UNC Modification	At what stage is this document in the process?
# UNC 0678: 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 urgent and should proceed as such under a 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

Contents

Timetable

The Proposer recommends the following timetable:	
Ofgem decision on urgency	25 January 2019
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 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
Modification Panel decision	18 April 2019

Any questions?

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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 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

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

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.

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 proposal also introduces, for some aspects of this methodology change, 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.

2 Governance

Justification for Urgency

This Modification should be treated as urgent and should proceed under a timetable approved by the Authority. A proposed timeline is presented under the timetable of this Modification.

Urgent status is sought on the basis that need for material elements of this Proposal are driven by an imminent date related issue, this being the requirement in Article 38(3) of Regulation 2017/460 ('the Regulation') for the relevant Chapters of the Regulation (II, III and IV) to take effect from 31 May 2019. In

[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.

terms of Transportation charge rates, the consequential changes are therefore required to take effect for the following Gas Year commencing 01 October 2019.

In broad terms, the relevant Chapters of the Regulation include the need to apply a different ***Reference Price Methodology*** (Chapter II), rules regarding the derivation of ***Reserve Prices*** (Chapter III) and rules regarding the ***reconciliation of revenue*** (Chapter IV).

If this not urgently addressed, this may cause UNC parties to be in breach of relevant legal requirements detailed within the Regulation as the prevailing NTS Charging Methodology (contained in UNC TPD Section Y Part A) will not be complaint with the Regulation.

Whilst EU regulations are likely to be no longer directly applicable in GB with effect from 29 March 2019, the principle approach specified in the European Union (Withdrawal) Act 2018 is to incorporate EU law (existing immediately prior to UK exit from the EU in March 2019) into UK law (effective from March 2019). Accordingly, the principles enshrined in the Regulation will, as far as possible, be Alternatively mandated by a UK Statutory Instrument (specifically Schedule 5 of The Gas (Security of Supply and Network Codes) (Amendment)(EU Exit) Regulations 2019).

On this basis, the legal requirement will be specified in either the Regulation or within the reflective Statutory Instrument.

This Modification will change the charging framework and methodology to recover National Grid's regulated revenues via Transportation Charges. This Modification, to meet compliance with the Regulation and to deliver the changes outlined to the charging arrangements, will impact all parties that pay Transportation Charges and / or have a connection to the NTS, and National Grid NTS. As a result, this poses a significant commercial impact on all parties mentioned and will, in turn, have impacts for the reciprocal charges levied to customers and for interested stakeholders of NTS customers and how they in turn recover costs and charge for their recovery.

This Modification also takes into account the decision on UNC0621 and its Alternatives[5]. This Proposal addresses the areas of compliance identified in this decision. The requirement for this Modification and the Ofgem decision on UNC0621 and its Alternatives was discussed at NTSCMF on 10 January 2019.

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 urgent and should proceed as such under a timetable agreed with the Authority.

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

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. Additional regulatory drivers for changes to the charging framework are:

3.1.1. The EU Tariff Code[6]; and

3.1.2. Ofgem's Gas Transmission Charging Review[7] and decision on UNC0621 and its Alternatives[8]. In addressing the decision letter to reject UNC0621 and its Alternatives National Grid is proposing changes outlined in this Modification and summarised in Appendix 1. This table highlights for awareness a comparison between UNC0621 and this Modification Proposal and where specific areas of compliance need to be addressed. Addressing these areas of compliance better facilitates Relevant Objective (g) and Relevant Charging Methodology Objective (e) as outlined in Section 7 of this Modification Proposal.

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.

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[6] 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

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

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

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 for in respect of a Transmission Service, need to be included within Transmission Services Charge revenue.

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[9], 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.

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

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 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. It also 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.

3.10. In respect of compliance with EU Tariff Code, Recital 3 states *"…in order to achieve and ensure a reasonable level of cost reflectivity and predictability … transmission tariffs need to be based on a reference price methodology using specific cost drivers. …Where the proposed reference price methodology is other than the capacity weighted distance reference price methodology, the latter should serve as a counterfactual for comparison with the proposed reference price methodology."*

3.11. Noting that Gas Transportation costs are sensitive to both a) the distance over which gas is transported; and b) the capacity made available over that distance, a pricing model which calculates Reference Prices that takes account of these elements is *ipso facto* more cost reflective than models that do not take both into account. For example, in the case of a Postage Stamp RPM, the use of an aggregated cost driver results in the same unit costs for all GB points and is therefore not cost reflective given the sensitivities stated above. Effectively, in the Postage Stamp RPM any bespoke cost drivers for transportation to individual points (or groups of points) is effectively ignored and is not sensitive to those elements which influence National Grid's costs.

3.12. In conclusion, National Grid does not believe a Postage Stamp RPM meets the criteria set out in Recital (3) given the lack of cost reflectivity when compared to a CWD RPM (being the 'counterfactual' comparison RPM mandated by Recital (3)). The use of a CWD RPM, and the way it is applied to GB, will deliver a regime that is more cost reflective than both the existing LRMC RPM and the alternative approach of a Postage Stamp RPM.

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 Forecasted Contracted Capacity (FCC) will be a key input into the reference price calculation.

3.14. National Grid proposes the FCC to be a forecast of capacity bookings at each Entry and Exit Point. The value will be determined in accordance with a methodology statement (the 'FCC Methodology') that will be referenced in the UNC but will not form part of Section Y of the UNC. The FCC Methodology is not proposed to be incorporated into the UNC in order to maintain a high degree of predictability in the process to determine the values using a developed methodology. Each year the methodology will be followed to produce tariffs for the applicable year. The use of a methodology contributes towards predictability for the tariffs to be calculated and a known set of values and logical steps to derive an FCC for the applicable year. Having

the methodology in a statement outside of the UNC provides the flexibility around the process to update the FCC content and ensures a timetable of change can be followed such that changes to the methodology can be completed and implemented in an efficient and timely manner in order to set tariffs. Incorporating the FCC Methodology into the UNC does not provide this assurance as the timetable for change may not be as certain. The use of an FCC should be flexible enough such that it can be updated to take account in a timely fashion of any relevant or useful information to incorporate into future FCC Methodology changes.

3.15. The FCC Methodology is proposed to take account of a range of inputs to inform a forecast for the gas year for which tariffs are to be generated. These inputs will look to take account of both historical and forecast data such as, and not limited to, a forecast of GB demand, historical sold capacity and historical flows on the NTS applicable to each Entry and Exit point. The resulting FCC will be applicable for the tariff (gas) year for which Reference Prices are being produced. The review of historical sold capacity 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 initial FCC Methodology will be determined by National Grid and take effect in the event of implementation. Using sold capacity levels (only where a price greater than zero is the allocated price) takes account of the change in interruptible pricing. As there is a move away from a 100% discount to a 10% discount, the approach will reflect the booking levels where the payable price was greater than zero. The assumption on this particular item is that, as Users will have incurred a liability, this capacity is more sought after than that for which a 100% discounted (zero) price was payable.

3.16. In consultation with Users (including DNO Users), National Grid proposes to review the FCC Methodology when it believes this is required. This review of the FCC Methodology will include consideration of any behavioural changes in capacity procurement observed under the revised charging regime with the aim of aligning the FCC values derived to actual bookings. National Grid will propose any updates that it considers are consistent with overall NTS charging methodology. In this event, National Grid will notify industry of the revised FCC Methodology alongside the relevant transportation charging statement and charging models.

3.17. The FCC for each Entry Point and Exit Point will be determined ahead of each tariff year and communicated to industry as part of the publication of charges. 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).

Multipliers

3.18. 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.

3.19. 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.

3.20. National Grid has proposed a Multiplier of 1 for all capacity products as National Grid does not wish to create an artificial incentive for procurement of one capacity product in preference to another product. As the System Operator, National Grid would prefer that Users of the system make their own commercial decisions when procuring capacity taking account of the duration required, the timing of the commitment and payment, and the risk of scarcity (demand exceeding supply).

3.21. Given the proposal for the Multiplier to be explicit in the UNC, any subsequent change to the Multiplier would be subject to the UNC change process. This aspect is neutral on cost reflectivity grounds as the other aspects of the RPM apportion the charges, this makes no distinction between long or short term capacity.

3.22. 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 the Effective Date are provided in the relevant part of section 5 (Reserve Prices produced from Reference Prices).

Discounts

3.23. 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.

3.24. The adjustment applied 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 the Effective Date are provided in the relevant part of section 5 (Interruptible (Entry) and Off-peak (Exit) Capacity).

3.25. Having reviewed instances of interruption of the previous ten years, and 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 majority of sites is very low (but not zero). Given this, and to maintain a degree of consistency in respect of the value of the discount, National Grid has adopted a banding approach whereby the resultant discount value was rounded up to the nearest 10%. Consequently, the expectation is a that change to this discount will only be justified where there is a *material* change to the frequency of interruption on the System.

3.26. 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. National Grid proposes an enduring storage discount value but recognises that EU Tariff Code requirements for the charging regime to be reviewed, as a whole, at least every 5 years.

3.27. 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 the Effective Date are provided in the relevant part of section 5 (Specific Capacity Discounts).

Revenue Recovery

3.28. National Grid's 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 levied to the Fully Adjusted 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.

3.29. From the Effective Date the charging framework would be expected to move towards dependency on a capacity forecast and a significantly reduced revenue recovery charge that would be capacity based achieving 100% capacity basis for recovery of Transmission Services revenue.

3.30. 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 3.23 to 3.27 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. This approach means that less revenue will be required to be collected from the Transmission Services Revenue Recovery charges than if it were not carried out.

Managing inefficient bypass of the NTS (known as "Shorthaul")

3.31. National Grid does not, as part of this Proposal, propose to retain a charge that discourages inefficient bypass of the NTS. National Grid has initiated a review under UNC governance (Request Group 0670R 'Review of the charging methodology to avoid the inefficient bypass of

the NTS'[10]) and National Grid believes that it is inappropriate at this point to include provision for such under this Proposal and thereby pre-empt the outcome of this work.

3.32. Noting that the EU Tariff Code does not *require* the implementation a bespoke charge to dis-incentivise inefficient bypass of a network, the lack of inclusion of such is not in conflict with EU Tariff Code. Our preferred approach to this aspect of the NTS Charging Methodology is to work with interested stakeholders to develop a robust and sustainable charging mechanism which is agreeable with the majority of, or all, stakeholders which meets the objectives of such a charge.

3.33. This requires comprehensive assessment of any potential charging arrangements which seek to discourage inefficient bypass of the NTS and how these would operate within the charging framework, including assessment of compliance with Retained EU Law. This assessment, in the context of the charging methodology that would be introduced by this Modification, will be considered as part of UNC 0670R.

3.34. In respect of the proposed 'Communication of Charge Cessation' arrangements, a 'reasonable endeavours' obligation on National Grid is specified on the basis that the timescales for effective implementation of the Proposal may not be sufficient to allow assessment of the impacted User and/or issue of the notices in accordance with any specific timescales.

Existing Contracts

3.35. National Grid proposes provisions to apply for Entry Capacity (from 01 October 2019 or from the Effective Date, whichever is later) allocated up to 06 April 2017. 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*".

3.36. 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.

3.37. 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*…".

3.38. 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 (as described in para

[10] http://www.gasgovernance.co.uk/0670

3.17) 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.

3.39. 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.

3.40. 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).

Effective Date for the charges driven by this proposal

3.41. The Effective Date of this proposal can be any date as determined by Ofgem. The Effective Date is required to provide at least two clear months' notice from the date of the Ofgem decision, thereafter taking effect from the 1st day of the of the following month, or any specific date stipulated by Ofgem in its decision. For example, unless a different date was provided by Ofgem, if a decision is made during July, the charges would take effect from 1st October. If a decision is made in October then, unless otherwise specified by Ofgem, the Effective Date would be from 1st January.

3.42. To facilitate the changes as outlined in 3.41 it will be necessary to take into consideration actual and anticipated revenues to be collected up to 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 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 Section Y Part A, NTS Transportation Statements, the UNC EID, UNC TPD Section B, 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	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, 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 FCC (which is described later in this section).
Effective Date	The date from which the Modification will take effect being either: • the first day of the third month following the month in which Ofgem issues its letter directing implementation of this Proposal; or • any specific date stipulated by Ofgem in its decision letter
Existing Contracts (ECs)	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 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 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 (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

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 (see paras 3.5 to 3.12 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

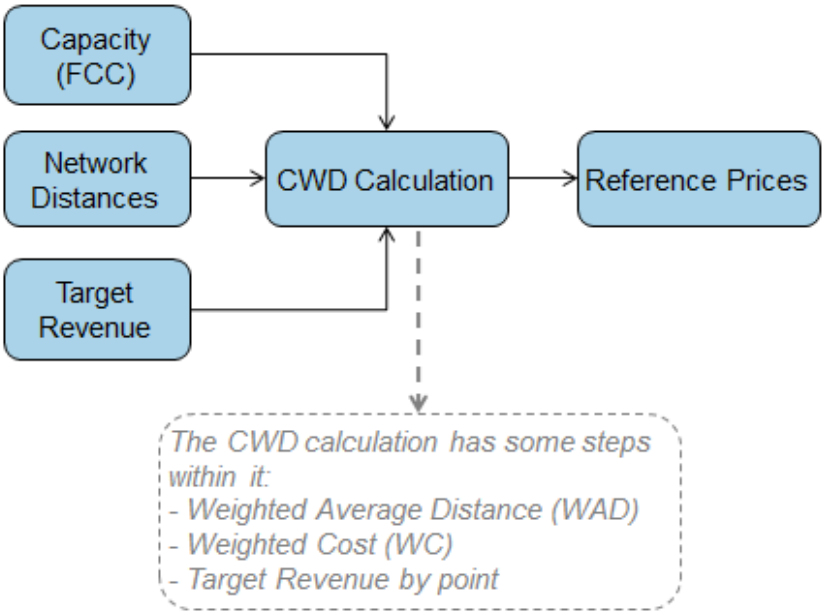
Proposed CWD Model for calculating Entry and Exit Capacity Base Reference Prices:

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. Where Allowed Revenue 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 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

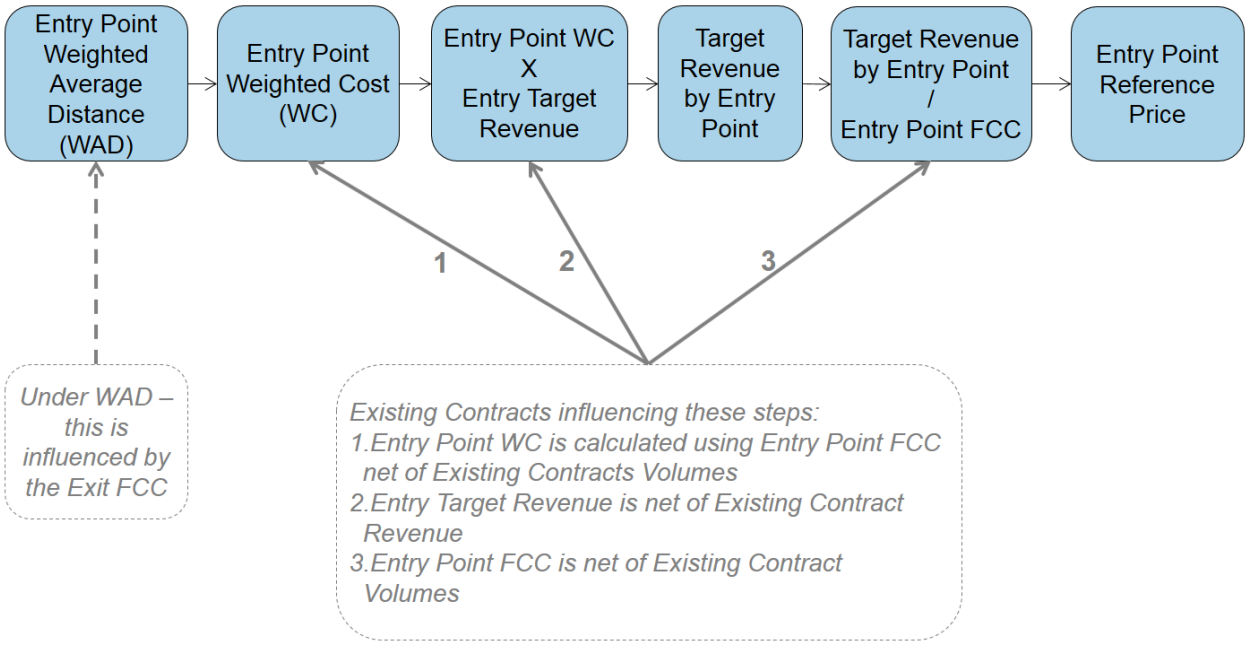
	Entry Capacity Calculation	Exit Capacity Calculation
Weighted Average Distance (WAD)	(Sumproduct Exit Point FCC x Distance to Entry Point) / Sum Exit Point FCC	(Sumproduct Entry Point FCC# x Distance to Exit Point) / Sum Entry Point FCC#
Weighted Cost (WC)	Entry Point FCC* x WAD / (Sumproduct Entry Point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

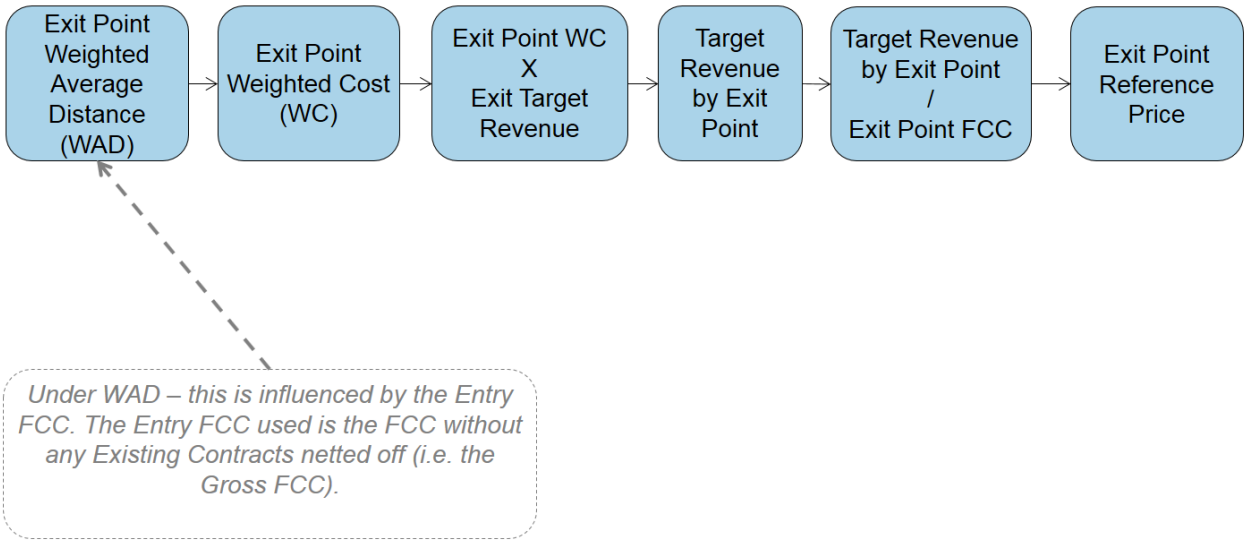
Entry Point Reference Prices are calculated in the following steps in the CWD model, see figure 2

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) (see paras 3.13 to 3.17 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, in line with a new methodology statement (the 'FCC Methodology'). It is proposed that the FCC Methodology in Appendix 2 of this Proposal applies from the Effective Date for application within the relevant Gas Year(s). For the avoidance of doubt, it is not proposed that the FCC Methodology will form part of the UNC.

It is proposed that ahead of each Gas Year National Grid will determine the FCC value for each Entry Point and Exit Point and will be communicated to industry as part of the publication of charges.

It is proposed that where National Grid believes it necessary to review or update the methodology, it will run a consultation with stakeholders to review the FCC Methodology. Following the consultation, if the FCC Methodology is revised, National Grid will notify industry of any revisions as part of the publication of charges. Any such consultation would be concluded in advance of setting the tariffs for the forthcoming tariff (gas) year.

It is proposed that any such revision will take effect from the date specified unless Ofgem (upon application by any Shipper or Distribution Network Operator within one month of the notice) directs that the change is not made as per its powers under Standard Special Condition A11(18) of National Grid's Licence.

Reserve Prices produced from Reference Prices (see paras 3.18 to 3.22 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 the Multiplier applied to the Reference Prices for all Entry Point and Exit Points to determine the Reserve Price will be 1 (one).

Interruptible (Entry) and Off-peak (Exit) Capacity (see paras 3.23 to 3.25 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 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 3.26 to 3.27 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) 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 3.17 and 3.38 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, 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.

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.

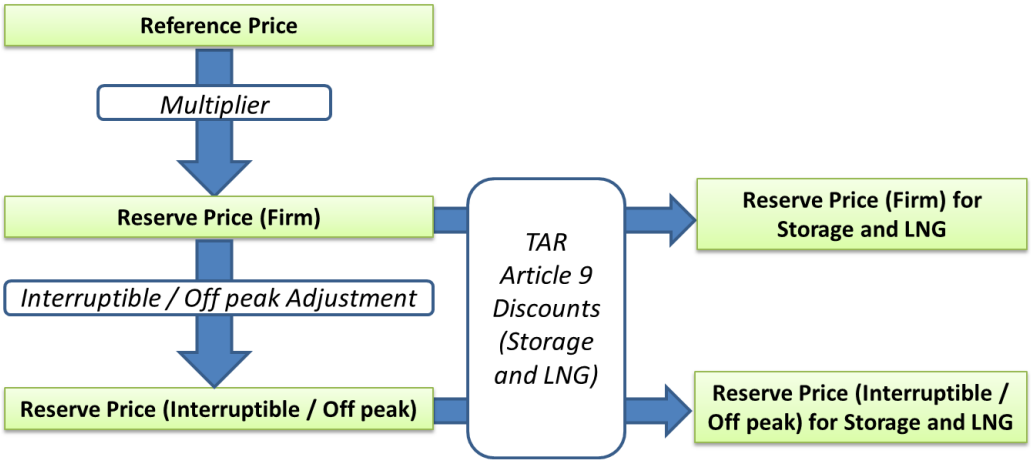
Minimum Reserve Price

It is proposed that 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.

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

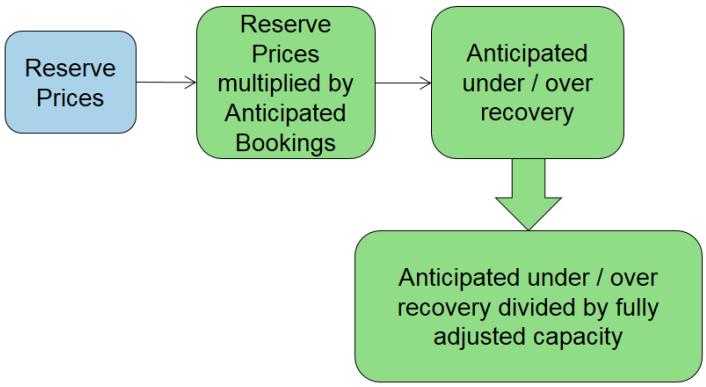
For the purposes of capacity step prices used in the QSEC Auction, it is proposed that these will be an additional 5% of the applicable Reserve Price or 0.0001 p/kWh/Day, whichever is the greatest, per step.

Transmission Services Revenue Recovery Charges (see para 3.28 to 3.30 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 will therefore be used to forecast the anticipated under or over recovery. It is proposed that the Transmission Services Revenue Recovery charge rate may be adjusted at any point 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 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 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.

NTS Optional Commodity Rate[11] (see para 3.31 to 3.34 in Section 3)

It is proposed that the existing NTS Optional Commodity Rate (OCR) is removed.

Communication of Charge Cessation

The existing OCR will no longer be available from the Effective Date.

[11] As defined in TPD B1.8.5(d)

It is proposed that National Grid will use reasonable endeavours to provide (after a decision has been made and affording as much notice as is practicable prior to the Effective Date) notification to each User at a Point with an existing OCR of the cessation of the OCR with effect from the Effective Date. Any User electing the OCR after the date of Ofgem's decision to implement this Proposal and before the Effective Date will be informed as part of the confirmation of the OCR that it will no longer be available after the Effective Date and any current election will end from that Effective Date.

NTS Transmission Services Entry Charge Rebate

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 proposed 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, 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 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.

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 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.

Effective Date for the charges driven by this proposal

The Effective Date of this Proposal can be any date as determined by Ofgem. It is proposed that the Effective Date will provide at least two clear months' notice from the date of Ofgem's decision and thereafter take effect from the 1st of the following month, unless an alternative specific date is stipulated by Ofgem in its decision as outlined in 3.40 of the Why Change section of this Proposal.

Where the Effective Date of the Proposal necessitates changes to reserves 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	2 months prior to Effective Date**
	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 Effective Date.

** Unless the Authority provides the necessary approval for a shorter 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 National Grid believes is fairer and more proportionate than 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.	None
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:

c) Efficient discharge of the licensee's obligations.

The proposed changes to TPD B and EID B (where applicable) support the implementation of the new charging methodology and arrangements. Standard Special Condition A5(5) of the NTS Licence sets outs the relevant methodology objectives and National Grid believes that these objectives are better facilitated for the reasons detailed below in Table 5 ('Impact of the Modification on the Relevant Charging Methodology Objectives').

d) Securing of effective competition between relevant shippers;

The proposed changes to TPD B and EID B (where applicable) support the implementation of the new charging methodology and arrangements. To the extent that the application of a new Reference Price Methodology is expected to provide a more stable and predictable price setting regime, Shippers will have a greater level of confidence in their forecasts of prospective use of network costs and therefore set their own service costs more accurately (potentially with a lower risk margin) thereby enhancing effective competition.

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. The decision to reject UNC0621 and its Alternatives highlighted three areas of compliance that needed to be addressed (Interim Contracts, Transition Period and NTS Optional Charge). This Modification proposes changes that will address these. Appendix 1 gives a comparison between Modification 0621 and this Modification 0678, highlighting steps taken to address compliance in line with Ofgem's Modification Proposal 0621 Rejection Letter. To provide a compliant proposal to address these areas, National Grid is proposing:

- Not to propose the creation of Interim Contracts;
- Not to use a transition period for the introduction of the methodology changes; and
- The removal of the charge to manage avoidance of inefficient bypass (the NTS Optional Charge). As highlighted in this Proposal, National Grid has raised a separate UNC Request (0670R) to address this aspect of charging in the longer term.

The following table highlights the key components of this Proposal, the Articles of the EU Tariff Code that constrain the form and operation of those components and a brief description of how this Proposal complies with those requirements.

Table 5: High Level Summary of Proposal Compliance with EU Tariff Code

Aspect	EU Tariff Code Requirements	Addressed in this Proposal by:
Reference **P**rice **M**ethodology	Recital 3: requirement to use CWD as the counterfactual for proposed RPM	A variant of a CWD RPM is proposed. The CWD outlined in Article 8 should serve as the counterfactual where relevant.
	Article 6: RPM application - • approved by NRA; • provides a Reference Price; • same RPM applied at all Entry Points and Exit Points; and • adjustments only on basis of Article 9 or benchmarking by NRA, equalisation by the TSO or the NRA, or rescaling by the TSO.	The proposed RPM: • is subject to Authority approval (required to implement this Proposal); • provides a Reference Price; • applies to all Entry Points and Exit Points; and

Aspect	EU Tariff Code Requirements	Addressed in this Proposal by:
		• incorporates adjustments in line with Article 9 and rescaling (to minimise Revenue Recovery values)
	Article 7: Choice of RPM to comply with following requirements - • enable Users to re-produce the calculation; • take account of actual costs in providing Transmission Services; • non-discriminatory and no undue cross subsidisation taking account of Article 5; • no material volume risk assigned to end consumers; and • no distortion of cross border trade.	In respect of the proposed RPM: • the calculation is capable of re-production as it is set out in the charging methodology; • target revenues are set taking account of actual costs (at price control); • it is designed to be non-discriminatory with no un-due cross subsidisation; • it recovers *capacity* charges from Network Users (i.e. not flow-based); and • it is not expected to distort cross border trade.
	Article 8: CWD as set out in (2) with the following parameters – • recovered via capacity charges; • uses a Forecasted Contracted Capacity; • combinations of entry points and exit points, where some entry points and some exit points can be combined in a relevant flow scenario • the Entry Exit target revenue is split 50:50.	The proposed RPM is principally as detailed in this Article and features: • a capacity based Transmission Services charging regime; • Forecasted Contracted Capacity derived in accordance with a documented FCC Methodology; • there is no specific provision in the calculation of the Reference Prices as the assumption for the NTS is that all gas from an Entry point can flow to any Exit point. • target revenues are based on a 50:50 split between Entry Points and Exit Points.
Multiplier	Article 13: parameters for Multipliers – • for quarterly and monthly capacity, between 1 and 1.5; and • for daily and within day capacity, between 1 and 3 except in 'duly justified cases'.	A Multiplier of 1 is proposed for all capacity products which is within the parameters set by this Article
Interruptible / Off peak	Article 16: calculation of Reserve Prices for interruptible capacity - • multiply firm Reserve price by difference between 100% and interruptible discount Interruptible discount determined on the basis of – • probability of interruption; and • adjustment factor representing the estimated economic value of the interruptible capacity product.	A discount of 10% is proposed which has been determined taking account of the criteria identified in this this Article. A discount of greater than 10% is not justified when taking these into account.
Discounts	Article 9: provision for discounts for – • Storage, at least 50%; and • LNG facilities, may be applied in order to increase security of supply.	A discount of 50% is proposed in respect of Storage which is the minimum prescribed by this Article. A discount of 0% has been proposed in respect of LNG which is not in conflict with this Article (this Article prescribes that application of a discount for LNG is optional).
Revenue Recovery	Article 4(3): Method of recovery – • capacity based; • with NRA approval and by exception, flow based.	Capacity-based Transmission Services charges and revenue recovery mechanism are proposed.
	Article 17: General rules including - • requirement to minimise revenue recovery values.	The proposed netting off of Existing Contracts and scaling (to take account of discounts) aims to minimise Revenue

Aspect	EU Tariff Code Requirements	Addressed in this Proposal by:
		Recovery. Development of a robust FCC Methodology will also facilitate this aim.
	Article 18: Under and Over Recovery - • calculated as difference between target revenue and actual revenue in the same tariff period.	The proposed determination of revenue recovery is consistent with the calculation described in this Article.
Existing Contracts	Article 35: existing contracts • EU Tariff Code rules dis-applied for capacity procured at any entry or exit point before 6 April 2017; and • Existing contracts not able to be renewed prolonged or rolled over after expiry.	Maintenance of existing terms and conditions for procured capacity is afforded to those falling within the definition of Existing Contracts. All other capacity products are subject to the proposed enduring regime which is compliant with the other requirements of the EU Tariff Code.

Table 6: 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;

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

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

National Grid believes that the proposed utilisation of a new Reference Price Methodology which re-distributes National Grid's costs (revenues) on a geographical basis, weighted by capacity will enhance cost reflectivity and competition between gas suppliers and between gas shippers when compared to the current application of a Long Run Marginal Cost Methodology (LRMC). The proposed model is better suited to the current and expected future usage of the NTS whereas aspects of the current model are more suitable for an expanding network requiring an investment-based RPM.

A sub-group of the NTS Charging Methodology Forum identified that as the inputs into the LRMC model are varied the resulting price changes are not intuitive and the changes can cause unpredictable results, and the changes to prices can be volatile. Thus, similar offtake points (in terms of offtake volumes and distances from points of entry) may incur materially different charges. Use of a methodology which delivers more comparable costs distributed on a non-discriminatory basis would better facilitate these objectives.

Cost reflectivity is subjective and not defined. Relevant charging methodology objective (a) is furthered by the use of a charging framework with an RPM that aims to recover the majority, if not all, of Transmission Services revenues geographically and that distributes "costs" (revenue recovery) using specific cost drivers linked to capacity and distance. Whilst the current methodology also uses capacity and distance, these drivers are "diluted" owing to the nature of how adjustments to the RPM are applied. Furthermore, the RPM related charges recover only a small amount of the overall required revenues, requiring high non-cost-reflective postalised commodity charges to compensate. As such, a focused RPM, aiming to recover all of the allowed Transmission Services Revenue improves on the cost reflective nature of charges compared to the current LRMC based regime when comparing to how this is adopted within GB as an overall framework.

This Proposal affords equitable charging taking into account Existing Contracts and their treatment within the RPM. The method employed within the proposed RPM accommodating the Existing Contracts (fixed prices within GB) is a necessary consequence of EU Tariff Code requirements. To seek to unwind any such arrangements could represent a retrospective impact that would arguably be detrimental to competition and would limit the relevance of the current methodology. In National Grid's view this would be less compliant with the EU Tariff Code than the Charging Methodology advocated by this Proposal.

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

The proposed methodology relating to Transmission Services considers developments which have taken place in the transportation business, in particular that the network is no longer expanding.

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.

The EU Tariff Code compliance is considered 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 Modification Proposal 0621 and its Alternatives highlighted three areas of compliance that needed to be addressed (Interim Contracts, Transition Period and NTS Optional Charge). This Modification proposes changes that will address these. In order to provide a compliant proposal to address these areas, National Grid is proposing:

- Not to propose the creation of Interim Contracts;
- Not to use a transition period for the introduction of the methodology changes; and
- The removal of the charge to manage avoidance of inefficient bypass (the NTS Optional Charge). As highlighted in this proposal, National Grid has raised a separate UNC Request (0670R) to address this aspect of charging in the longer term.

Table 5 (above) highlights the key components of this Proposal, the Articles of the EU Tariff Code that constrain the form and operation of those components and a brief description of how this Proposal complies with those requirements.

Please see also Appendix 1 for a comparison table between Modification Proposal 0621 (which was rejected by Ofgem) and this Modification Proposal (0678).

Appendix 3 provides a summary of analysis undertaken by National Grid which illustrates the impact on Reserve Prices of the application of the CWD RPM as prescribed under this Proposal UNC0678. The analysis demonstrates that the resultant prices are fair and equitable and therefore implementation would better facilitate the Relevant Charging Methodology Objective to facilitate effective competition between gas shippers.

8 Implementation

Implementation of this Modification (the 'Effective Date') is proposed to be:

- the first day of the third month following the calendar month in which Ofgem makes its decision; or

- another day, being the first Day of a month, not earlier than 1 October 2019 (and subsequent to the date of Ofgem's decision) which Ofgem specifies in its decision.

9 Legal Text

Text Commentary

Provided here: http://www.gasgovernance.co.uk/0678/text

Text

Provided here: http://www.gasgovernance.co.uk/0678/text

10 Recommendations

Proposer's Recommendation

This Modification should be treated as urgent and should proceed as such under a timetable approved by the Authority.

11 Appendix 1: Differences between Modification 0621 and this Modification 0678.

The following table highlights the differences between Modification Proposal 0621 (which was rejected for implementation by Ofgem) and this Modification Proposal (0678). A rationale is provided for those elements where a different approach has been taken in this Modification Proposal 0678 and extracts have been included from Ofgem's decision letter for 0621 which evidence the compliance concern.

Note: The table is presented in two halves for legibility.

	Component	Element	0621 v5.0 (1/5/2018) National Grid	Rationale in the context of 0621 Ofgem Decision	0678 v2.0 (19/02/2019) National Grid	Extracts from Ofgem Decison Letter For Mod Proposal 0621 20/12/2019 Ofgem
Transmission Services Charges	Capacity Reference Price	Reference Price Methodology (interim)	Capacity Weighted Distance	Ofgem concluded that individual features of the transition period were non-compliant with TAR hence the interim arrangements have been removed	N/A	"TAR NC makes no provision ...for a transition period as proposed ... however, we note that any methodology in effect from 31 May 2019 must in itself be compliant with ... TAR NC".
		Reference Price Methodology (enduring)	Capacity Weighted Distance with adjustment to minimise Revenue Recovery		Capacity Weighted Distance with adjustment to minimise Revenue Recovery	
		Target Revenue	Net of existing and interim contracts	Ofgem concluded that Interim Contracts were non-compliant with TAR hence the target revenue will only be net of Existing Contracts	Net of Existing Contracts	"treatment by the UNC621 modifications of so-called "interim contracts" is not consistent with either a literal or a purposive reading of Article 35 TAR NC"
		Treatment of zero Reference Prices	Uses Weighted Average Distance to determine price using nearest non-zero Reference Priced Entry or Exit Point's WAD.		Uses Weighted Average Distance to determine price using nearest non-zero Reference Priced Entry or Exit Point's WAD.	
	Forecasted Contracted Capacity (FCC)	Interim arrangements	Obligated capacity for first 2 years	Ofgem concluded that use of obligated values was not consistent with TARs requirement for use of a forecast.	N/A	"obligated capacity does not amount to a "forecast" for the purposes of TAR NC ... the revenue reconciliation principle set out in TAR NC, [is] that under- or over recovery ... should be minimised to the extent possible"
		Enduring arrangements	National Grid Forecast (excluding Historical Capacity)	Ofgem concluded that Interim Contracts were non-compliant with TAR hence the FCC will only exclude Existing Contracts	National Grid Forecast (excluding Existing Contract capacity)	
	Reserve Price - Firm and Interruptible	Multiplier (Annual Capacity Product)	1.0		1.0	
		Multiplier (Quarterly Capacity Product)	1.0		1.0	
		Multiplier (Monthly Capacity Product)	1.0		1.0	
		Multiplier (Daily Capacity Product)	1.0		1.0	
		Multipliers from year 2 onwards	1.0		1.0	
		Interruptible / Off-peak adjustment (entry)	10%		10%	
		Interruptible / Off-peak adjustment (exit)	10%		10%	
		Interruptible /off-peak adjustments from Year 2 onwards	10%		10%	
		Fixed or floating price	Floating		Floating	
	Reserve Price - Specific Capacity Discounts	Storage	50%		50%	
		Interconnection Points	None		None	
		LNG	0%		0%	
		Minimum Reserve Price	0.0001p/kWh/d		0.0001p/kWh/d	
	Revenue Recovery Charges (Interim)	Target revenue apportionment	Pro-rated according to forecast flows at IPs / non-IPs versus forecast total flows	Ofgem concluded that use of a commodity (flow) based revenue recovery mechanism in the interim period was not compliant with TAR both in terms of the consequential proportion of revenue recovered via this mechanism and the question as to whether this was consistent with the requirement for such recovery means to be 'an exception'	N/A	"use of obligated capacity ... would lead to... more than 50% of ... revenue being recovered by this charge. ... use of a commodity-based charge to recover most of the ... revenue is inconsistent with the intention of Article 4(3) TAR NC, which provides "as an exception" that a "part" of the revenue may be recovered via a commodity-based charge"
		Duration	2 years		N/A	
		IP application	Capacity charge (applied to fully adjusted capacity)		N/A	
		IP Exclusions	None		N/A	
		Non-IP application	Flow based charge applied to allocations (flow)		N/A	
		Non-IP Exclusions	Non-own use gas allocations (flow) at Storage Connection Points		N/A	

			0621	Rationale in the context of 0621 Ofgem Decision	0678	Extracts from Ofgem Decison Letter For Mod Proposal 0621
			v5.0 (1/5/2018)		v2.0 (19/02/2019)	20/12/2019
	Component	Element	National Grid		National Grid	Ofgem
Transmission Services Charges	Revenue Recovery Charges (Enduring)	Target revenue apportionment between IPs and non-IPs	n/a		n/a	
		IP application	Capacity charge (applied to fully adjusted capacity)		Capacity charge (applied to fully adjusted capacity)	
		IP Exclusions	None		None	
		Non-IP application	Capacity charge (applied to fully adjusted capacity)		Capacity charge (applied to fully adjusted capacity)	
		Non IP Exclusions	Historical Contracts for Capacity at Storage Connection Points	Ofgem concluded that Interim Contracts were non-compliant with TAR hence the exclusion will only extend to Existing Contracts	Existing Contracts	
	NTS Optional Charge	Application	2 years	Ofgem concluded that the Optional Charge was not complaint with the criteria for classification as a Transmission Services Charge.	N/A	"Article 4(2) states that "Transmission tariffs may be set in a manner as to take into account the conditions for firm capacity products"…. the NOC, … is levied on flows, without reference to the underlying capacity booking. TAR NC requires any exempt flow-based charge to be calculated on the basis of forecasted or historical flows, or both, … the NOC unit rate is derived taking into account the "maximum offtake rate" ("M") and distance. We do not consider "M" is a suitable proxy for "forecasted" or "historical" capacity allocations and flows
		Method (rate derivation)	Existing formula, cost base subject to annual RPI adjustment		N/A	
		Quantity (IPs)	Capacity deemed to have been used		N/A	
		Quantity (Non-IPs)	Allocation (flow)		N/A	
		Alternative charges	Transmission Services Revenue Recovery charges and Non-Transmission Services (entry and exit) charges		N/A	
		Limitations	60km distance cap		N/A	
		Application at Bacton ASEPs	NTS optional flow at UKCS and IP pro rata in proportion to total flows at both		N/A	
	'K'	Application	Existing principles		Existing principles	
Non-Transmission Services Charges	St. Fergus Compression	Application	Existing principles		Existing principles	
	NTS Metering	Application	Existing principles		Existing principles	
	DN Pensions Deficit	Application	Existing principles		Existing principles	
	SSMP Administration	Application	Existing principles		Existing principles	
	IP Allocation	Application	Existing principles		Existing principles	
	Entry and Exit Charges	Application	Allocation (flow) based charge to recover residual Non-transmission services revenue, except non-own-use at storage		Allocation (flow) based charge to recover residual Non-transmission services revenue, except non-own-use at storage	
	'K'	Application	Existing principles		Existing principles	
General	Publication of variables	Multipliers	Transportation Statement		Transportation Statement	
		Interruptible Adjustment	Transportation Statement		Transportation Statement	
		LNG Discount	Transportation Statement		Transportation Statement	
		CWD Distances	Charging Model		Charging Model	
		CWD FCCs	Charging Model		Charging Model	
		Maximum allowed revenue forecast	No proposed obligations		No proposed obligations	

Variation in treatment of element from UNC Modification Proposal 0621

12 Appendix 2: The FCC Methodology.

The FCC Methodology (as referred to in Section 5 is published on the Joint Office website[12] and is contained within the following document:

FCC Methodology v1.0.pdf

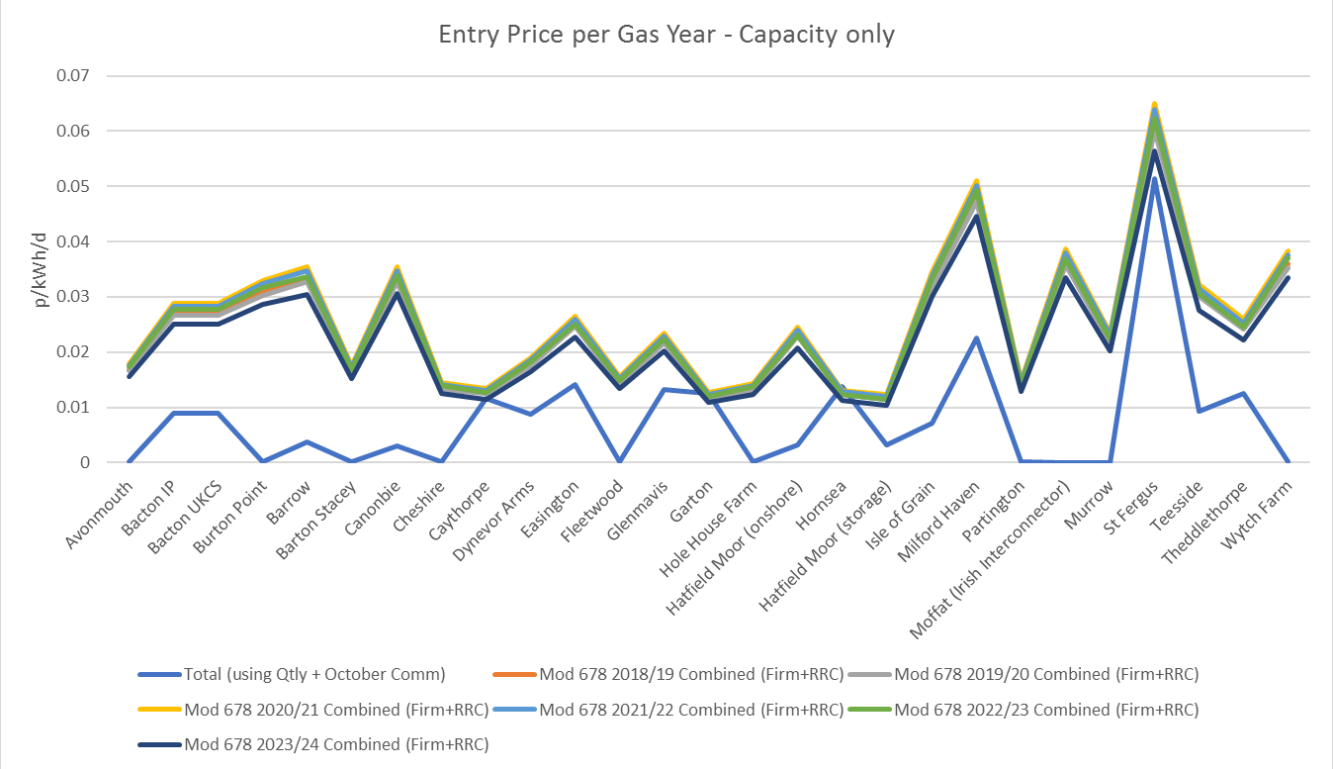
[12] FCC Methodology v1.0 15 March 2019 https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-03/Forecasted%20Contracted%20Capacity%20v1.0.pdf

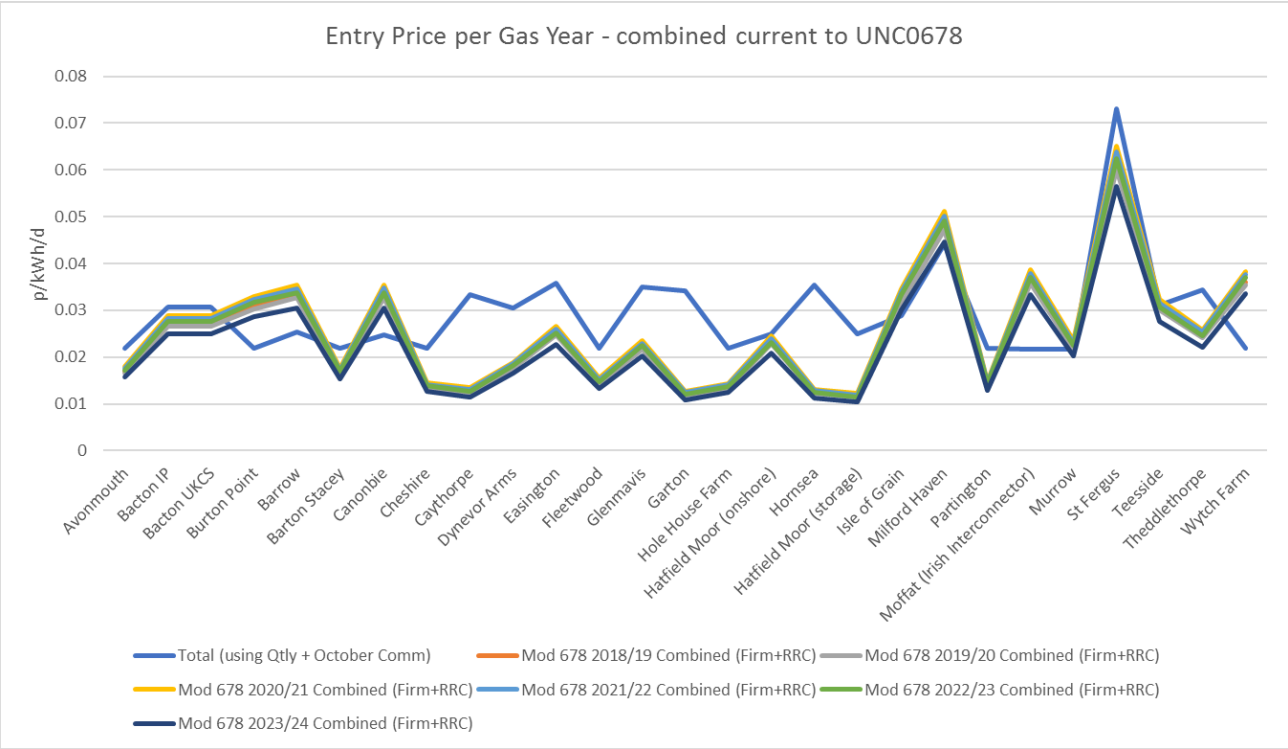
13 Appendix 3: Summary Analysis.

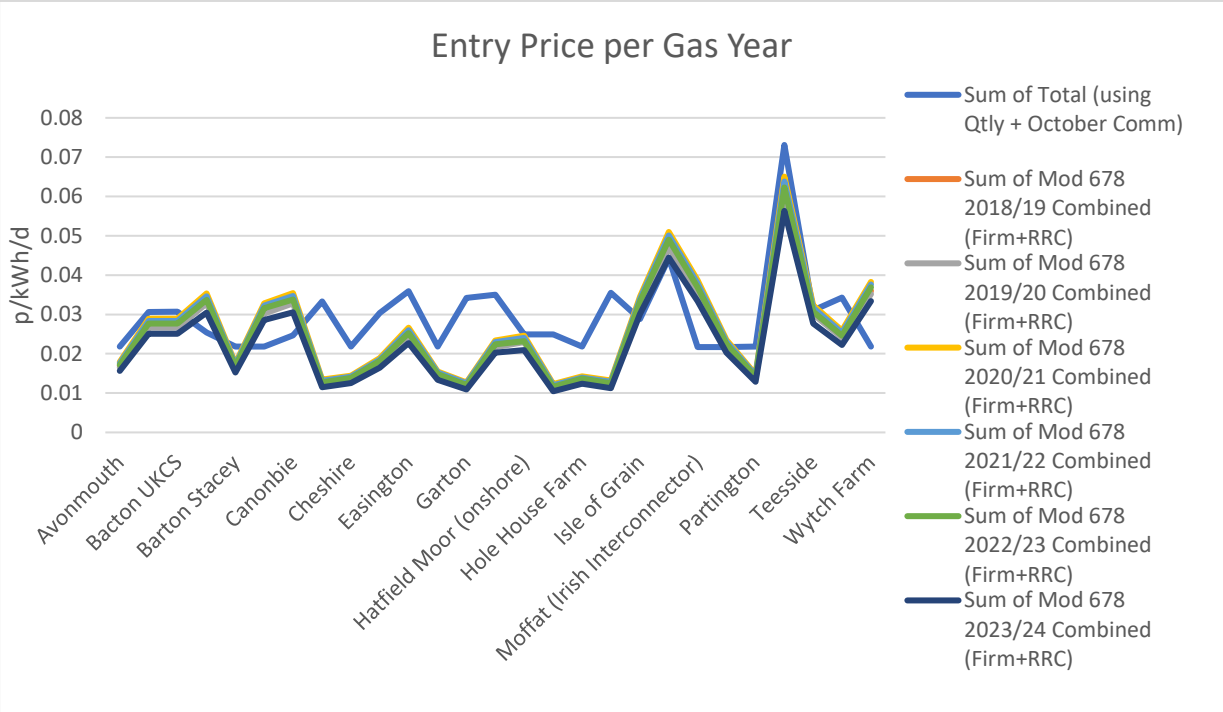
Comparison of Reserve Prices

This Proposal aims to produce capacity Reference and Reserve Prices that would be more stable and predictable than under the current regime. This analysis has been modelled using an assumption that some of the capacity booked will be interruptible/off peak (apportioning the FCC) based on an average percentage of interruptible capacity from gas year 2017/18 and adopting the FCC as outlined in the FCC Methodology appended to this Proposal, providing the resulting values over six years from 2018/19 to 2023/24.

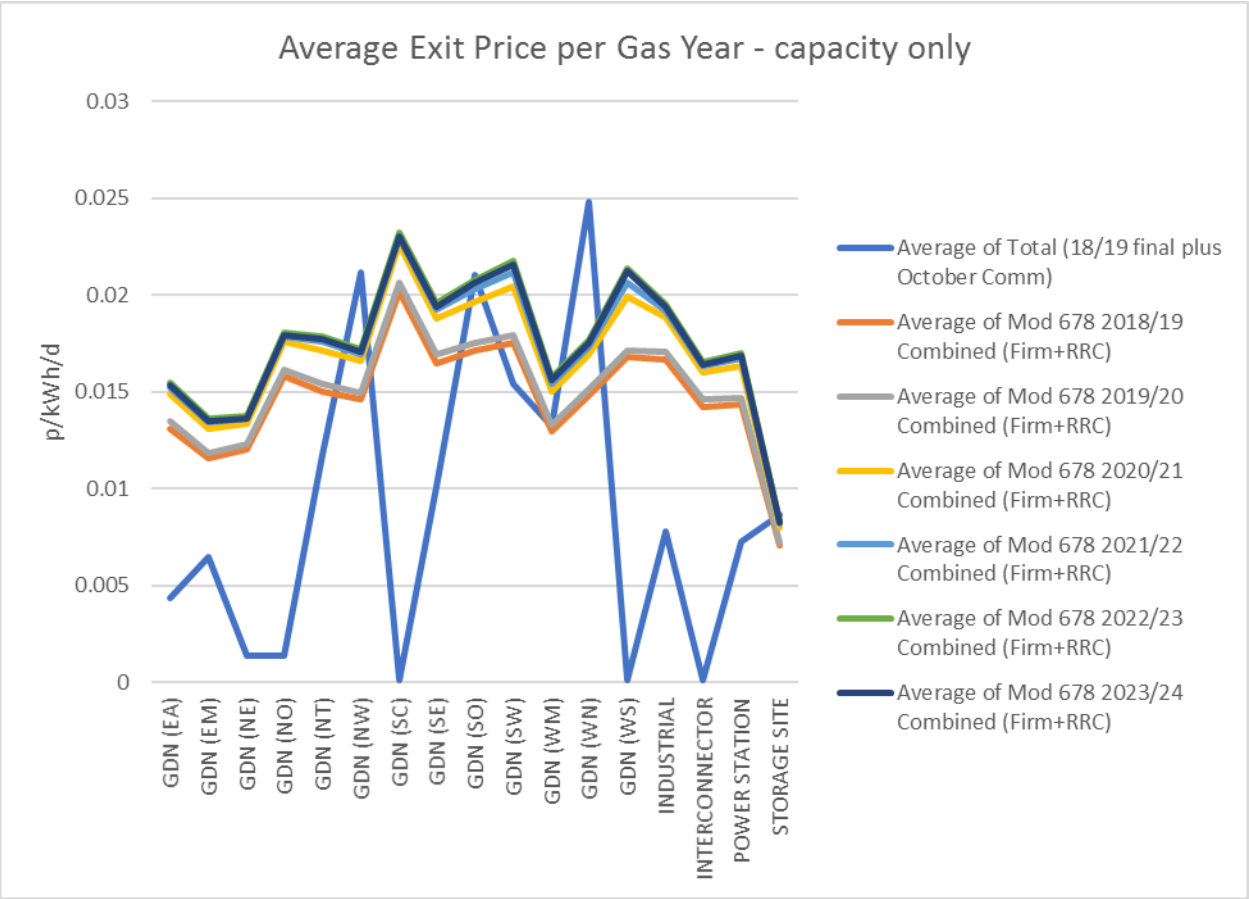
The Reserve Prices as shown in the charts below are very close for each year, showing that use of the CWD approach provides quite a predictable pattern from year to year. Drivers of change would be the revenue inputs and the FCC Methodology inputs. Using the averaging effect from CWD there is a reduced spread of capacity charges when compared to the current methodology (as shown in the capacity only chart below). The following "Entry Price per gas Year – combined current to UNC0678" chart compares the current prices (combined QSEC and October 2018 commodity) to the calculated Reserve Prices under this Proposal (that consider the adjustment required to cater for Storage and Interruptible discounts). On average the prices from UNC0678 are lower than the combined Entry capacity and TO Entry commodity.

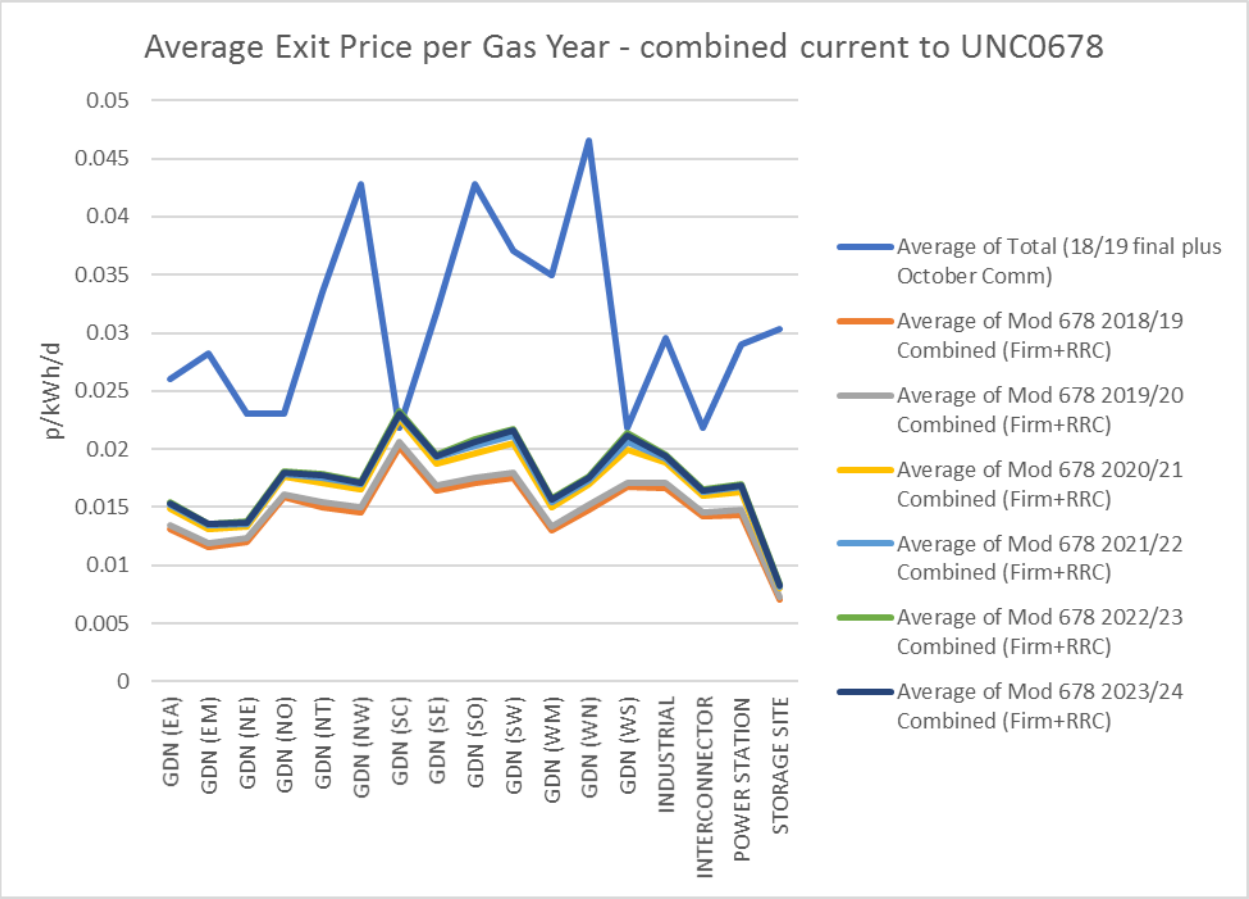


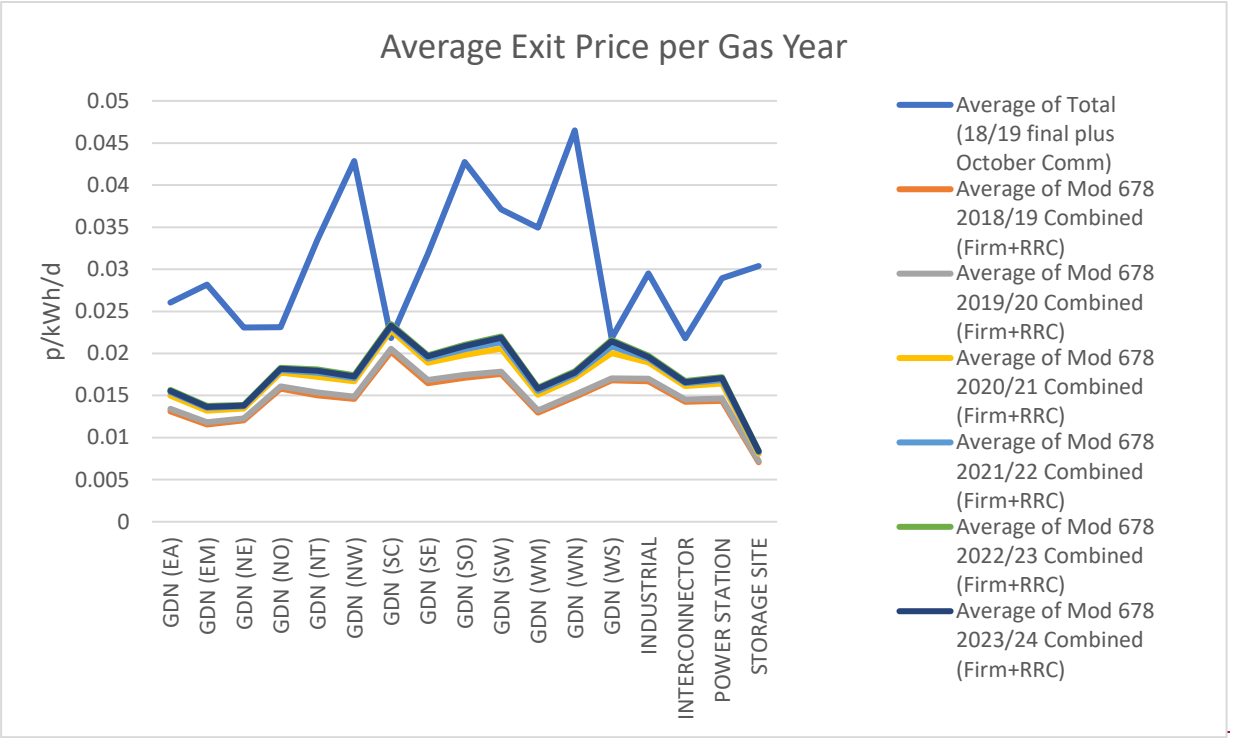




A similar picture can be seen when looking at Exit data and comparing prices in a similar fashion. Across multiple years, at each offtake (an average GDN offtake is provided as a summary as there are too many offtakes to see the prices for) the prices are quite similar providing an improved degree of stability linked to a more stable FCC approach and also a predictable revenue pattern that could be followed using revenue forecasts. Looking at the Average Exit Price per Gas Year – capacity only there is a narrower spread of capacity prices presenting more equitable range of prices taking into account the averaging effect CWD and the overall RPM. When looking at the Exit Price per Gas Year – combined current to UNC0678, on average the prices are lower under CWD than current prevailing prices.


Average Exit Price per Gas Year - capacity only
p/kWh/d
0.03
0.025
0.02
0.015
0.01
0.005
0
GDN (EA)
GDN (EM)
GDN (NE)
GDN (NO)
GDN (NT)
GDN (NW)
GDN (SC)
GDN (SE)
GDN (SO)
GDN (SW)
GDN (WM)
GDN (WN)
GDN (WS)
INDUSTRIAL
INTERCONNECTOR
POWER STATION
STORAGE SITE
Average of Total (18/19 final plus October Comm)
Average of Mod 678 2018/19 Combined (Firm+RRC)
Average of Mod 678 2019/20 Combined (Firm+RRC)
Average of Mod 678 2020/21 Combined (Firm+RRC)
Average of Mod 678 2021/22 Combined (Firm+RRC)
Average of Mod 678 2022/23 Combined (Firm+RRC)
Average of Mod 678 2023/24 Combined (Firm+RRC)


Average Exit Price per Gas Year - combined current to UNC0678
p/kWh/d
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
GDN (EA)
GDN (EM)
GDN (NE)
GDN (NO)
GDN (NT)
GDN (NW)
GDN (SC)
GDN (SE)
GDN (SO)
GDN (SW)
GDN (WM)
GDN (WN)
GDN (WS)
INDUSTRIAL
INTERCONNECTOR
POWER STATION
STORAGE SITE
Average of Total (18/19 final plus October Comm)
Average of Mod 678 2018/19 Combined (Firm+RRC)
Average of Mod 678 2019/20 Combined (Firm+RRC)
Average of Mod 678 2020/21 Combined (Firm+RRC)
Average of Mod 678 2021/22 Combined (Firm+RRC)
Average of Mod 678 2022/23 Combined (Firm+RRC)
Average of Mod 678 2023/24 Combined (Firm+RRC)



Comparison of anticipated Revenue Collection

The four charts below (two each for Entry and Exit) show the Collected Revenue from 2017/18 current prices from the LRMC model and current revenue reconciliation treatment for Transmission compared to collected revenue per sector for 2018/19 from the CWD model and overall proposed Transmission Services framework under this Proposal. Using any other year from CWD would yield similar comparisons so only one is shown here.

The 2017/18 values are summarised in the tables below:

Entry				
	Oct 17 - Sept 18	Apr 17 - Mar 18	Oct 17 - Sept 18	Oct 17 - Sept 18
	Gas year	Formula year	Gas year	Gas year
	Entry Capacity	TO Entry Commodity	TO Entry Commodity	Total Capacity and Commodity over 17/18 Gas Year
BEACH TERMINAL	£ 50,910,789	£ 266,748,042	£ 248,224,428	£ 299,135,217
INTERCONNECTION POINT	£ 6,811,005	£ 40,148,457	£ 39,916,856	£ 46,727,861
LNG IMPORTATION TERMINAL	£ 14,358,755	£ 11,486,370	£ 9,931,631	£ 24,290,386
ONSHORE FIELD	£ 11,532	£ 757,820	£ 714,311	£ 725,843
STORAGE SITE	£ 10,806,180	£ -	£ -	£ 10,806,180
Total	£ 82,898,261	£ 319,140,689	£ 298,787,226	£ 381,685,487

Transmission Owner Entry Revenue Summary:

Capacity Revenue - actual entry capacity revenue for the gas year 17/18 (most recent completed gas year).

Commodity Revenue - two sets of numbers have been provided. April to March is based on the actual revenues from the most recent completed formula year. October to September is based on the same annual flows from April to March (as a proxy for 12months of flows) multiplied by the October 2018 Commodity rate to show the impact of changing the commodity rate on the same volumes.

Commodity values are net of the NTS Optional Charge (Shorthaul) and use rates calculated in the prevailing methodology taking account of eligible Shorthaul flows.

What can be seen on Entry is only a relatively small (c.22%) proportion is recovered from Capacity charges, intended as the more cost reflective element under the current methodology.

Exit

	Oct 17 - Sept 18	Apr 17 - Mar 18	Oct 17 - Sept 18	Oct 17 - Sept 18
	Gas year	Formula year	Gas year	Gas year
	Exit Capacity	TO Exit Commodity	TO Exit Commodity	Total Capacity and Commodity over 17/18 Gas Year
INTERCONNECTOR	£ 276,935	£ 1,717,837	£ 1,518,116	£ 1,795,050
INDUSTRIAL	£ 2,081,412	£ 3,035,178	£ 2,852,992	£ 4,934,404
POWER STATION	£ 21,484,295	£ 21,771,442	£ 20,362,144	£ 41,846,439
STORAGE SITE	£ 375,379	£ -	£ -	£ 375,379
LDZ	£ 177,728,760	£ 124,998,995	£ 125,185,695	£ 302,914,455
Total	£ 201,946,781	£ 151,523,452	£ 149,918,946	£ 351,865,727

Transmission Owner Exit Revenue Summary:
Capacity Revenue - actual exit capacity revenue for the gas year 17/18 (most recent completed gas year).

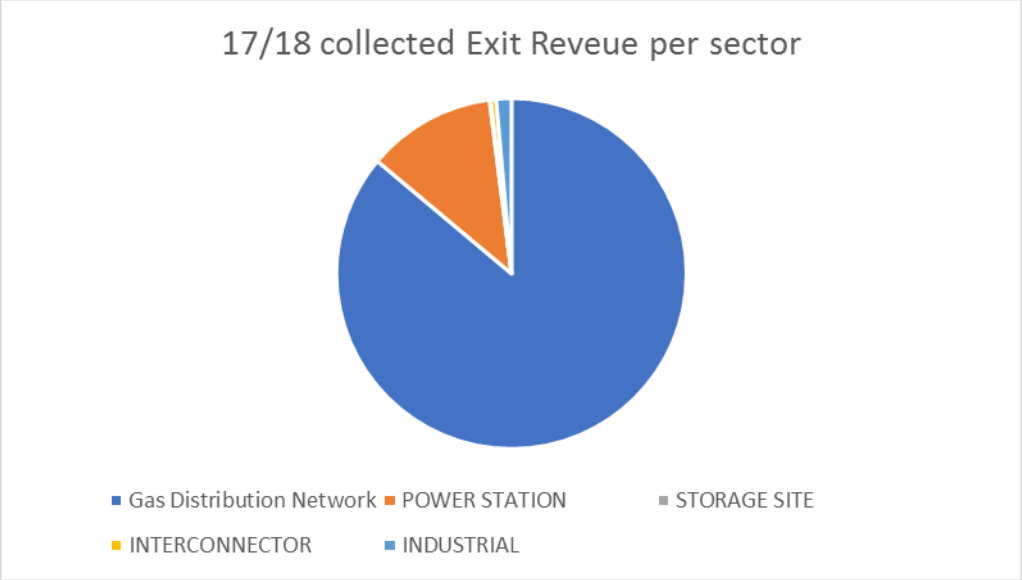
Commodity Revenue - two sets of numbers have been provided. April to March is based on the actual revenues from the most recent completed formula year. October to September is based on the same annual flows from April to March (as a proxy for 12months of flows) multiplied by the October 2018 Commodity rate to show the impact of changing the commodity rate on the same volumes.

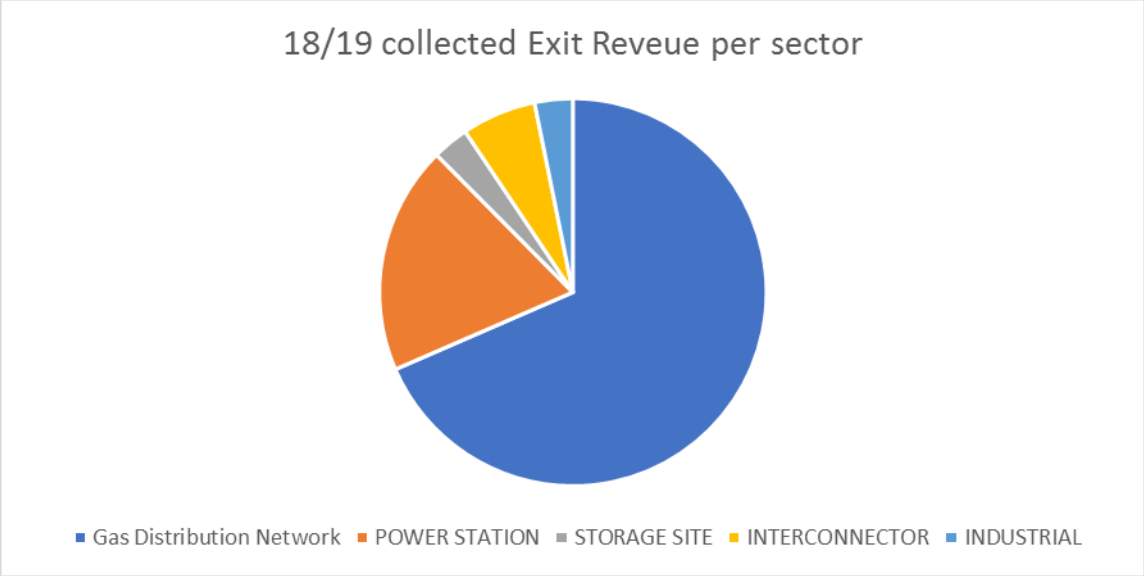
For Commodity - to facilitate a comparison to the same categories as for UNC0678 it generalises for LDZ to be the capacity revenue at LDZs and the flow based revenues for commodity. It should be noted that the LDZ Capacity charges are paid by the GDNs and the commodity is paid by DN Shippers.

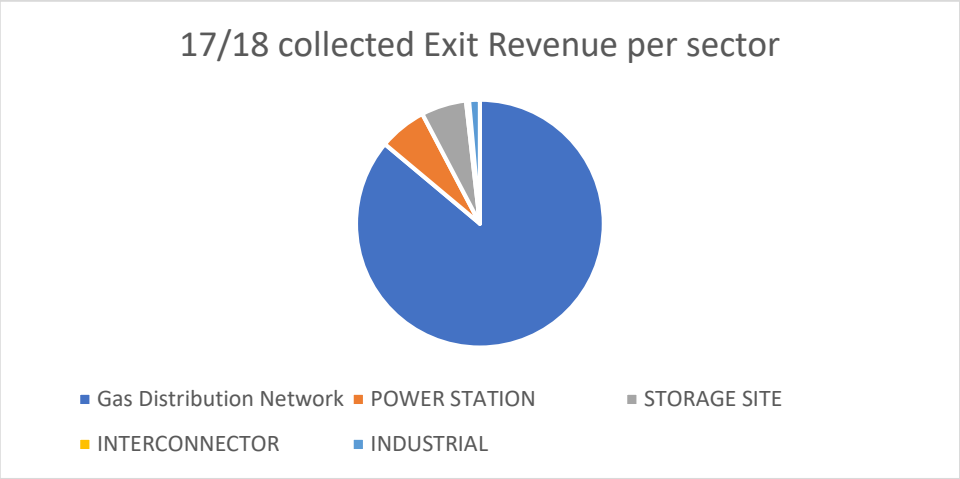
Commodity values are net of the NTS Optional Charge (Shorthaul) and use rates calculated in the prevailing methodology taking account of eligible Shorthaul flows.

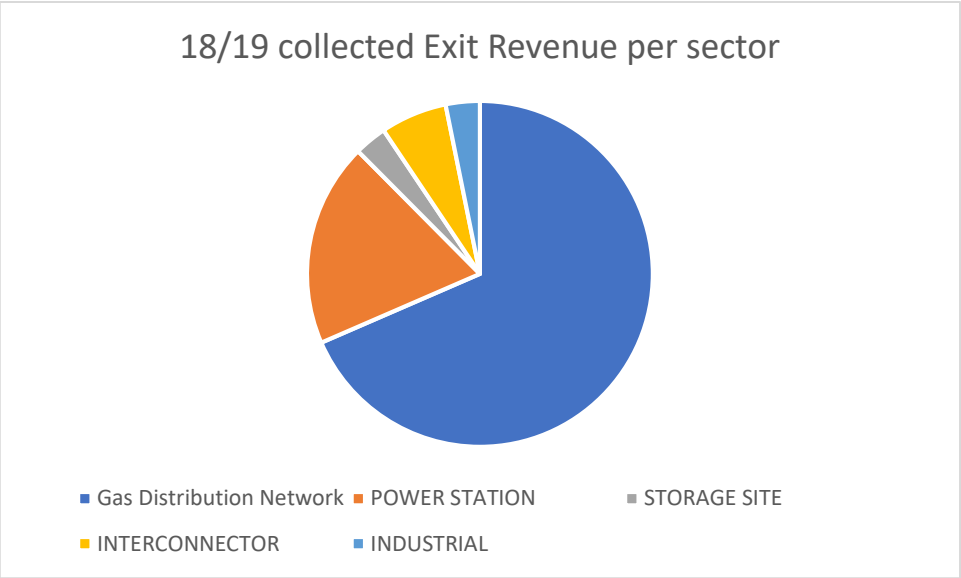
What can be seen on Exit is only a just over half (c.57%) is recovered from Capacity charges, intended as the more cost reflective element under the current methodology

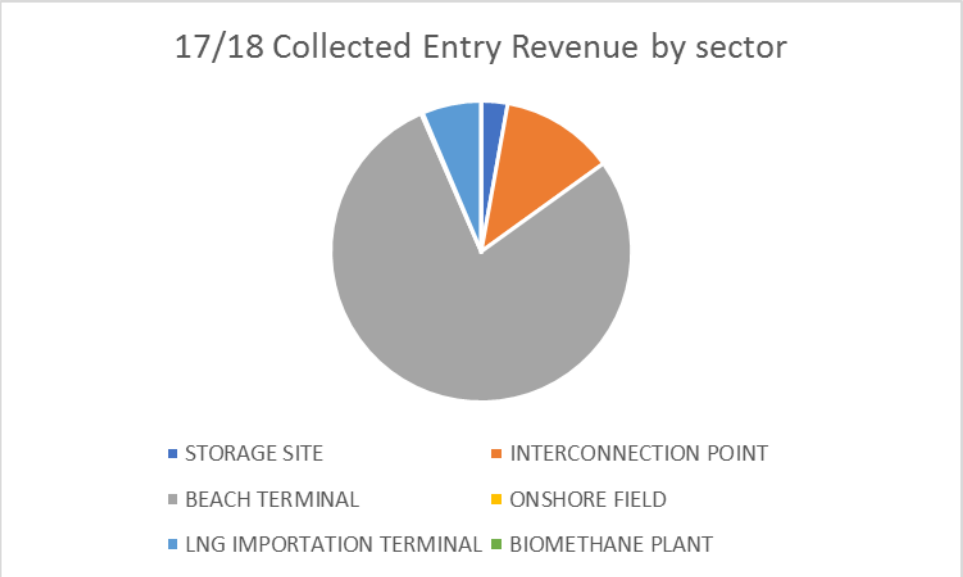
The revenue collection shows that under the current approach some sectors are paying lower overall than if they paid full price commodity charges (i.e. using shorthaul) and full price (non-discounted capacity). Under this proposal there is a more equitable treatment and all sectors will be paying a more equitable price for the capacity charges. This shows up with some sectors, as a percentage of overall anticipated revenue collection, showing a larger percentage than under the current arrangements. This can be seen for Entry and Exit.

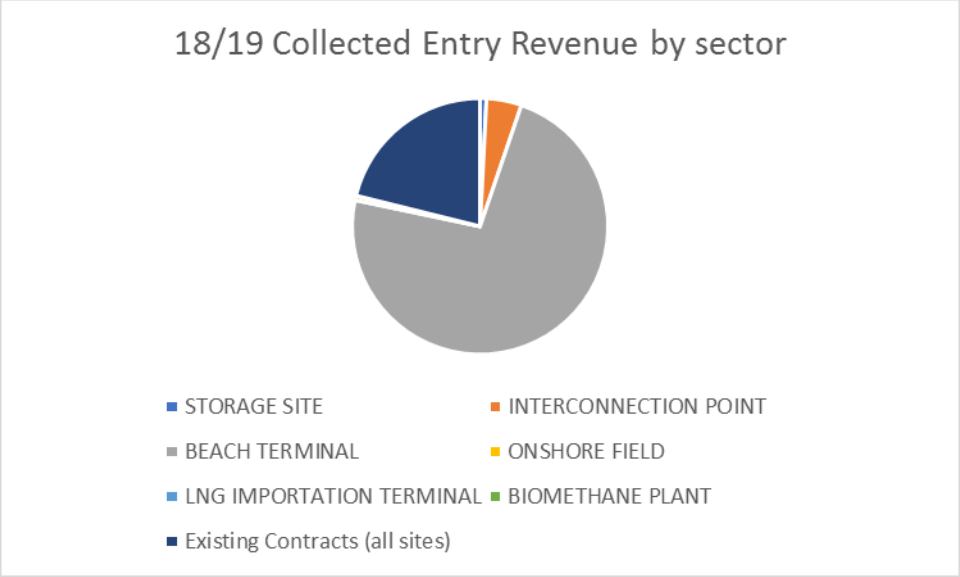

17/18 collected Exit Reveue per sector
Gas Distribution Network
POWER STATION
STORAGE SITE
INTERCONNECTOR
INDUSTRIAL

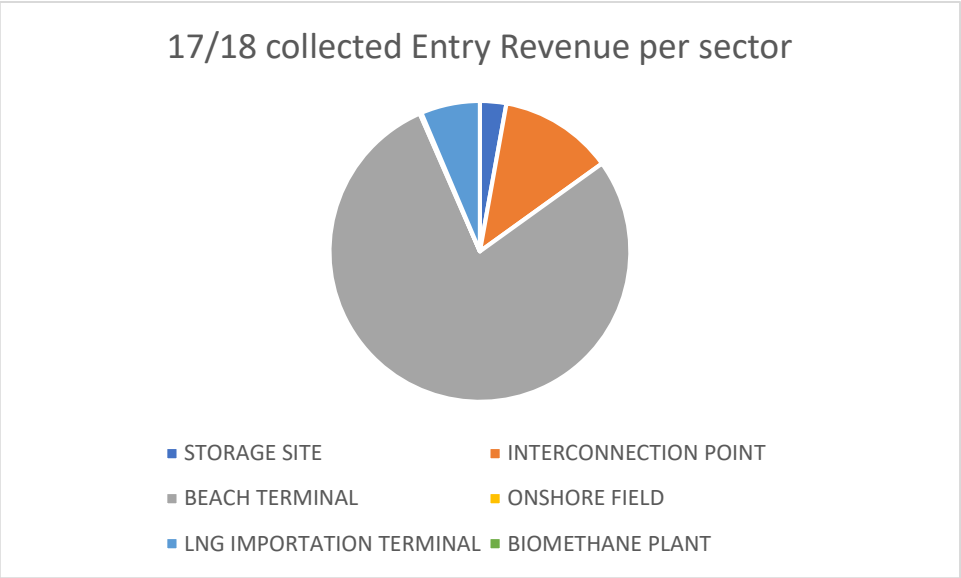

18/19 collected Exit Reveue per sector
Gas Distribution Network
POWER STATION
STORAGE SITE
INTERCONNECTOR
INDUSTRIAL

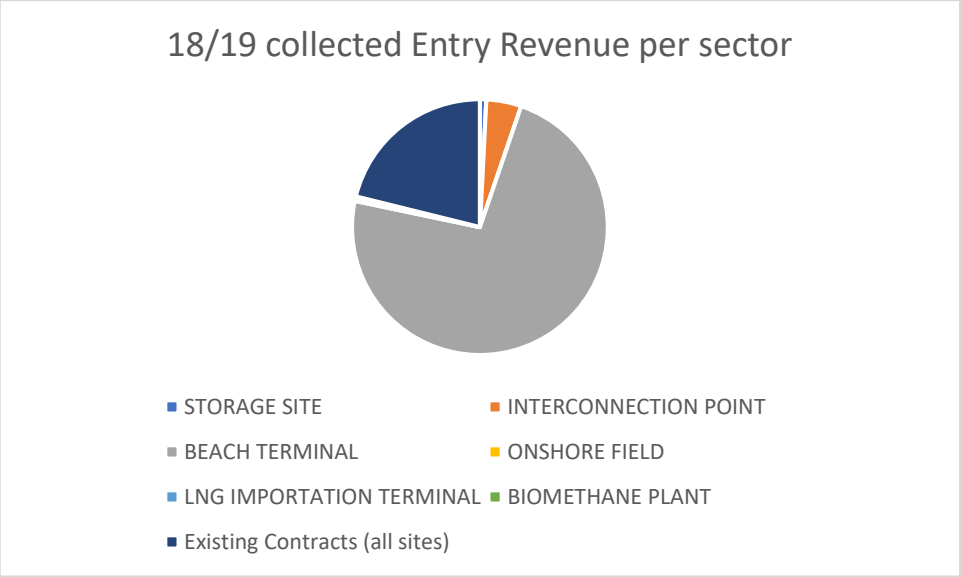

17/18 collected Exit Revenue per sector
Gas Distribution Network
POWER STATION
STORAGE SITE
INTERCONNECTOR
INDUSTRIAL


18/19 collected Exit Revenue per sector
Gas Distribution Network
POWER STATION
STORAGE SITE
INTERCONNECTOR
INDUSTRIAL


17/18 Collected Entry Revenue by sector
STORAGE SITE
INTERCONNECTION POINT
BEACH TERMINAL
ONSHORE FIELD
LNG IMPORTATION TERMINAL
BIOMETHANE PLANT


18/19 Collected Entry Revenue by sector
STORAGE SITE
INTERCONNECTION POINT
BEACH TERMINAL
ONSHORE FIELD
LNG IMPORTATION TERMINAL
BIOMETHANE PLANT
Existing Contracts (all sites)





Anticipated Revenue Collection

The two tables below show the anticipated revenue profile using default parameters from the Transmission Services CWD Model 3.0. The table for Entry and for Exit shows that moving into 2018/19 and beyond use of the CWD approach provides a stable set of values moving from year to year. This is driven by stable CWD distances and an FCC methodology that should over time provide a solid basis for stability (as any new forecast would improve) and use of revenues which should yield a predictable path of change.

Entry and Exit Revenue collected per sector are as shown in the tables below. This shows that use of the CWD approach provides quite a predictable pattern from year to year. Drivers of change would be the revenue inputs and the FCC Methodology inputs, which is the same as the change in prices mentioned above.

A change can be seen within the Entry Revenue table below, as for 2017/18 this was the revenue collected for that Gas Year at the different sectors, these values include the Existing Contract values but in 2018/19 onwards the Existing Contract value can be seen as a separate row, but this value will be paid by the respective parties who hold those Existing Contracts.

Entry Revenue collected per sector

Capacity Revenue	17/18	18/19	19/20	20/21	21/22	22/23	23/24
STORAGE SITE	£10,806,180.15	£2,638,692.69	£2,569,596.51	£2,766,651.61	£2,701,149.79	£9,514,634.26	£18,718,989.77
INTERCONNECTION POINT	£46,727,861.10	£14,574,771.52	£14,334,517.68	£15,184,968.07	£19,649,439.13	£20,710,100.84	£18,777,297.65
BEACH TERMINAL	£299,135,217.07	£240,205,272.84	£262,063,323.76	£297,298,332.48	£306,702,724.67	£298,750,200.29	£274,171,508.76
ONSHORE FIELD	£725,842.64	£1,840,567.21	£2,189,026.19	£2,896,965.91	£3,684,731.74	£3,612,084.25	£3,280,408.72
LNG IMPORTATION TERMINAL	£24,290,385.98	£25,330.20	£18,423.69	£27,107.93	£2,464,984.56	£15,618,372.24	£18,480,563.63
BIOMETHANE PLANT	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Existing Contracts (all sites)	£0.00	£69,493,789.79	£56,648,302.88	£60,021,774.28	£54,338,644.40	£53,022,532.62	67799155.98
Total	£381,685,486.94	£328,778,424.25	£337,823,190.70	£378,195,800.29	£389,541,674.29	£401,227,924.51	£401,227,924.50

Note - values in 17/18 include any Existing Contracts within their revenue value. From 18/19 onwards they are shown separate.

	17/18	18/19	19/20	20/21	21/22	22/23	23/24
STORAGE SITE	£ 10,806,180	£2,638,693	£2,571,135	£2,770,965	£2,708,240	£9,554,114	£18,795,377
INTERCONNECTION POINT	£ 46,727,861	£14,574,772	£14,326,198	£15,203,134	£19,673,112	£20,729,246	£18,790,771
BEACH TERMINAL	£ 299,135,217	£240,205,273	£262,073,242	£297,279,847	£306,676,083	£298,740,016	£274,130,066
ONSHORE FIELD	£ 725,843	£1,840,567	£2,185,898	£2,892,918	£3,676,215	£3,599,764	£3,268,644
LNG IMPORTATION TERMINAL	£ 24,290,386	£25,330	£18,416	£27,161	£2,469,379	£15,582,252	£18,443,910
BIOMETHANE PLANT		£0	£0	£0	£0	£0	£0
Existing Contracts (all sites)		£69,493,790	£56,648,303	£60,021,774	£54,338,644	£53,022,533	£67,799,156
Total	£ 381,685,487	£328,778,424	£337,823,191	£378,195,800	£389,541,674	£401,227,925	£401,227,925

Exit Revenue collected per sector

	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Gas Distribution Network	£302,914,455	£225,175,582	£231,217,631	£251,106,959	£257,276,417	£261,906,412	£260,689,135
POWER STATION	£41,846,439	£62,676,136	£64,608,882	£81,161,643	£85,525,435	£92,008,520	£93,445,732
STORAGE SITE	£375,379	£10,004,820	£10,273,906	£11,209,202	£11,406,937	£11,539,746	£11,486,087
INTERCONNECTOR	£1,795,050	£20,441,285	£20,985,924	£22,959,376	£23,359,515	£23,635,193	£23,525,343
INDUSTRIAL	£4,934,404	£10,480,601	£10,736,848	£11,758,621	£11,973,370	£12,138,053	£12,081,627
Total	£351,865,727	£328,778,424	£337,823,191	£378,195,800	£389,541,674	£401,227,924	£401,227,924

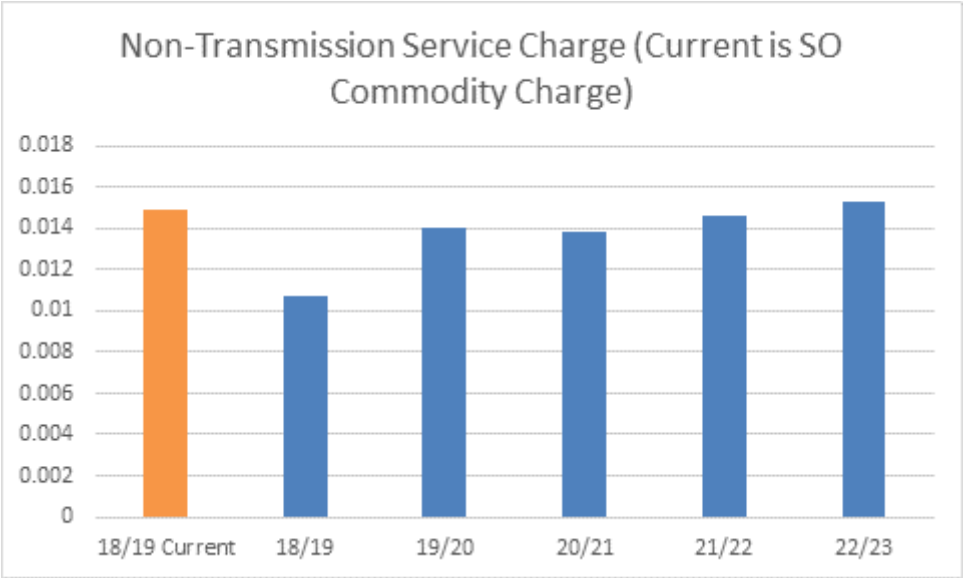
	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Gas Distribution Network	£302,914,455	£225,175,582	£230,048,864	£252,576,405	£259,428,685	£264,816,771	£263,579,151
POWER STATION	£21,873,911	£62,676,136	£65,989,935	£79,423,437	£82,982,161	£88,572,409	£90,033,639
STORAGE SITE	£20,737,523	£10,004,820	£10,221,973	£11,274,797	£11,502,362	£11,667,979	£11,613,423
INTERCONNECTOR	£1,405,435	£20,441,285	£20,879,844	£23,093,731	£23,554,931	£23,897,832	£23,786,147
INDUSTRIAL	£4,934,404	£10,480,601	£10,682,575	£11,827,430	£12,073,535	£12,272,934	£12,215,564
Total	£351,865,727	£328,778,424	£337,823,191	£378,195,800	£389,541,674	£401,227,924	£401,227,924

Of note: Exit Commodity proportion of this is currently not paid directly by the GDN but is paid by the DN Shipper. From 2018/19 numbers in this table, in line with UNC0678 all the value under the GDN would be payable by the GDNs.

Linking back to the revenue collection from capacity charges under the current methodology recovery from the LRMC based capacity charges only yield only 22% or 57% (Entry and Exit, respectively). This leaves the non-cost reflective commodity charges to recover the remainder. Under the proposed CWD approach it is anticipating getting much closer to 100% of collection from capacity charges via the RPM, the more cost reflective component of the overall framework proposed under UNC0678. This is a significant improvement over the current methodology.

Non-Transmission Service Charges

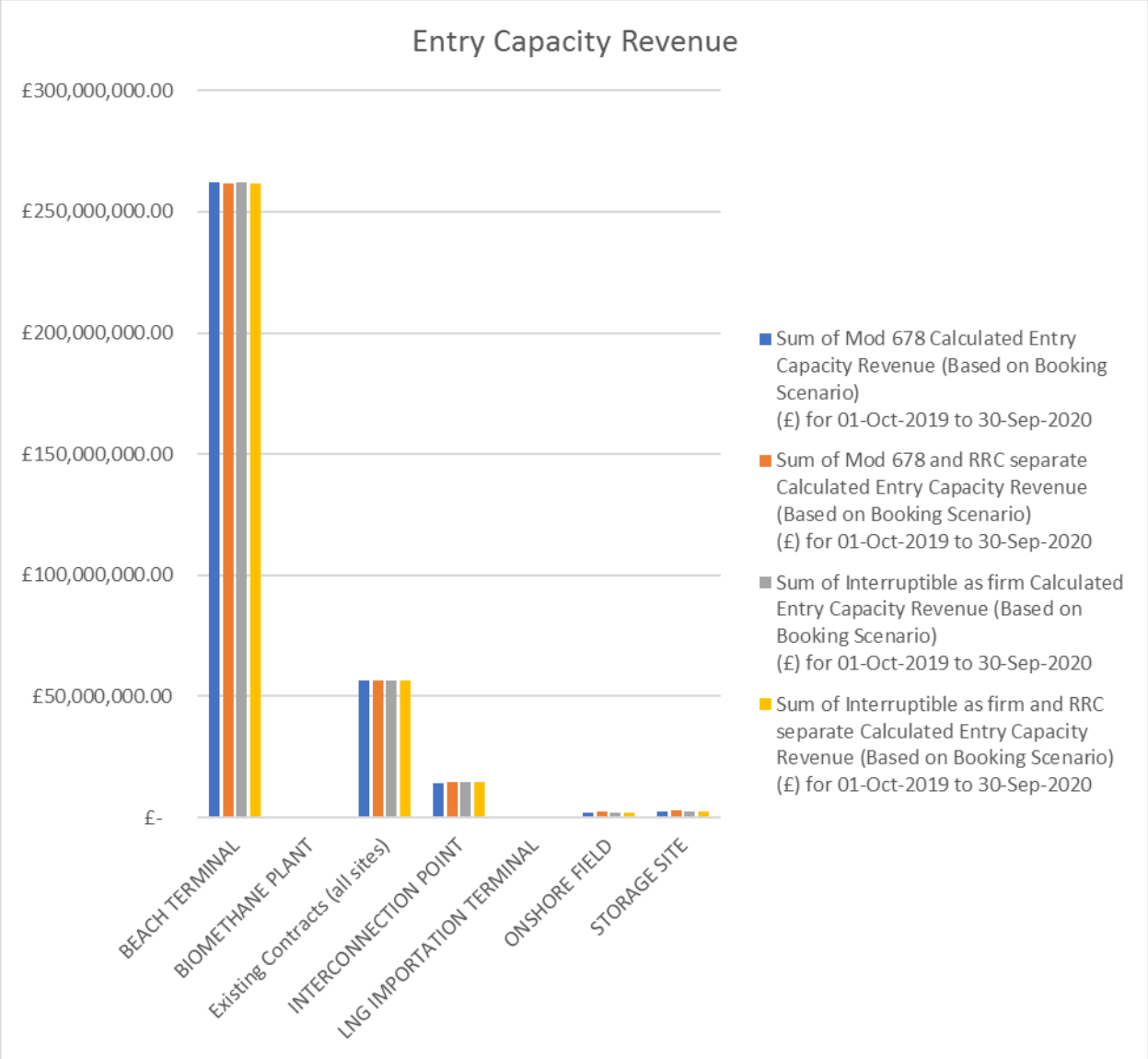
Calculating the Non-Transmission Services charges, which can be compared to the SO Commodity charge, presents the anticipated results shown in the chart below. There is not a substantial difference in the overall charge for Non-Transmission Services. Key underlying changes are than no NTS Optional Commodity Rate charges ('Shorthaul') are present under this Proposal whereas they are present in the current year (2018/19).

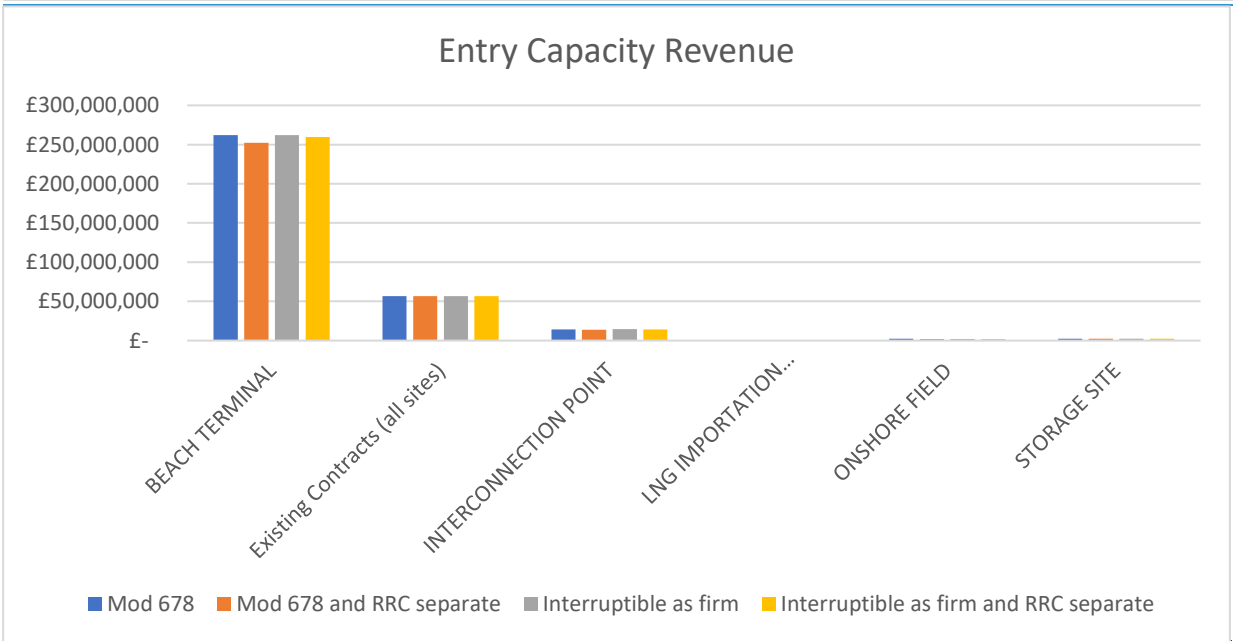


Revenue comparison between this Proposal and Interruptible as Firm, plus between adjusted and pre-adjusted for RRC

Sum of Calculated Entry Capacity Revenue (Based on Booking Scenario) 01-Oct-2019 to 30-Sep-2020 that show:

- As per this Proposal, adjusted for anticipated shortfall for interruptible and storage discounts.
- As per this Proposal, before the revenue adjustment is applied to recover anticipated shortfall from storage and interruptible
- As per this Proposal, without any assumption for interruptible (i.e. all as firm for the FCC) adjusted for anticipated shortfall for interruptible and storage discounts.
- As per this Proposal, without any assumption for interruptible (i.e. all as firm for the FCC) before the revenue adjustment is applied to recover anticipated shortfall from storage and interruptible


Entry Capacity Revenue
£300,000,000.00
£250,000,000.00
£200,000,000.00
£150,000,000.00
£100,000,000.00
£50,000,000.00
£-
BEACH TERMINAL
BIOMETHANE PLANT
Existing Contracts (all sites)
INTERCONNECTION POINT
LNG IMPORTATION TERMINAL
ONSHORE FIELD
STORAGE SITE
Sum of Mod 678 Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
Sum of Mod 678 and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
Sum of Interruptible as firm Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
Sum of Interruptible as firm and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020

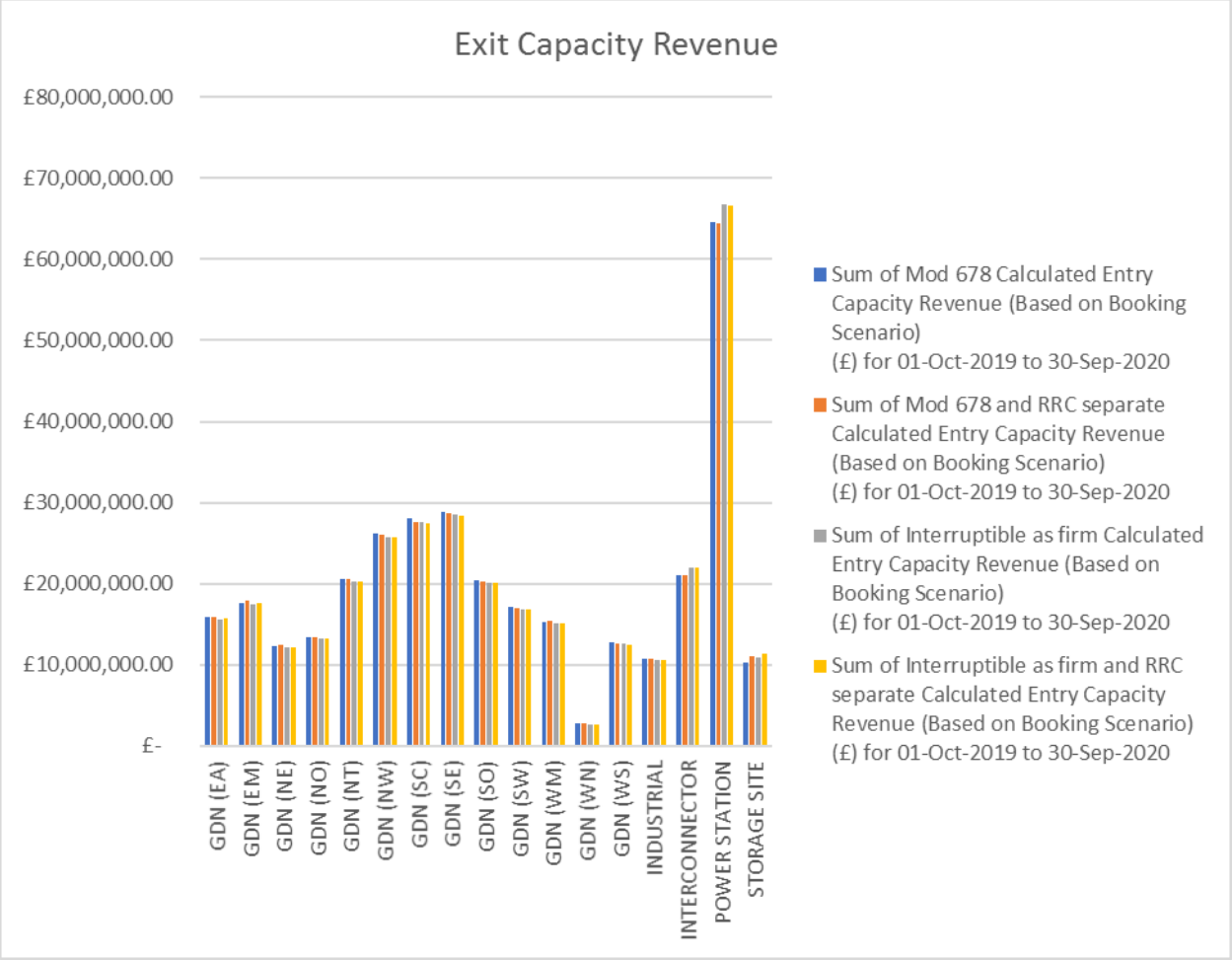

Entry Capacity Revenue
£300,000,000
£250,000,000
£200,000,000
£150,000,000
£100,000,000
£50,000,000
£-
BEACH TERMINAL
Existing Contracts (all sites)
INTERCONNECTION POINT
LNG IMPORTATION...
ONSHORE FIELD
STORAGE SITE
Mod 678
Mod 678 and RRC separate
Interruptible as firm
Interruptible as firm and RRC separate

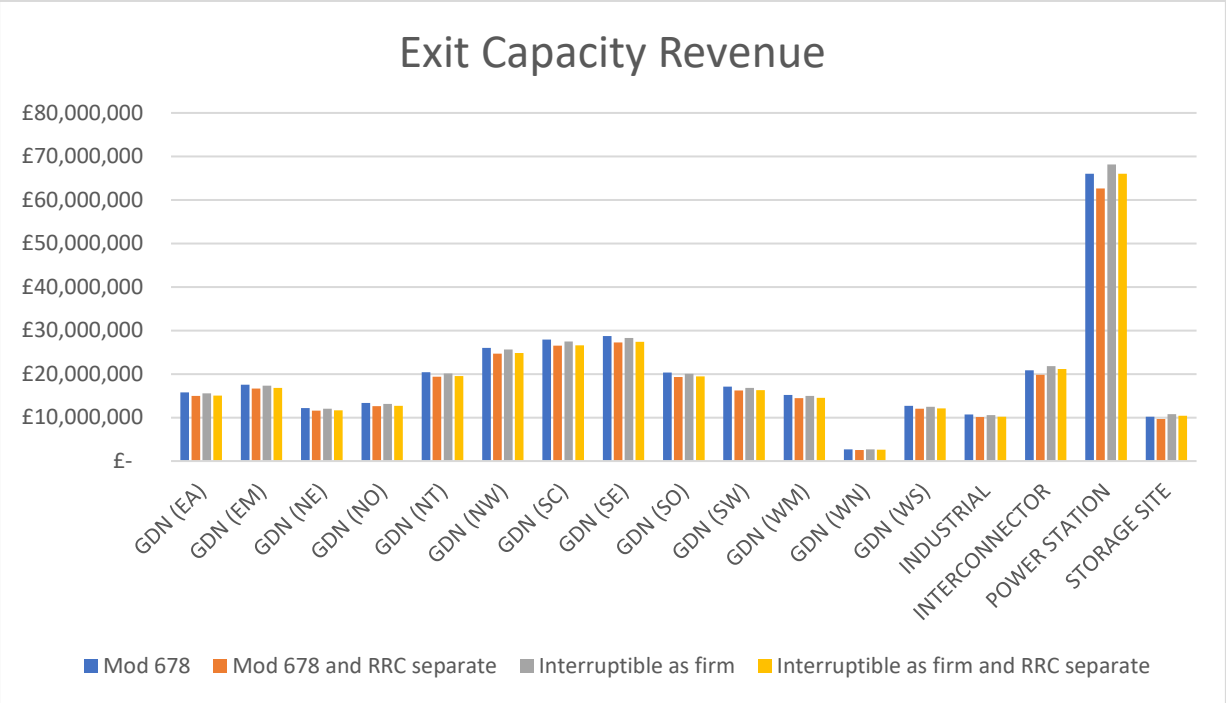
	Sum of Mod 678 Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Mod 678 and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Interruptible as firm Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Interruptible as firm and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
BEACH TERMINAL	262,063,324	261,558,681	261,997,867	261,880,043
BIOMETHANE PLANT	-	-	-	-
Existing Contracts (all sites)	56,648,303	56,648,303	56,648,303	56,648,303
INTERCONNECTION POINT	14,334,518	14,606,903	14,508,837	14,571,186
LNG IMPORTATION TERMINAL	18,424	18,588	18,201	18,241
ONSHORE FIELD	2,189,026	2,211,810	2,136,375	2,142,187
STORAGE SITE	2,569,597	2,778,906	2,513,608	2,563,204
Grand Total	337,823,191	337,823,191	337,823,191	337,823,164

	Sum of Mod 678 Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Mod 678 and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Interruptible as firm Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Interruptible as firm and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
BEACH TERMINAL	£ 262,073,242	£ 252,160,529	£ 262,008,057	£ 259,685,196
Existing Contracts (all sites)	£ 56,648,303	£ 56,648,303	£ 56,648,303	£ 56,648,303
INTERCONNECTION POINT	£ 14,326,198	£ 13,784,320	£ 14,500,255	£ 14,371,701
LNG IMPORTATION TERMINAL	£ 18,416	£ 17,719	£ 18,193	£ 18,032
ONSHORE FIELD	£ 2,185,898	£ 2,103,218	£ 2,133,298	£ 2,114,385
STORAGE SITE	£ 2,571,135	£ 2,473,884	£ 2,515,085	£ 2,492,787
Grand Total	£ 337,823,191	£ 327,187,973	£ 337,823,191	£ 335,330,404

This shows that the use of a more informed FCC yields close to the allowed revenue.

Sum of Calculated Exit Capacity Revenue (Based on Booking Scenario) 01-Oct-2019 to 30-Sep-2020


Exit Capacity Revenue
£80,000,000.00
£70,000,000.00
£60,000,000.00
£50,000,000.00
£40,000,000.00
£30,000,000.00
£20,000,000.00
£10,000,000.00
£-
GDN (EA)
GDN (EM)
GDN (NE)
GDN (NO)
GDN (NT)
GDN (NW)
GDN (SC)
GDN (SE)
GDN (SO)
GDN (SW)
GDN (WM)
GDN (WN)
GDN (WS)
INDUSTRIAL
INTERCONNECTOR
POWER STATION
STORAGE SITE
Sum of Mod 678 Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
Sum of Mod 678 and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
Sum of Interruptible as firm Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
Sum of Interruptible as firm and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020


Exit Capacity Revenue
£80,000,000
£70,000,000
£60,000,000
£50,000,000
£40,000,000
£30,000,000
£20,000,000
£10,000,000
£-
GDN (EA)
GDN (EM)
GDN (NE)
GDN (NO)
GDN (NT)
GDN (NW)
GDN (SC)
GDN (SE)
GDN (SO)
GDN (SW)
GDN (WM)
GDN (WN)
GDN (WS)
INDUSTRIAL
INTERCONNECTOR
POWER STATION
STORAGE SITE
Mod 678
Mod 678 and RRC separate
Interruptible as firm
Interruptible as firm and RRC separate

	Sum of Mod 678 Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Mod 678 and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Interruptible as firm Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Sum of Interruptible as firm and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
GDN (EA)	15,871,395	15,912,394	15,629,440	15,662,115
GDN (EM)	17,668,797	17,860,722	17,399,441	17,525,577
GDN (NE)	12,254,110	12,374,678	12,067,299	12,147,085
GDN (NO)	13,385,575	13,359,716	13,181,516	13,171,988
GDN (NT)	20,536,840	20,544,466	20,223,761	20,238,167
GDN (NW)	26,143,998	26,082,342	25,745,440	25,719,989
GDN (SC)	28,041,254	27,625,873	27,613,773	27,372,171
GDN (SE)	28,893,261	28,683,546	28,452,791	28,337,792
GDN (SO)	20,478,474	20,325,089	20,166,285	20,081,865
GDN (SW)	17,155,663	16,973,496	16,894,130	16,790,475
GDN (WM)	15,299,476	15,400,910	15,066,240	15,135,727
GDN (WN)	2,724,167	2,719,769	2,682,638	2,681,230
GDN (WS)	12,764,621	12,679,480	12,570,028	12,523,830
INDUSTRIAL	10,736,848	10,744,938	10,598,777	10,608,031
INTERCONNECTOR	20,985,924	21,003,222	21,951,760	21,932,368
POWER STATION	64,608,882	64,449,710	66,747,933	66,583,808
STORAGE SITE	10,273,906	11,082,838	10,831,937	11,310,972
Grand Total	337,823,191	337,823,191	337,823,191	337,823,190

	Mod 678 Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Mod 678 and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Interruptible as firm Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020	Interruptible as firm and RRC separate Calculated Entry Capacity Revenue (Based on Booking Scenario) (£) for 01-Oct-2019 to 30-Sep-2020
GDN (EA)	£ 15,791,168	£ 14,991,570	£ 15,547,834	£ 15,067,241
GDN (EM)	£ 17,579,484	£ 16,689,334	£ 17,308,593	£ 16,773,575
GDN (NE)	£ 12,192,167	£ 11,574,808	£ 12,004,292	£ 11,633,233
GDN (NO)	£ 13,317,914	£ 12,643,551	£ 13,112,691	£ 12,707,370
GDN (NT)	£ 20,433,029	£ 19,398,387	£ 20,118,167	£ 19,496,303
GDN (NW)	£ 26,011,844	£ 24,694,714	£ 25,611,015	£ 24,819,364
GDN (SC)	£ 27,899,511	£ 26,486,798	£ 27,469,593	£ 26,620,492
GDN (SE)	£ 28,747,210	£ 27,291,573	£ 28,304,230	£ 27,429,330
GDN (SO)	£ 20,374,958	£ 19,343,257	£ 20,060,990	£ 19,440,894
GDN (SW)	£ 17,068,944	£ 16,204,645	£ 16,805,920	£ 16,286,440
GDN (WM)	£ 15,222,140	£ 14,451,355	£ 14,987,574	£ 14,524,300
GDN (WN)	£ 2,710,397	£ 2,573,154	£ 2,668,631	£ 2,586,142
GDN (WS)	£ 12,700,098	£ 12,057,019	£ 12,504,396	£ 12,117,878
INDUSTRIAL	£ 10,682,575	£ 10,141,655	£ 10,543,438	£ 10,217,534
INTERCONNECTOR	£ 20,879,844	£ 19,822,577	£ 21,837,143	£ 21,162,144
POWER STATION	£ 65,989,935	£ 62,648,484	£ 68,163,302	£ 66,056,336
STORAGE SITE	£ 10,221,973	£ 9,704,376	£ 10,775,380	£ 10,442,307
Grand Total	£ 337,823,191	£ 320,717,255	£ 337,823,191	£ 327,380,883

A similar comparison for Exit is provided above.

Sum of Calculated Exit Capacity Revenue (Based on Booking Scenario) 01-Oct-2019 to 30-Sep-2020 that show:

- As per this Proposal, adjusted for anticipated shortfall for interruptible and storage discounts.
- As per this Proposal, before the revenue adjustment is applied to recover anticipated shortfall from storage and interruptible
- As per this Proposal, without any assumption for interruptible (i.e. all as firm for the FCC) adjusted for anticipated shortfall for interruptible and storage discounts.
- As per this Proposal, without any assumption for interruptible (i.e. all as firm for the FCC) before the revenue adjustment is applied to recover anticipated shortfall from storage and interruptible

This shows that the use of a more informed FCC yields close to the allowed revenue.