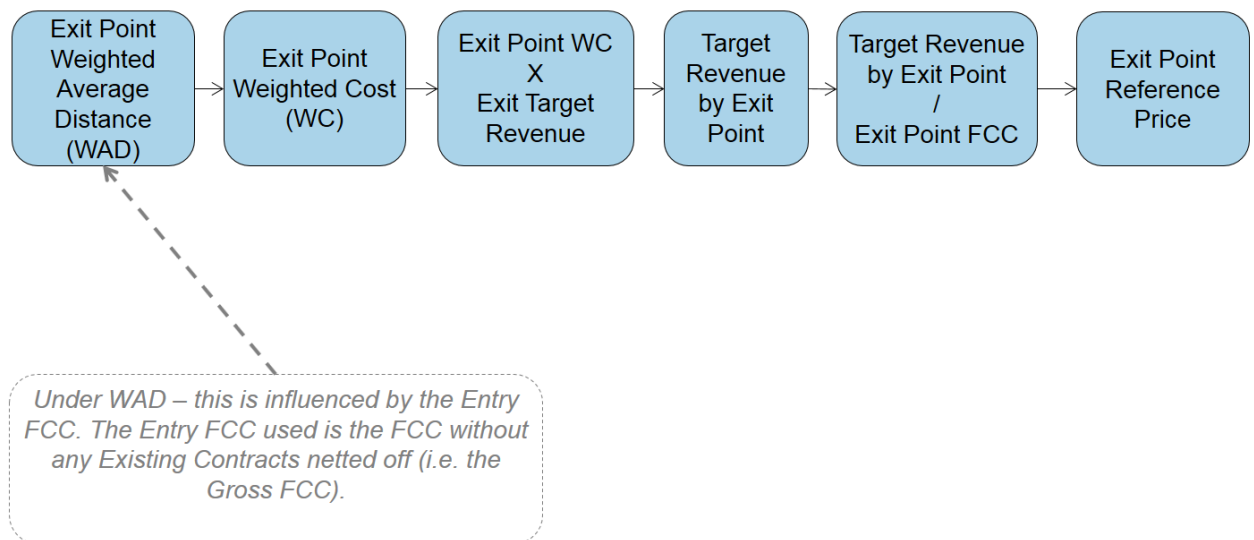
Entry Point Reference Prices are calculated in the following steps in the CWD model, see figure 2

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



Forecasted Contracted Capacity (FCC) (see paras 3.12 and 3.13 in section 3)

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 reviewed ahead of each tariff year and updates to FCC values will be communicated to industry as part of the publication of charges.

National Grid's approach in Modification 0678 is to state the FCC Methodology in a separate Methodology Statement and not incorporate it under the UNC. When this Methodology Statement is published, and it is essential that it is so published as part of the 0678 timetable, the Proposer will adopt the solution for this Alternative Modification to the extent that the Proposer considers appropriate.

In the absence of such information being brought forward by National Grid in good time, the FCC values will be set by National Grid by taking account of the following rules:

Entry FCC for each entry point will be based on forecast entry gas flows for the gas year in question. The FCC value will be adjusted to take account of known capacity bookings in the gas year so that the FCC = max {forecast flow, capacity already booked}.

Exit FCC for DN offtakes will be based on the 1-in-20- peak day demands forecast for each DN for the relevant gas year and National Grid will be expected liaise closely with the DNs to establish an accurate capacity booking level for each DN exit point.

Exit FCC for non-DN offtakes will be based on forecast entry gas flows for the gas year in question.

In determining FCC values, National Grid will use reasonable endeavours to procure and assess all relevant information necessary to derive accurate forecasts and to 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 (see paras 3.14 to 3.16 in Section 3)

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 for the period commencing 01 October 2020, or from any other date that is determined following a decision to implement this Modification, 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 (see paras 3.17 to 3.18 in Section 3)

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 (see paras 3.19 to 3.20 in section 3)

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). 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.

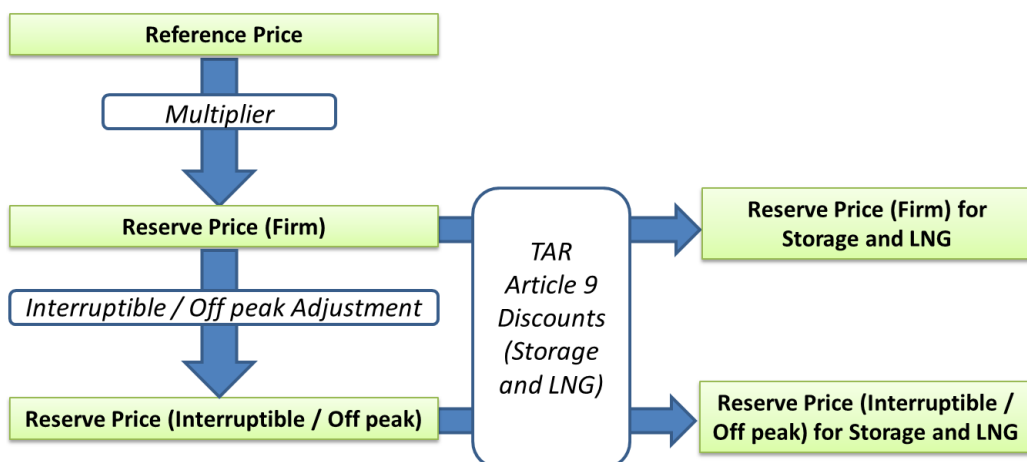
Minimum Reserve Price

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

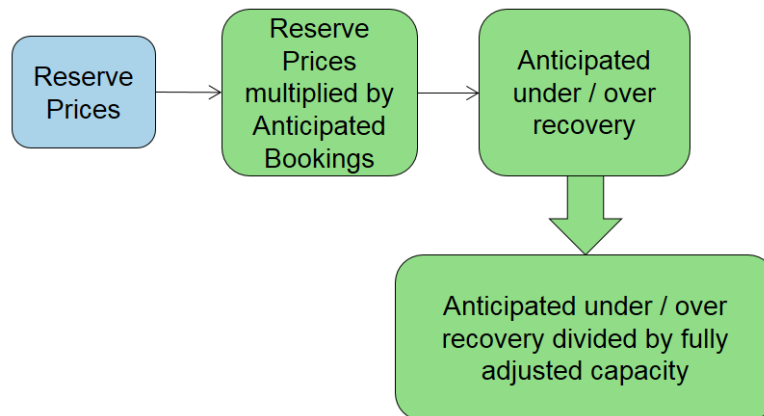
For the purposes of capacity step prices used in the QSEC Auction, these will be an additional 5% of the applicable Reserve Price or 0.0001 p/kWh/Day, whichever is the greatest, per step.

Transmission Services Revenue Recovery Charges (see para 3.21 in section 3)

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 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 therefore 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 change 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 revenue 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 (irrespective of when this capacity was procured from National Grid) would be subject to Revenue Recovery charges.

It is proposed that in respect of adjustments 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 (see para 3.25 in Section 3)

The new method will provide for reduced entry and exit capacity reserve charges at applicable entry and exit system points, replacing the Optional Commodity Charge. Effectively, specific multipliers 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:

$$Q = \text{MIN} \{ \text{CAPen}, \text{CAPex}, \text{FLOWen}, \text{FLOWex} \} \text{ where}$$

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 = $D / CWD_{en} \times R_{Pen} / SUF$ and

NTS Optional Exit Capacity Charge = $D / CWD_{ex} \times R_{Pex} / SUF$ 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 derived 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 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 $CAP_{en} > Q$, WAPen will apply to $(CAP_{en} - Q)$ units of the User's entry capacity entitlement.

Where $CAP_{ex} > Q$, WAPex will apply to $(CAP_{ex} - Q)$ units of the User's exit capacity entitlement.

Where $FLOW_{en} > Q$, Non-Transmission Services entry charges will apply to $(FLOW_{en} - Q)$ units of the User's entry allocation.

Where $FLOW_{ex} > Q$, Non-Transmission Services exit charges will apply to $(FLOW_{ex} - Q)$ 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. 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 capacity charges are positive numbers.

National Grid NTS will notify relevant shipper Users of the NTS Optional Capacity 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. 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 subparagraph (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.

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".

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 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 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.

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

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 formula 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 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

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 years 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 years Non-Transmission Services Revenue which will be used for calculation of the Non-Transmission Services Charges.

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 August |
| | CWD Distances | Charging Model | 01 August |
| | Capacity Reference Prices | Transportation Statement | 01 August |
| | Multipliers | Transportation Statement | 01 August |
| | Capacity Reserve Prices | Transportation Statement | 01 August |
| | Interruptible Adjustment (Entry) | Transportation Statement | 01 August |
| | Interruptible Adjustment (Exit) | Transportation Statement | 01 August |
| | Specific Capacity Discounts (Storage) | Transportation Statement | 01 August |
| | Specific Capacity Discounts (LNG) | Transportation Statement | 01 August |
| | Revenue Recovery Charge (Entry) | Transportation Statement | 01 August |
| | Revenue Recovery Charge (Exit) | Transportation Statement | 01 August |
| | | | |
| Non-Transmission Services | Non-Transmission Services Charges | Transportation Statement | 01 August |
| | DN Pension Deficit Charges | Transportation Statement | 01 August |
| | NTS Metering Charges | Transportation Statement | 01 August |
| | St Fergus Compression Charges | Transportation Statement | 01 August |
| | SSMP Administration Charges | Transportation Statement | 01 August |
| | Allocation Charges at Interconnectors | Transportation Statement | 01 August |

*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.

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.

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. The Modification is therefore designed to promote efficiency and economy in the use of the NTS pipeline system by reducing the level of discounts 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 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 6th April 2017 in respect of Transmission Services Revenue Recovery Charges. 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.

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: <ul style="list-style-type: none"> (i) no reserve price is applied, or (ii) that reserve price is set at a level - <ul style="list-style-type: none"> (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 close to some entry points. However, the inclusion of Optional Capacity arrangements in this Modification provide a means of correcting such anomalies and provide 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 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.

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.

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 UNC0621 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 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 code.

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.