UNC Final Modification Report	At what stage is this document in the process?

UNC 0728 0728A 0728B 0728C 0728D

UNC 0728 (Urgent):

Introduction of a Conditional Discount for Avoiding Inefficient Bypass of the NTS

UNC 0728A (Urgent):

Introduction of Conditional Discounts for Avoiding Inefficient Bypass of the NTS

UNC 0728B (Urgent):

Introduction of Conditional Discount for Avoiding Inefficient Bypass of the NTS with 28km distance cap

UNC 0728C (Urgent):

Introduction of a Capacity Discount to Avoid Inefficient Bypass of the NTS

UNC 0728D (Urgent):

Introduction of Conditional Discounts for Avoiding Inefficient Bypass of the NTS

01 Modification
02 Workgroup Report
03 Draft Modification Report
04 Final Modification Report

Purpose of Modification:

The revised NTS Charging Methodology (in place from 01 October 2020) does not incorporate a mechanism to dis-incentivise inefficient bypass of the NTS.

Modification 0728 (Urgent) seeks to introduce a new Conditional Discount to the Charging Framework so that a product to manage potential inefficient bypass will be in place as soon as possible on or after the changes introduced from UNC0678A, which become effective from 01 October 2020.

Modification 0728A (Urgent) seeks to introduce a new Conditional Discount to the Charging Framework so that a product to manage potential inefficient bypass will be in place as soon as possible on or after the changes introduced from UNC0678A, which becomes effective from 01 October 2020.

Modification 0728B (Urgent) seeks to introduce a new Conditional Discount to the Charging Framework so that a product to manage potential inefficient bypass will be in place as soon as possible on or after the changes introduced from UNC0678A, which becomes effective from 01 October 2020.

Modification 0728C (Urgent) seeks to introduce a Capacity Discount which would be related to the potential for users to construct their own NTS bypass pipeline (the NTS Optional Commodity Rate). The Capacity Discount would have the following features:

- The discount would be applied to firm entry capacity and firm exit capacity;
- It would apply to an eligible route from an eligible entry point to an eligible exit point;
- It would be available on application to a shipper with respect to the eligible route;
- The discount would vary with distance, decreasing as distance increases based on an assessment of the costs of building a bypass pipeline;
- The maximum distance limit for an eligible route would be 18 km;
- The maximum discount shall be 90% of the prevailing postage stamp capacity charges applicable to firm products at entry and exit;
- The minimum discount shall be 10% of the prevailing postage stamp capacity charges applicable to firm products at entry and exit; and
- The minimum discount shall apply at the maximum distance limit.

Modification 0728D (Urgent) seeks to introduce new Conditional Discounts to the Charging Framework so that a product to manage potential inefficient bypass will be in place as soon as possible on or after the changes introduced from UNC0678A, which becomes effective from 01 October 2020.

	The Panel does not recommend implementation of 0728 (Urgent) / 0728A (Urgent) / 0728B (Urgent) / 0728C (Urgent) / 0728D (Urgent)
	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

Modification(s) timetable:	
Modifications sent to Ofgem	09 June 2020
Ofgem Decision on Urgency	12 June 2020
Draft Modification Report issued for consultation	15 June 2020
Consultation Close-out for representations	26 June 2020
Final Modification Report available for Panel	02 July 2020
Modification Panel recommendation	03 July 2020
Final Modification Report issued to Ofgem	03 July 2020
Proposed Implementation Date (subject to Ofgem's decision)	01 October 2020

Any questions?

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0728C (Urgent)	Bill Reed	RWE Supply & Trading GmbH	bill.reed@rwe.com	07795 355310
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1 Summary

Please note: the information contained within this Final Modification Report is a consolidation of the latest versions of the 0728 (Urgent) suite of Modifications (0728 (Urgent), 0728A (Urgent), 0728B (Urgent), 0728C (Urgent) and 0728D (Urgent)) and aims to highlight the differences between the Proposals utilising colour coded text where appropriate.

What

The revised NTS Charging Methodology (the 'revised Methodology') which takes effect from 01 October 2020 does not include a bespoke provision for directly connected NTS Users located at or near Entry Points, where construction of a pipeline to bypass the NTS may be a viable commercial option.

This Modification seeks to implement a more cost reflective charging arrangement for such points when compared with the charges which would be generated via the new Capacity Charging Methodology.

This Modification takes into account the Impact Assessment and the decision Ofgem has made regarding Modification 0678[1] and its Alternatives, published on 23 December 2019 and addresses the areas of compliance identified in this decision to ensure compliance with EU Tariff Code (Regulation 2017/460)[2].

0728D (Urgent): This Modification takes into account the Impact Assessments and the minded-to and final decisions Ofgem has made regarding Modification 0678[3,4] and its Alternatives, published on 23

[1] https://www.gasgovernance.co.uk/0678

[2] EU Tariff Code (Regulation 2017/460): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R0460

[3] https://www.gasgovernance.co.uk/0678

[4] https://www.ofgem.gov.uk/publications-and-updates/amendments-gas-transmission-charging-regime-decision-and-final-impact-assessment-unc678abcdefghij

December 2019 and 28 May 2020 respectively and addresses the areas of compliance identified in this decision to ensure compliance with EU Tariff Code (Regulation 2017/460)[5].

This Proposal, and the justification for Urgency, is based on the revised Methodology which takes effect from 01 October 2020.

0728C (Urgent): This Modification seeks to implement a more cost reflective charging arrangement for Transmission Services related to users directly connected NTS Users located at or near Entry Points, where construction of a pipeline to bypass the NTS may be a viable commercial option. It proposes the introduction of a capacity discount applicable to the entry and exit points in relation to a pipeline route where it is feasible for a user to consider the construction of a bypass pipeline.

This Modification takes into account the decision Ofgem has made regarding Modification 0678[6] and addresses the areas of compliance identified in this decision to ensure compliance with EU Tariff Code (Regulation 2017/460)[7]. Modification 0678A which does not include a bespoke provision for directly connected NTS Users located at or near Entry Points, where construction of a pipeline to bypass the NTS may be a viable commercial option.

This Modification proposes an implementation date of 01 October 2020.

Why

The revised Methodology aligns the overall GB Transmission Charging Methodology to the new charging structures compliant with the EU Tariff Code.

0728B (Urgent): Modification 0678 and 0678A are the only two Modifications from the eleven 0678 Modifications that Ofgem deemed to be compliant in their Impact Assessment and minded to decision[8].

It moves the GB Charging Methodology from a ‘Capacity and Commodity’ Charge structure to a purely capacity-based methodology for Transmission Services. This delivers compliance with the EU Tariff Code.

The EU Tariff Code does not require there to be a charging arrangement specific to manage potential inefficient bypass. Whilst the revised Methodology does not include such a product, it sets the expectation for one to be developed separately and implemented under a new Modification, ideally with the same effective date.

Through Request Modification 0670R - *Review of the charging methodology to avoid the inefficient bypass of the NTS* (Request 0670R) the industry has taken the opportunity to reassess the original intent of the NTS Optional Commodity Charge (OCC) and develop a new charging mechanism which is compliant with the EU Tariff Code and one that provides an alternative charge to the appropriate Users, being those where bypassing the grid is a commercially viable option.

0728C (Urgent): This Modification Proposal will introduce a discount which would be applied to firm capacity products at entry and exit for eligible routes it is feasible for a user to consider the construction of a bypass pipeline.

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[5] EU Tariff Code (Regulation 2017/460): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R0460

[6] https://www.gasgovernance.co.uk/0678

[7] EU Tariff Code (Regulation 2017/460): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R0460

[8] https://www.ofgem.gov.uk/system/files/docs/2019/12/unc678_minded_to_decision.pdf

Modification 0678A will align the overall GB Transmission Charging Methodology to the new charging structures with the EU Tariff Code. This modification is compliant with the EU Tariff Code. It enables a capacity based discount for the capacity based products envisaged under the EU Tariff Code.

The EU Tariff Code does not set out specific arrangements that addresses the issues associated with the potential risk of inefficient bypass. However it facilitates the introduction of capacity discounts in manner that is compatible with Article 4(2) which requires that “Transmission tariffs may be set in a manner as to take into account the conditions for firm capacity products and Article 4(3) “The transmission services revenue shall be recovered by capacity-based transmission tariffs.”

A bypass pipeline creates an option for users to source gas from a local entry point or from the NTS (subject to maintaining a connection to the NTS). Once built the pipeline is a sunk cost but is subject to operating costs. Users with a bypass pipeline and ongoing connection with the NTS will be able to exercise the option whenever it is cheaper to source gas from an entry point rather than the NTS (taking into account the avoided NTS transmission cost). In these circumstances there is no obligation for users to flow using a bypass pipeline.

The absence of a capacity discount may encourage some users to adopt a short term and more risk booking strategy to try to minimise capacity costs (avoid capacity charges when they do not wish to flow).

This modification will introduce a capacity discount for all firm bookings by a shipper at both entry and exit for eligible routes. The discount is on the full firm capacity (irrespective of the flow) subject to the exclusion of existing contracts. This more closely resembles the option created by a bypass pipeline. Users will retain a liability for at least 10% of NTS charges.

How

A new charging arrangement is proposed specifically for directly connected NTS Users located at, or near, Entry Points where construction of a pipeline to bypass the NTS may be a commercially viable option.

0728A (Urgent): The charging arrangement is referred to as the Conditional Product.

The Conditional Product will feature two elements: firstly, an assessment of the risk of bypass from the perspective of the costs of construction of a private pipeline; and secondly a representation of the costs of operating the pipeline. In combination, the capital and operational costs, in aggregate, will be considered by a potential bypass party in its assessment regarding the merits of maintaining a connection to the NTS or building and operating a bypass pipeline.

Stage One – Construction Cost Assessment, derivation of Transmission Services Capacity Reserve Price discount and eligibility to access the product

Through applying a generic methodology, incorporating a view of expected costs of bypass, an assessment compared to likely charges in conjunction with key principles of delivering a **simple**, **targeted** and **proportionate** product, this will better facilitate understanding of a genuine bypass risk, and thus eligibility for the Conditional Product.

Stage Two – Derivation and application of Non-Transmission Services Commodity Charge discount

The non-transmission services component of this Conditional Product applies generic methodology to reflect the costs of operating private pipelines. A simple, standard discount is applied to all flows along the nominated routes which are eligible for the discount established in stage one.

0728D (Urgent): A new charging arrangement is proposed specifically for directly connected NTS Users located at, or near, Entry Points where construction of a pipeline, or pipeline network[9] , or regasification of a mothballed pipeline, to bypass the NTS may be a commercially viable option. The charging arrangement is referred to as the Conditional Product.

The Conditional Product will feature two elements: firstly, an assessment of the risk of bypass from the perspective of the costs of construction of a private pipeline for a route no longer than 5km; and secondly a representation of the costs of operating the pipeline. In combination, the capital and operational costs will be considered by a potential bypass party (or parties where a pipeline can supply more than one offtake) in its assessment regarding the merits of maintaining a connection to the NTS or building and operating a bypass pipeline.

Stage One – Construction Cost Assessment, derivation of Transmission Services Capacity Reserve Price discount and eligibility to access the product

Through applying a generic methodology, incorporating a view of expected costs of bypass, an assessment compared to likely charges in conjunction with key principles of delivering a **simple**, **targeted** and **proportionate** product, this will better facilitate understanding of a genuine bypass risk, and thus eligibility for the Conditional Product. The product will reflect the "real life" circumstances that Users of Exit Points close to Entry Points will endeavour to exploit economies of scale by jointly investing in and utilising extended pipelines/networks, or re-gasifying mothballed pipelines to service more than one offtake.

Stage Two – Derivation and application of Non-Transmission Services Commodity Charge discount

The non-transmission services component of the Conditional Product applies a generic methodology to reflect the costs of operating private pipelines. A simple, standard discount is applied to all flows along the nominated routes which are eligible for the discount established in stage one.

Through applying a generic methodology, incorporating a view of expected costs of bypass, an assessment compared to likely charges in conjunction with key principles of delivering a **simple**, **targeted** and **proportionate** product, this will better facilitate understanding of a genuine bypass risk, and thus eligibility for the *Conditional Product.*

0728C (Urgent): Through applying a generic methodology, incorporating a view of expected costs of bypass, an assessment compared to likely charges in conjunction with key principles of delivering a **simple**, **targeted** and **proportionate** approach, this will better facilitate understanding of a genuine bypass risk, and thus eligibility for the capacity discount applied to firm entry and exit products.

The capacity discount is informed by the costs and benefits associated with remaining connected to the NTS. These criteria and the formula for calculating the discount rates will be reviewed periodically, to ensure its suitability and application particularly with respect to the costs of building a bypass pipeline.

The *Conditional Product* is informed by the costs and benefits associated with remaining connected to the NTS. These criteria and the formula for calculating the product rates will be reviewed periodically, to

[9] Note throughout this Proposal the term pipeline is used to refer to new pipelines, pipeline networks or regasified existing pipelines.

ensure its suitability and application. This will include the relevance of the product as part of the overall Charging Methodology including, and not limited to, the levels of cross subsidy delivered from the uptake of the conditional arrangement.

Changes are proposed to the Charging Methodology contained within UNC TPD Section Y. It is also likely that changes to other sections of the UNC TPD (Sections B and G) and the Transition Document will be required.

2 Governance

Justification for Urgency

This Modification should be treated as an Urgent Modification and should proceed under a timetable approved by the Authority. A proposed timeline is provided in the timetable section of this Modification.

Urgent status is sought on the basis that the need to introduce the mechanism proposed in this Modification is driven by an imminent date related issue, this being the removal of the existing arrangement (the NTS Optional Commodity Charge or NTS OCC) which is to take effect from 01 October 2020.

There is now a short period of time until the 'go-live' date for the revised Methodology (01 October 2020) which is not sufficient enough to deliver a timely decision in respect of this Modification were it to follow standard governance procedures.

If this is not urgently addressed, this would result in a significant commercial impact for certain UNC parties and consumers given that existing bespoke arrangements for the relevant points would cease, meaning they would be subject to 'standard' charges (from October 2020). This would result in a significant commercial impact to certain Users and is likely, in turn, to materially impact the reciprocal charges levied to customers, dependent on how those Users recover transportation costs.

0728A (Urgent): This Modification addresses the same issues that have been raised under Modification 0728, *Urgent status is sought on the basis that the need to introduce the mechanism advocated by this Modification is driven by an imminent date related issue, this being the removal of the existing arrangement, (the NTS OCC), which is to take effect from 1 October 2020.*

This Modification has many common features to Modification 0728 but the Proposer believes it improves on the solution being proposed by National Grid's Modification 0728 as, in particular, it more accurately represents the full cost of bypassing the NTS, which forms the basis for determining the discount.

Being conscious of the need for Urgency and the arguments in support of Urgency contained within Modification 0728, this Modification should, as far as practicable, follow the same timetable as Modification 0728 so that both Modifications can be considered by the UNC Modification Panel, the industry and Ofgem at the same time, making for an efficient governance process. It is the view of the Proposer that raising this Modification as a new, separate Modification, which may or may not be granted Urgent status, would result in a different timetable, be consulted on separately, be considered by Panel separately and would therefore make for an unnecessarily complex and inefficient process. This could severely impact the intentions behind the Urgency that it is anticipated to be granted for Modification 0728.

In summary, this Modification has been raised as a valid alternative solution to the one being proposed under Modification Proposal 0728.

0728B (Urgent): This Modification addresses the same issues that have been raised under Modification 0728. As with Modification 0718, Urgent status is sought on the basis that the need to introduce the mechanism advocated by this Modification is driven by an imminent date related issue, this being the removal of the existing arrangement (the NTS OCC) which is expected to take effect from 1 October 2020 (upon the implementation of Modifications 0678A or 0678).

This Modification has many features common to Modification 0728 but the Proposer believes it improves on the solution being proposed by National Grid's Modification 0728 as, in particular, it derives a distance cap which is better targeted at disincentivising those routes with a suitably high probability of bypassing the NTS from investing in private pipelines.

Being conscious of the need for Urgency and the arguments in support of Urgency contained within Modification 0728, this Modification should, as far as practicable, follow the same timetable as Modification 0728 so that both Modifications can be considered by the UNC Modification Panel, the industry and Ofgem at the same time, making for an efficient governance process. It is the view of the Proposer that raising this Modification as a new, separate Modification, which may or may not be granted Urgent status, would result in a different timetable, be consulted on separately, be considered by Panel separately and would therefore make for an unnecessarily complex and inefficient process. This could severely impact the intentions behind the Urgency that has been granted for Modification 0728

In summary, this Modification has been raised as a valid alternative solution to the one being proposed under Modification 0728.

0728C (Urgent): Urgent status is sought on the basis that the need to introduce the mechanism advocated by this Modification is related to an imminent date: 01 October 2020. This is the date is related to the removal of the NTS Optional Commodity Charge and implementation of UNC0678A.

There is a relatively short period of time between the expected publication of the Authority's decision in respect of the Modification 0678A and the 'go-live' date of 01 October 2020 which is not sufficient enough to deliver a timely decision in respect of this Modification were it to follow standard governance procedures.

If the defect identified in this modification proposal is not urgently addressed, there would be significant commercial impacts on certain UNC parties and consumers given that existing bespoke arrangements for the relevant points would cease, meaning they would be subject to 'standard' charges (from October 2020). This is likely, in turn, to materially impact the charges levied to customers, dependent on how those Users recover transportation costs.

0728D (Urgent): This Modification addresses the same issues that have been raised under Modification 0728, Urgent status is sought on the basis that the need to introduce the mechanism advocated by this Modification is driven by an imminent date related issue, this being the removal of the existing arrangement, (the NTS OCC), which is to take effect from 1 October 2020.

This Modification has many common features to Modification 0728 but the Proposer believes it improves on the solution being proposed by National Grid's Modification 0728 as, in particular, it more accurately represents the full cost of bypassing the NTS, which forms the basis for determining the discount.

Being conscious of the need for Urgency and the arguments in support of Urgency contained within Modification 0728, this Modification should, as far as practicable, follow the same timetable as Modification 0728 so that both Modifications can be considered by the UNC Modification Panel, the industry and Ofgem at the same time, making for an efficient governance process. It is the view of the Proposer that raising this Modification as a new, separate Modification, which may or may not be granted Urgent status, would result in a different timetable, be consulted on separately, be considered by Panel separately and would therefore make for an unnecessarily complex and inefficient process. This could severely impact the intentions behind the Urgency that it is anticipated to be granted for Modification 0728.

In summary, this Modification has been raised as a valid alternative solution to the one being proposed under Modification Proposal 0728.

Justification for Authority Direction

This Modification 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 this Modification will have a material impact on the allocation of charges across NTS networks Users.

0728C (Urgent): The continuation of the existing NTS Optional Charge may distort the gas market by providing discounts for users where it is not feasible to construct bypass pipelines.

Failing to develop a replacement for the NTS OCC would have a significant impact on those Users and consumers currently using, or potentially benefitting, from the NTS OCC. It would also increase the likelihood of a party bypassing the NTS or considering a bypass of the NTS.

Analysis based on the period 2020/21 using the Postage Stamp (PS) Reference Price Methodology (RPM) and applying the prevailing NTS OCC product suggests that this could potentially lead to thirty-seven of the currently active routes potentially bypassing the NTS. These represent those parties who could avail of the NTS OCC based on the usage of the product in place within the Gas Year October 2019 – September 2020.

0728C (Urgent): Analysis based on the period 2020/21 using the Postage Stamp (PS) method described in Modification 0678A and applying the prevailing NTS OCC product suggests that this could potentially lead to thirty-seven of the currently active routes potentially bypassing the NTS. These represent those parties who could avail of the NTS OCC based on the usage of the product in place within the Gas Year October 2019 – September 2020.

In total, these routes have a combined 'impact' on Transportation Charges of approximately £184.2m (calculated on the basis of the current methodology in place for Gas Year 2019/20 using the known nominated routes at this time). Modelling using the revised Methodology for Gas Year 2020/21 shows this would be made up of £28.7m of NTS OCC contributions and £155.5m of socialisation based on a Transmission Owner and System Operator revenues which equates to approximately 20% of Maximum Allowed Revenue for that period. If all these Users did bypass the NTS then £28.7m extra would also be socialised.

0728C (Urgent): In total, these routes have a combined 'impact' on Transportation Charges of approximately £184.2m (calculated on the basis of the current methodology in place for Gas Year 2019/20 using the known nominated routes at this time). Modelling using Modification 0678A for Gas Year 2020/21 this would be made of £28.7m of NTS OCC contributions and £155.5m of socialisation based on a Transmission Owner and System Operator revenues which equates to approximately 20% of Maximum Allowed Revenue for that period. If all these Users did bypass the NTS then £28.7m extra would also be socialised.

Whilst this level of bypass may be unlikely, due to some of these distances involved, it would be realistic to suggest some would more actively consider a bypass if there were no specific product within the charging framework.

Requested Next Steps

This Modification should:

- be treated as Urgent and should proceed under a timetable agreed with the Authority.

The topic of managing inefficient bypass as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 - *Amendments to Gas Transmission Charging Regime* (and alternatives), 0678 - *Amendments to Gas Transmission Charging Regime* (and alternatives), 0636 - *Updating the parameters for the NTS Optional Commodity Charge* and 0653 - *Updating the parameters for the NTS Optional Commodity Charge – Introducing the NTS Optional Capacity Charge*. A more targeted review has been undertaken under the remit of Request 0670R with further discussions taking place in the NTS Charging Methodology Forum (NTSCMF). Pre-Modification discussions have been tabled at Request 0670R and/or the NTSCMF.

0728A (Urgent): This Modification should be treated as an Alternative to Modification 0728. It should proceed as such under the same timetable as agreed with the Authority for Modification 0728 as far as is practicable.

For ease of reference, a table comparing Modification 0728 with its Alternatives is contained in Appendix 3

0728B (Urgent): This Modification should be treated as an Alternative to Modification 0728. It should proceed as such under the same timetable as agreed with the Authority for Modification 0728 as far as is practicable.

For ease of reference, a table comparing Modification 0728 with its Alternatives is contained in Appendix 3

0728C (Urgent): The topic of managing inefficient bypass as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 - *Amendments to Gas Transmission Charging Regime* (and alternatives), 0678 - *Amendments to Gas Transmission Charging Regime* (and alternatives), 0636 - *Updating the parameters for the NTS Optional Commodity Charge* and 0653 - *Updating the parameters for the NTS Optional Commodity Charge – Introducing the NTS Optional Capacity Charge*. A more targeted review has been undertaken under the remit of Request 0670R with further discussions taking place in the NTS Charging Methodology Forum (NTSCMF). Pre-Modification discussions have been tabled at Request 0670R and at the NTSCMF including the meeting on 02 June 2020.

0728D (Urgent): This Modification should be treated as an Alternative to Modification 0728. It should proceed as such under the same timetable as agreed with the Authority for Modification 0728 as far as practicable.

For ease of reference, a table comparing Modification 0728 with its Alternatives is contained in Appendix 3

3 Why Change?

Background

3.1. The topic of managing inefficient bypass as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 (and alternatives), 0678 (and alternatives), 0636 and 0653.

0728A (Urgent): The topic of managing inefficient bypass as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 (and alternatives) - *Amendments to Gas Transmission Charging Regime*, 0678 (and alternatives) - *Amendments to Gas Transmission Charging Regime*, 0636 (and alternatives) - *Updating the* *parameters for the NTS Optional Commodity Charge* and 0653 - *Updating the parameters for the NTS Optional Commodity Charge – Introducing the NTS Optional Capacity Charge*.

0728B (Urgent): The topic of managing inefficient bypass as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 - *Amendments to Gas Transmission Charging Regime* (and alternatives), 0678 - *Amendments to Gas Transmission Charging Regime* (and alternatives), 0636 - *Updating the parameters for the NTS Optional Commodity Charge* (and alternatives) and 0653 - *Updating the parameters for the NTS Optional Commodity Charge – Introducing the NTS Optional Capacity Charge.*

0728D (Urgent): The topic of managing inefficient bypass as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 (and alternatives) - *Amendments to Gas Transmission Charging Regime*, 0678 (and alternatives) - *Amendments to Gas Transmission Charging Regime*, 0636 (and alternatives) - *Updating the parameters for the NTS Optional Commodity Charge* and 0653 - *Updating the parameters for the NTS Optional Commodity Charge – Introducing the NTS Optional Capacity Charge*.

3.2. A more targeted review has been undertaken under the remit of Request 0670R with further discussions taking place in the NTS Charging Methodology Forum (NTSCMF). Pre-Modification discussions have taken place at Request 0670R and/or the NTSCMF.

3.3. This Modification is proposing to include a charging product to the revised methodology to be effective from 01 October 2020 where there is no such product for managing inefficient bypass. Where any relevant comparisons are made to the methodology (the prevailing NTS OCC) that is in place up to and including Gas Year 2019/20 (i.e. Prior to the revised Methodology) this is referenced in the appropriate section.

0728A (Urgent): This Modification is proposing to include a charging product to the revised methodology to be effective from 01 October 2020 where there is no such product for managing inefficient bypass as part of the proposed Charging Methodology. Where any relevant comparisons are made to the methodology (the prevailing NTS OCC) that is in place up to and including Gas Year 2019/20 (i.e. prior to the revised Methodology) this is referenced in the appropriate section.

0728B (Urgent): This Modification is proposing to include a charging product to the revised methodology to be effective from 01 October 2020 where there is no such product for managing inefficient bypass as part of the proposed Charging Methodology. Where any relevant comparisons are made to the methodology (the prevailing NTS OCC) that is in place up to and including Gas Year 2019/20 (i.e. prior to the revised Methodology) this is referenced in the appropriate section.

0728C (Urgent): This Modification is proposing a new product capacity discount which would be compatible with the implementation of Modification 0678A, where there is no such discount for managing inefficient bypass as part of the proposed Charging Methodology. Where any relevant comparisons are made to the methodology (the prevailing NTS OCC) that is in place up to and including Gas Year 2019/20 (i.e. Prior to Modification 0678A or 0678) this is referenced in the appropriate section.

0728D (Urgent): This Modification is proposing to include a charging product to the revised methodology to be effective from 01 October 2020, where there is no such product for managing inefficient bypass as part of the proposed Charging Methodology. Where any relevant comparisons are made to the methodology (the prevailing NTS OCC) that is in place up to and including Gas Year 2019/20 (i.e. prior to the revised Methodology) this is referenced in the appropriate section.

This Modification recognises that NTS bypasses will only realistically be undertaken over relatively short distances. Where a generic distance restriction is included in any solution it must be set so as to ensure physical geological or urban impediments are reasonably accommodated. As such, a sensible distance restriction should lead to discounts being applied to those routes where the potential risk of bypass is genuine rather than theoretical.

Building on 3.4, it should also be recognised that where a distance restriction is applied, in accordance with the principles outlined, then the limited geographical area will likely result in Users pooling resources; constructing shared pipelines and/or networks to minimise investment costs and remove any incidents of duplication. Further, it is evident that mothballed pipelines which exist at a number of locations could be re-gasified and used to divert gas either directly to customers or adopted as trunk lines to which individual spurs could be connected. Again, this approach would reduce capital and development costs and allow for economies of scale to be applied.

Consequences if Not Addressed

3.4. If the Charging Methodology does not incorporate measures to address potential bypass of the NTS in the circumstances described, there will likely be more active consideration of bypass of the NTS.

In some instances, doing so could reduce transportation charges significantly for selected Users, resulting in large savings over a relatively short period of time for such points.

0728B (Urgent): In some instances, doing so could reduce transportation charges significantly for selected Users, resulting in large savings over a relatively short period of time for bypass consumers.

3.5. Should the relevant consumers elect to bypass the NTS, large volumes could be lost from the NTS whilst the Maximum Allowed Revenue (MAR) nevertheless remains unchanged. This could create a significant increase in charge rates for all remaining Users of the NTS, with no contribution towards this revenue from those electing to bypass.

Analysis shows that this could mean socialisation of up to a combined 24.4% of Transmission Operator (TO) costs and System Operator (SO) costs based on the prevailing NTS OCC (prior to the revised methodology), spread over both Entry and Exit Users:

0728C (Urgent): Analysis shows that this could mean socialisation of up to a combined 24.4% of Transmission Operator (TO) costs and System Operator (SO) costs based on the prevailing NTS OCC (before Modification 0678A is implemented), spread over both Entry and Exit Users:

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
SO Socialisation	£57,983,030.86
Total as % of MAR	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0km

3.6. Details of these calculations can be found in the Appendix, paragraph 06 onwards.

0728A (Urgent): Details of these calculations can be found in the Appendix.

0728B (Urgent): Details of these calculations can be found in the Appendix 1.

0728D (Urgent): Details of these calculations can be found in the Appendix.

3.7. Incentivising those points genuinely at risk of bypassing to continue to use the NTS would create some additional costs for other Users, but these should be less than the figures possible should there be no incentive put in place and this demand be 'lost' from the NTS along with contributions towards Allowed Revenue collection.

3.8. With any arrangement that results in a discounted treatment for some Users, the amount of the 'discount' or benefits realised will adjust other charges. This can often be referred to as a cross subsidy, given it results in an amount not paid by some, and picked up by others. As a result, the level of this redistribution should also play a part in the assessment of the Modification. The level of redistribution should always be kept under review and should it become necessary to update any element of the method outlined in this Modification, it would be via a UNC change at the appropriate time.

0728C (Urgent): With any arrangement that results in a discounted treatment for some Users, the amount of the 'discount' realised will adjust other charges. This can often be referred to as a cross subsidy, given it results in an amount not paid by some, and picked up by others. As a result, the level of this redistribution should also play a part in the assessment of the Modification.

Impacts and Considerations

3.9. Ultimately a network User's primary driver, as to whether to remain on the NTS or bypass the network entirely, will be based on which option is more cost effective for their business. This decision will take in to account the up-front capital expenditure for construction and/or commissioning of a pipeline, potentially lengthy planning and construction times, cost of use of the NTS during that period, and long-term operational expenses including upkeep and maintenance of the asset. This would be compared with the Transportation Charges related to alternatively accessing and using the NTS. This decision would likely consider the less easily quantifiable advantages inherent in remaining connected to the NTS such as security of supply and access to the National Balancing Point (NBP).

0728A (Urgent): Ultimately a network User's primary driver, as to whether to remain on the NTS or bypass the network entirely, will be based on which option is more cost effective for their business. This decision will take in to account the up-front capital expenditure for construction and/or commissioning of a pipeline, potentially lengthy planning and construction times, cost of use of the NTS during that period, and long-term operational expenses including upkeep and maintenance of the asset and day-to-day operational costs. This would be compared with the Transportation Charges related to alternatively accessing and using the NTS. This decision would likely consider the less easily quantifiable advantages inherent in remaining connected to the NTS such as security of supply and access to the National Balancing Point (NBP).

0728C (Urgent): Ultimately a network User's primary driver, as to whether to remain on the NTS or bypass the network entirely, will be based on which option is more cost effective for their business. This decision will take in to account the up-front capital expenditure for construction and/or commissioning of a pipeline, potentially lengthy planning and construction times, cost of use of the NTS during that period, long-term operational expenses including upkeep and maintenance of the asset and the costs associated with maintaining a connection with the NTS. This would be compared with the Transportation Charges related to alternatively accessing and using the NTS. This decision would likely consider the less easily quantifiable advantages inherent in remaining connected to the NTS such as security of supply and access to the National Balancing Point (NBP).

0728D (Urgent): Ultimately a network User's primary driver, as to whether to remain on the NTS or bypass the network entirely, will be based on which option is more cost effective for their business. This decision will take in to account the up-front capital expenditure for construction and/or commissioning of a pipeline, potentially lengthy planning and construction times, cost of use of the NTS during that period, and long-term operational expenses including upkeep and maintenance of the asset and day-to-day operational costs. Noting that where there is a concentration of offtakes then the possibility of sharing these costs across multiple Users is increased. This would be compared with the Transportation Charges related to alternatively accessing and using the NTS. This decision would likely consider the less easily quantifiable advantages inherent in remaining connected to the NTS such as security of supply and access to the National Balancing Point (NBP).

3.10. In practice, bypassing the network requires a single pipeline from Entry point to Exit point, the planning, development and construction of which could take months or years in some instances. As an indication of timescales, the current Planning and Advanced Reservation of Capacity Agreement (PARCA) process sets timescales between 12 and 90 months (between 1 and 7.5 years).

0728D (Urgent): In practice, bypassing the network over a restricted distance will in many, if not all case, will result in a shared existing or new pipeline, or pipeline network from Entry point to more than one Exit point. The planning, development and construction of which could take months or years in some instances. As an indication of timescales, the current Planning and Advanced Reservation of Capacity Agreement (PARCA) process sets timescales between 12 and 90 months (between 1 and 7.5 years).

3.11. It should be noted that any access to the proposed conditional discount would be immediate with immediate benefits, where eligibility and accessibility permits. This is also an advantage in remaining connected to the NTS compared to the process that would lead up to and include building and commissioning and operating a bypass pipeline.

0728A (Urgent): It should be noted that any access to the proposed conditional discounts would be immediate, where eligibility and accessibility permits. This is also an advantage in remaining connected to the NTS compared to the process that would lead up to and include building and commissioning and operating a bypass pipeline.

0728B (Urgent): It should be noted that any access to the proposed conditional discounts would be immediate, where eligibility and accessibility permits. This is also an advantage in remaining connected to the NTS compared to the process that would lead up to and include building and commissioning and operating a bypass pipeline.

0728C (Urgent): It should be noted that any access to the proposed capacity discount would be immediate and has the benefit, where eligibility and accessibility permits. This is also an advantage in remaining connected to the NTS compared to the process that would lead up to and include building and commissioning and operating a bypass pipeline.

0728D (Urgent): It should be noted that any access to the proposed conditional discounts would be immediate, where eligibility and accessibility permits. This is also an advantage in remaining connected to the NTS compared to the process that would lead up to and include building and commissioning and operating a bypass pipeline.

3.12. Those Modification 0678 alternatives which proposed a new charge to avoid the inefficient bypass of the NTS were considered non-compliant with the EU Tariff Code as outlined in Ofgem's minded to decision on Modification 0678 and suite of alternatives.

3.13. One concern highlighted was, amongst other points, Users potentially being able to take advantage of some preferential charges, regardless of whether a genuine consideration is bypass of the NTS. Under the NTS OCC this issue is also seen whereby, the uptake of the product, in combination with the impacts and interactions in the Charging Methodology results in a disproportionate use over its intended usage and resulting in unrealistic distances for a potential bypass.

0728C (Urgent): One concern highlighted was, amongst other points, Users potentially being able to take advantage of some preferential charges, regardless of whether a genuine consideration is bypass of the NTS. Under the NTS OCC this issue is also seen whereby, the uptake of the Capacity Discount, in combination with the impacts and interactions in the Charging Methodology results in a disproportionate use over its intended usage and resulting in unrealistic distances for a potential bypass.

0728D (Urgent): One concern highlighted was, amongst other points, Users potentially being able to take advantage of some preferential charges, regardless of whether a genuine consideration is bypass of the NTS. Under the NTS OCC this issue is also seen whereby, the uptake of the product, in combination with the impacts and interactions in the Charging Methodology results in a disproportionate use over its intended usage, resulting in unrealistic distances for a potential bypass.

3.14. Therefore, National Grid proposes that both the charge rate, and more importantly eligibility for a new product, must be more informed by the risk of bypass. National Grid is of the view that distance between exit and entry point, as well as forecasted volumes, must be accounted for in calculating the potential costs or savings available to those looking to bypass the network. Whilst difficult to quantify, Users should also be aware of the additional benefits described above.

0728A (Urgent): This Modification proposes that both the charge rate, and more importantly eligibility for a new product, must be more informed by the risk of bypass. The Proposer is of the view that distance between Exit and Entry Point, as well as forecasted volumes, must be accounted for in calculating the potential costs or savings available to those looking to bypass the network. Whilst difficult to quantify, Users should also be aware of the additional benefits described above.

0728B (Urgent): This Modification proposes that both the charge rate, and more importantly eligibility for a new product, must be more informed by the risk of bypass. The Proposer is of the view that distance between exit and entry point, as well as forecasted volumes, must be accounted for in calculating the potential costs or savings available to those looking to bypass the network. Whilst difficult to quantify, Users should also be aware of the additional benefits described above.

0728C (Urgent): Therefore, this modification proposes that both the charge rate, and more importantly eligibility for a new Capacity Discount, must be more informed by the risk of bypass. The distance between exit and entry point, as well as forecasted volumes, must be accounted for in calculating the potential costs or savings available to those looking to bypass the network.

Whilst difficult to quantify, Users should also be aware of the additional benefits described above.

0728D (Urgent): This Modification proposes that both the charge rate, and more importantly eligibility for a new product, must be more informed by the risk of bypass. The Proposer is of the view that distance between Exit and Entry Point, as well as forecasted volumes, must be accounted for in calculating the potential costs or savings available to those looking to bypass the network. Whilst difficult to quantify, Users should also be aware of the additional benefits described above.

3.15. Industry must also be aware that a reduced rate for some Users does result in an increase to the costs for others. As described above, not replacing the NTS OCC, and affected Users choosing to bypass, would generate significant shortfall in the revenue recovered and so charge rates would increase. Therefore, the methodology for this product must balance the potential loss of demand from the NTS (and the resultant increase in revenue recovery from those remaining connected) with the potential level of cross subsidy due to discounts being provided to those at risk of bypassing the system.

0728C (Urgent): Industry must also be aware that a bypass pipeline or a reduced rate for some Users does result in an increase to the costs for others. As described above, not replacing the NTS OCC, and affected Users choosing to bypass, would generate significant shortfall in the revenue recovered as a result of underutilisation of the NTS and so charge rates for all other users would increase. Therefore, the Methodology for this Capacity Discount must balance the potential loss of demand from the NTS (and the resultant increase in revenue recovery from those remaining connected) with the potential level of cross subsidy due to discounts being provided to those at risk of bypassing the system.

3.16. National Grid acknowledges that some level of socialisation is required to suitably incentivise Users to remain connected to the NTS and avoid the potentially larger costs associated with the loss of large volumes of demand from the NTS. Nonetheless, National Grid also recognises the need to target only those points where a risk is clear and present, in particular those Users who have situated their businesses near an Entry point.

0728A (Urgent): The Proposer acknowledges that some level of socialisation is required to suitably incentivise Users to remain connected to the NTS and avoid the potentially larger costs associated with the loss of large volumes of demand from the NTS. Nonetheless, The Proposer also recognises the need to target only those points where a risk is clear and present, in particular those Users who have situated their businesses near an Entry point.

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0728C (Urgent): Under this modification some level of socialisation is required to incentivise Users to remain connected to the NTS and avoid the potentially larger costs associated with the loss of large volumes of demand from the NTS. Nonetheless, the Proposer also recognises the need to target only those points where a risk is clear and present, in particular those Users who have situated their businesses near an Entry point.

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3.17. Socialisation of some costs and charges can typically be a feature of a regime with multiple Users and specific access arrangements. Where discounts or alternative charges are a feature (e.g. the Storage discount to Transmission Services (TS) capacity reserve prices in the revised Methodology, Storage exemption from General Non-Transmission Services (Gen Non-TS) Commodity charges or the Interruptible Discount to TS capacity reserve prices) they result in amounts effectively not levied on some Users and paid for by others. Providing these further the relevant objectives these can be viewed as positive when applied in the overall methodology.

0728C (Urgent): Socialisation of some costs and charges can typically be a feature of a regime with multiple Users and specific access arrangements. Where discounts or alternative charges are a feature (e.g. the Storage discount to Transmission Services (TS) capacity reserve prices in Modification 0678A, Storage exemption from General Non-Transmission Services (Gen Non-TS) Commodity charges or the Interruptible Discount to TS capacity reserve prices) they result in amounts effectively not levied on some Users and paid for by others. Providing these further the relevant objectives these can be viewed as positive when applied in the overall methodology.

Recent Developments

3.18. A critique of the previous NTS Charging Methodology undertaken as part of the Gas Transmission Charging Review identified that it is too volatile, unpredictable and does not provide stability of charges for Users. The revised Methodology produces stable and predictable transportation charging and is compliant with EU Tariff Code (Regulation 2017/460). Under the revised Methodology the NTS OCC will cease with effect from 01 October 2020.

0728B (Urgent): A critique of the previous NTS Charging Methodology undertaken as part of the Gas Transmission Charging Review identified that it is too volatile, unpredictable and does not provide stability of charges for Users. The revised Methodology will introduce a new NTS Charging Methodology that produces stable and predictable transportation charging and is compliant with EU Tariff Code (Regulation 2017/460). Under the revised Methodology the NTS OCC will cease with effect from 1 October 2020.

0728C (Urgent): A critique of the current NTS Charging Methodology undertaken as part of the Gas Transmission Charging Review identified that it is too volatile, unpredictable and does not provide stability of charges for Users. Modification 0678A will introduce a new NTS Charging Methodology that produces stable and predictable transportation charging and is compliant with EU Tariff Code (Regulation 2017/460). Under Modification 0678 and 0678A, the NTS OCC will cease with effect from implementation of Modification 0678 or 0678A.

0728D (Urgent): A critique of the previous NTS Charging Methodology undertaken as part of the Gas Transmission Charging Review identified that it is too volatile, unpredictable and does not provide stability of charges for Users. The revised Methodology will introduce a new NTS Charging Methodology that produces stable and predictable transportation charging and is compliant with EU Tariff Code (Regulation 2017/460). Under the revised Methodology, the NTS OCC will cease with effect from 1 October 2020.

3.19. Despite the absence of a mechanism to dis-incentivise inefficient bypass of the NTS in the revised Methodology, National Grid NTS recognises that there remains an enduring need for the prospective Charging Methodology to include bespoke charging arrangements to ensure the efficient use of the network, in this case to avoid inefficient bypass of the NTS by large consumers located close to points of entry to the NTS. To facilitate this aspiration, National Grid initiated the review under Request 0670R to provide a suitable forum to discuss and consider outside of the main charging developments under Modification 0678.

0728A (Urgent): Despite the absence of a mechanism to dis-incentivise inefficient bypass of the NTS in the revised Methodology, the Proposer recognises that there remains an enduring need for the prospective Charging Methodology to include bespoke charging arrangements to ensure the efficient use of the network, in this case to avoid inefficient bypass of the NTS by large consumers located close to points of entry to the NTS. To facilitate this aspiration, National Grid initiated the review under Request 0670R to provide a suitable forum to discuss and consider outside of the main charging developments under Modification 0678.

0728B (Urgent): Despite the absence of a mechanism to dis-incentivise inefficient bypass of the NTS in the revised Methodology the Proposer recognises that there remains an enduring need for the prospective Charging Methodology to include bespoke charging arrangements to ensure the efficient use of the network, in this case to avoid inefficient bypass of the NTS by large consumers located close to points of entry to the NTS. To facilitate this aspiration, National Grid initiated the review under Request 0670R to provide a suitable forum to discuss and consider outside of the main charging developments under Modification 0678.

0728C (Urgent): Despite the absence of a mechanism to dis-incentivise inefficient bypass of the NTS in Modification 0678A, there remains an enduring need for the prospective Charging Methodology to include bespoke charging arrangements to ensure the efficient use of the network, in this case to avoid inefficient bypass of the NTS by large consumers located close to points of entry to the NTS. To facilitate this aspiration, National Grid initiated the review under Request 0670R to provide a suitable forum to discuss and consider outside of the main charging developments under Modification 0678 and its alternatives.

0728D (Urgent): Despite the absence of a mechanism to dis-incentivise inefficient bypass of the NTS in Modification 0678A, the Proposer recognises that there remains an enduring need for the prospective Charging Methodology to include bespoke charging arrangements to ensure the efficient use of the network, in this case to avoid inefficient bypass of the NTS by large consumers located close to points of entry to the NTS. To facilitate this aspiration, National Grid initiated the review under Request 0670R to provide a suitable forum to discuss and consider outside of the main charging developments under Modification 0678.

3.20. Through Request 0670R several options have been discussed. Following the minded to position from Ofgem on Modification 0678 and alternatives on 23 December 2019, National Grid discussed a new conditional discount proposal for managing inefficient bypass through the Charging Framework at workgroups held in the first quarter of 2020. This sought to address issues presented in this minded to position in addition to the issues highlighted above.

3.21. This Modification proposes to change the UNC that will be effective from 01 October 2020.

Overview of the Proposed Solution

Conditional Discount for Firm Utilised Capacity

0728C (Urgent): Capacity Discount for Firm Capacity

3.22. This Modification, raised following development within Request 0670R, is designed against the baseline of the revised Methodology which will take effect from 01 October 2020.

0728A (Urgent): The solution consists of two elements: a Transmission Services Capacity Discount; and a Non-Transmission Services Commodity Discount. In the case of the second of these elements, a Non-Transmission Services Commodity Discount can only be applied to those volumes which flow along an eligible route as designated in the formulation of the Transmission Services Conditional Discount i.e. where the distance between the qualifying Entry and Exit Points is 18km or less.

Transmission Services Conditional Discount

0728C (Urgent): This Modification is compatible with the Modification 0678A baseline.

0728D (Urgent): The solution consists of two elements: a Transmission Services Capacity Discount; and a Non-Transmission Services Commodity Discount. In the case of the second of these elements, a Non-Transmission Services Commodity Discount can only be applied to those volumes which flow along an eligible route as designated in the formulation of the Transmission Services Conditional Discount i.e. where the distance between the qualifying Entry and Exit Points is 5km or less.

Transmission Services Conditional Discount

3.23. For the Eligible Quantity (EQ) (which will have an Eligible Entry Quantity and an Eligible Exit Quantity), over a qualifying nominated route (an Entry point and an Exit point), as per the Licence, there will be a discount to Transmission Services Entry and Exit Capacity reserve prices. The level of discount will vary dependent on distance, reducing as distances increase up to a maximum distance. A maximum and minimum discount have been developed along with eligibility and access criteria. Any capacity or flow above the Eligible Quantity will pay the standard charges.

0728C (Urgent): For the Eligible Quantity (EQ) of capacity (which will have an Eligible Entry Quantity and an Eligible Exit Quantity), over a qualifying nominated route (an Entry point and an Exit point), as per the Licence, there will be a discount to Transmission Services Entry and Exit Capacity reserve prices. The level of discount will vary dependent on distance, reducing as distances increase up to a maximum distance. A maximum and minimum discount have been developed along with eligibility and access criteria. Any capacity above the Eligible Quantity will pay the standard charges.

0728D (Urgent): For the Eligible Quantity (EQ) (which will have an Eligible Entry Quantity and an Eligible Exit Quantity), over a qualifying nominated route (an Entry point and an Exit point), as per the Licence, there will be a discount to Transmission Services Entry and Exit Capacity reserve prices. The level of discount will be fixed for all routes located within the distance limit. A standard discount has been developed along with eligibility and access criteria. Any capacity or flow above the Eligible Quantity will pay the standard charges.

3.24. Transmission Services Entry and Exit Revenue Recovery Charges on capacity bookings remain payable and General Non-Transmission Services Entry and Exit charges remain payable on flows.

0728A (Urgent): Transmission Services Entry and Exit Revenue Recovery Charges on capacity bookings remain payable.

Non-Transmission Services Discount

Flows along each qualifying nominated route will receive a standard discount will be applied to the Non-Transmission Services Commodity charges

The discount will be levied on the smaller of the two daily User allocations at the nominated Route Entry Point and the nominated Route Exit Point.

0728D (Urgent): Transmission Services Entry and Exit Revenue Recovery Charges on capacity bookings remain payable.

Non-Transmission Services Discount

Flows along each qualifying nominated route will receive a standard discount will be applied to the Non-Transmission Services Commodity charges

The discount will be levied on the lesser of the two daily User allocations at the nominated Route Entry Point and the nominated Route Exit Point.

3.25. Further details on the specific components are outlined later in this Section 3.

Justification for Aspects of the Solution

Eligibility

3.26. In determining eligibility for the discount, several factors have been considered:

- This product is designed to reduce the risk of bypass for directly connected NTS Users only, therefore Distribution Networks and connections to Distribution Networks are not eligible to use this product. For connections to Distribution Networks, a bypass from an NTS Entry Point to the end DN offtake would therefore bypass both the Transmission and Distribution Networks which is unlikely to be considered. If it were the optimal infrastructure, it could be reasonably assumed it would be part of the DN network (and represented into its funding and regulated revenues) and therefore a bypass to the NTS is not likely to be an active consideration.

  0728C (Urgent): This Discount is designed to reduce the risk of bypass for directly connected NTS Users only, therefore Distribution Networks and connections to Distribution Networks are not eligible to use this Discount. For connections to Distribution Networks, a bypass from an NTS Entry Point to the end DN offtake would therefore bypass both the Transmission and Distribution Networks which is unlikely to be considered. If it were the optimal infrastructure, it could be reasonably assumed it would be part of the DN network (and represented into its funding and regulated revenues) and therefore a bypass to the NTS is not likely to be an active consideration.

  It should also be noted that when considering the party responsible for capacity and flows when it comes to DN offtakes to the NTS, they are different Users. It is not expected these would therefore be able to comparatively assess bypassing the NTS as the DN is responsible for capacity and the Shipper for the flows.

  0728A (Urgent): It should also be noted that when considering the party responsible for capacity and flows when it comes to DN offtakes to the NTS, they are different Users. As such, in these circumstances, it is not possible to assess the risk of bypass of the NTS due to the increased number of parties involved: the DN is responsible for capacity and the Shipper for the flows.

  0728D (Urgent): It should also be noted that when considering the party responsible for capacity and flows when it comes to DN offtakes to the NTS, they are different Users. As such, in these circumstances, it is not possible to assess the risk of bypass of the NTS due to the increased number of parties involved: the DN is responsible for capacity and the Shipper for the flows.

- Storage Sites are, purposefully, embedded within the NTS and so by design, it would be impossible to bypass the NTS. They are therefore not eligible to use this product.

Determining a Discount Curve

0728A (Urgent): Determining a Discount Curve for Transmission Services charges

0728D (Urgent): Determining a Discount for Transmission Services charges

3.27. To attempt to assess the likelihood of bypass National Grid has calculated, for each route combination a set of costs. Using the General Flow Equation; with constants taken from TPD Section Y 2.5.2 in effect up to 30 September 2020, current MNEPOR values, and a combination of straight-line (where available) and pipeline distances taken from the National Grid pipeline data-book, a Pipe Diameter for all potential routes was calculated. The steps taken are detailed in paragraph 22 onwards of the Analysis and Methodology document included in the Appendix to this Modification.

0728A (Urgent): To attempt to assess the likelihood of bypass National Grid has calculated, for each route combination a set of costs. Using the General Flow Equation; with constants taken from current UNC TPD Section Y 2.5.2, in effect up to 30 September 2020, current MNEPOR values, and a combination of straight-line (where available) and pipeline distances taken form the National Grid pipeline data-book, a pipe diameter for all potential routes was calculated.

0728B (Urgent): To attempt to assess the likelihood of bypass National Grid has calculated, for each route combination a set of costs. Using the General Flow Equation; with constants taken from current UNC TPD Section Y 2.5.2, in effect up to 30 September 2020, current MNEPOR values, and a combination of straight-line (where available) and pipeline distances taken form the National Grid pipeline data-book, a Pipe Diameter for all potential routes was calculated.

0728C (Urgent): To attempt to assess the likelihood of bypass National Grid calculated for each route combination a set of costs as part of the UNC0670R work. Using the General Flow Equation; with constants taken from current TPD Section Y 2.5.2, current MNEPOR values, and a combination of straight-line (where available) and pipeline distances taken from the National Grid pipeline data-book, a Pipe Diameter for all potential routes was calculated.

0728D (Urgent): To attempt to assess the likelihood of bypass National Grid, through the work it carried out as part of UNC 0705R, has calculated, for each route combination a set of costs. Using the General Flow Equation; with constants taken from current TPD Section Y 2.5.2 up to 30 September 2020, current MNEPOR values, and a combination of straight-line (where available) and pipeline distances taken form the National Grid pipeline data-book, a pipe diameter for all potential routes was calculated.

3.28. Using a formula published by the Council of European Energy Regulators in paper "PROJECT CEER-TCB18 -Pan-European cost-efficiency benchmark for gas transmission system operators –17.07.2019"10, timescales inferred from the PARCA process and the costs of using the NTS during construction period under Modification 0678A (where no NTS OCC product exists) a ratio of annualised bypass construction costs vs. NTS costs was calculated. The costs include the costs that would most likely go into the preparation and building of an alternative pipeline. The

[10] https://www.ceer.eu/1767

design of the product is generic in its nature and application and may not consider every possible specific scenario.

0728C (Urgent): Using a formula published by the Council of European Energy Regulators in paper “PROJECT CEER-TCB18 -Pan-European cost-efficiency benchmark for gas transmission system operators –17.07.2019”[11], timescales inferred from the PARCA process and the costs of using the NTS during construction period under Modification 0678A (where no NTS OCC product will exist) a ratio of annualised bypass construction costs vs. NTS costs was calculated. The costs include the costs that would most likely go into the preparation and building of an alternative pipeline. The design of the Discount is generic in its nature and application and may not consider every possible specific scenario.

3.29. National Grid have not included the operational costs as the NTS operational charges (made predominantly via General Non-Transmission Services Entry and Exit Commodity Charges) are considered to be a good proxy for operational charges for operating a pipeline. This also is consistent with the generic nature of the product and ambitions to keep it simple and proportionate for all those accessing and using the NTS.

0728A (Urgent): The Proposer has not included the operational costs as the NTS operational charges (made predominantly via General Non-Transmission Services Entry and Exit Commodity Charges) in this calculation as they are dealt with separately (para 3.51).

0728B (Urgent): The Proposer has not included the operational costs as the NTS operational charges (made predominantly via General Non-Transmission Services Entry and Exit Commodity Charges) are considered to be a good proxy for operational charges for operating a pipeline. This also is consistent with the generic nature of the product and ambitions to keep it simple and proportionate for all those accessing and using the NTS.

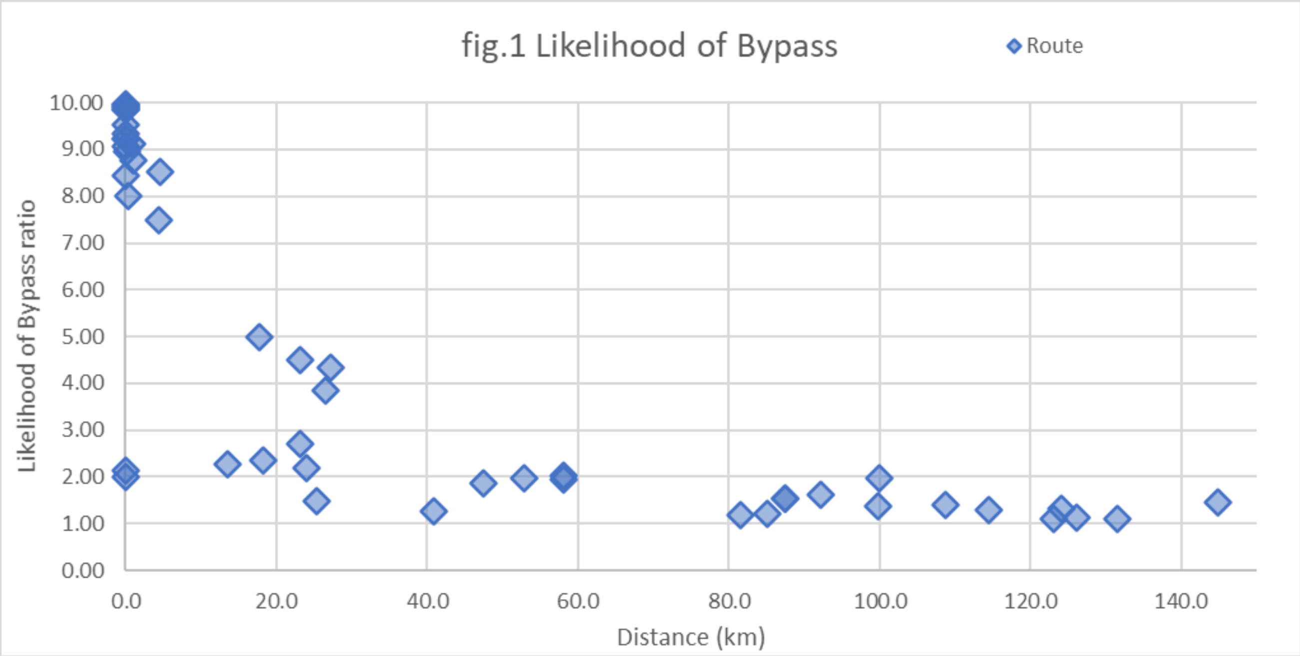
0728C (Urgent): As part of the UNC0670R work National Grid did not include the operational costs as the NTS operational charges (made predominantly via General Non-Transmission Services Entry and Exit Commodity Charges). This is consistent with the generic nature of the Discount and ambitions to keep it simple and proportionate for all those accessing and using the NTS.

0728D (Urgent): The highest calculated ratio of bypass costs against NTS usage costs is at 0km, the ratio at that point is 9.973:1, this implies the most likely bypass User, over a ten-year period could achieve a 89.97% reduction on NTS Transmission costs. This has been rounded up to the nearest whole % value, 90%, to inform the Transmission Discount offered under the new proposed arrangement.

The maximum distance is 5km. For any Exit Points located at distances greater than 5km, a Transmission Discount will not be applied.

3.30. The graph below (fig.1) plots these ratios determined as a measure of build costs versus NTS Charges against the distance between Entry and Exit points to inform the likelihood of bypass. Each marker on the graph represents a route from an Eligible Entry Point to an Eligible Exit Point.

[11] https://www.ceer.eu/1767



3.31. The graph demonstrates a curve and suggests a correlation between distance and likelihood of bypass. The highest calculated ratio of bypass costs against NTS usage costs is at 0km, the ratio at that point is 9.973:1, this implies the most likely bypass User, over a ten-year period could achieve an 89.97% reduction on NTS Transmission costs. National Grid has rounded this up to the nearest whole % value, 90%, to inform the Maximum Discount offered under the new proposed arrangement.

0728A (Urgent): The graph demonstrates a curve and suggests a correlation between distance and likelihood of bypass. The highest calculated ratio of bypass costs against NTS usage costs is at 0km, the ratio at that point is 9.973:1, this implies the most likely bypass User, over a ten-year period could achieve a 89.97% reduction on NTS Transmission costs. This has been rounded up to the nearest whole % value, 90%, to inform the Maximum Discount offered under the new proposed arrangement.

0728B (Urgent): The graph demonstrates a curve and suggests a correlation between distance and likelihood of bypass. The highest calculated ratio of bypass costs against NTS usage costs is at 0km, the ratio at that point is 9.973:1, this implies the most likely bypass User, over a ten-year period could achieve an 89.97% reduction on NTS Transmission costs. This has been rounded this up to the nearest whole % value, 90%, to inform the Maximum Discount offered under the new proposed arrangement.

0728C (Urgent): The graph demonstrates a curve and suggests a correlation between distance and likelihood of bypass. The highest calculated ratio of bypass costs against NTS usage costs is at 0km, the ratio at that point is 9.973:1, this implies the most likely bypass User, over a ten-year period could achieve an 89.97% reduction on NTS Transmission costs. As part of the 0678R work National Grid rounded this up to the nearest whole % value, 90%, to inform the Maximum Discount offered under the new proposed arrangement.

3.32. Using a curve, the discount level is scaled down dependent on distance from the Entry point to a minimum of 10% discount. This limit of 10% discount is also informed by the likelihood of bypass, the ratios suggest that no User beyond 17.7km would consider investing the time, effort and capital required to bypass when the benefits over 10 years are not significant.

0728B (Urgent): Using a curve, the discount level is scaled down dependant on distance from the Entry point to a minimum of 10% discount. This limit of 10% discount is also informed by the likelihood of bypass, the ratios suggest that no User beyond 27.2 km would consider investing the time, effort and capital required to bypass when the benefits over 10 years are not significant.

0728C (Urgent): The discount level is scaled down dependant on distance from the Entry point to a minimum of 10% discount. This limit of 10% discount is also informed by the likelihood of bypass. The data suggests that no User beyond 17.7km would consider investing the time, effort and capital required to bypass when the benefits over 10 years are not significant.

3.33. The curve used to calculate the discount is an inverse exponential, starting at 90%, the calculated discount without any limitation would run to 0% eventually, but it is proposed to limit the discount to 10%. Below this point (i.e. less than 10% discount), a larger discount is available via the regular interruptible auction and so all Users could find equal or better value outside of the offered bypass avoidance product. It is assumed that the most economic decision would be made by the relevant party to access the lower priced capacity. This therefore informs a 'cut-off' for the distance over which this product is available.

0728C (Urgent): The discount starts at 90% at 0Km and falls to the discount limit at 10%. Below the discount limit (i.e. Less than 10% discount), a larger discount is available via the regular interruptible auction and so all Users could find equal or better value outside of the offered bypass avoidance capacity discount. It is assumed that the most economic decision would be made by the relevant party to access the lower priced capacity. This therefore informs a 'cut-off' for the distance over which this product is available.

3.34. The maximum distance, or due cross subsidy limitation, is therefore 17.7km. National Grid is proposing to round this up to the nearest whole km, 18km. In order to determine the specific discount, it is proposed to use a curve that matches the inverse exponential curve that provides a higher discount over a small distance. The maximum discount will be 90% as outlined above. As the distance increases, the discount reduces until it reaches 10%. Beyond the maximum distance permitted of 18km, any nomination would be ineligible for the conditional discount.

0728A (Urgent): The maximum distance, or due cross subsidy limitation, is therefore 17.7km. The Modification is proposing to round this up to the nearest whole km, 18km. In order to determine the specific discount, it is proposed to use a curve that matches the inverse exponential curve that provides a higher discount over a small distance. The maximum discount will be 90% as outlined above. As the distance increases, the discount reduces until it reaches 10%. Beyond the maximum distance permitted of 18km, any nomination would be ineligible for the conditional discount.

0728B (Urgent): The maximum distance, or due cross subsidy limitation, is therefore 27.2km. The Modification is proposing to round this up to the nearest whole km, 28km. In order to determine the specific discount, it is proposed to use a curve that matches the inverse exponential curve that provides a higher discount over a small distance. The maximum discount will be 90% as outlined above. As the distance increases, the discount reduces until it reaches 10%. Beyond the maximum distance permitted of 28km, any nomination would be ineligible for the conditional discount.

A distance of 28km is appropriate as it represents a distance which may reasonably result in the construction of a bypass pipeline. This is particularly the case for sites which are further than 18km but within 28km of an Entry Point, where there is a concentration of offtakes, as it can be seen in fig 1. A number of offtakes further than 18km, but less than 28km exhibit a higher probability to bypass than some offtakes located closer to an entry point. As such any charging methodology which purports to disincentivise NTS bypass by direct reference to the probability of bypass would be positively discriminatory if it excluded routes which exhibited a higher probability to bypass than those which were deemed eligible for the discount. Further, it is entirely feasible that 'linking' pipelines could be constructed to create private interconnections between offtakes to ensure eligibility for the Conditional Product. Any Modification which intends to introduce a discounted transportation charge specifically for the purpose of discouraging NTS bypass, should not result in an outcome where customers are impelled to invest capital into additional downstream, or embedded pipelines in order to obtain discounted access to the NTS. The routes which are between 18km and 28km and could invest in this manner are provided in Appendix 2.

0728C (Urgent): The maximum distance is therefore 18km (rounded up to the nearest whole km). Beyond the maximum distance permitted of 18km, any nomination would be ineligible for the capacity discount.

Applying the discount curve - Route Specific Discount

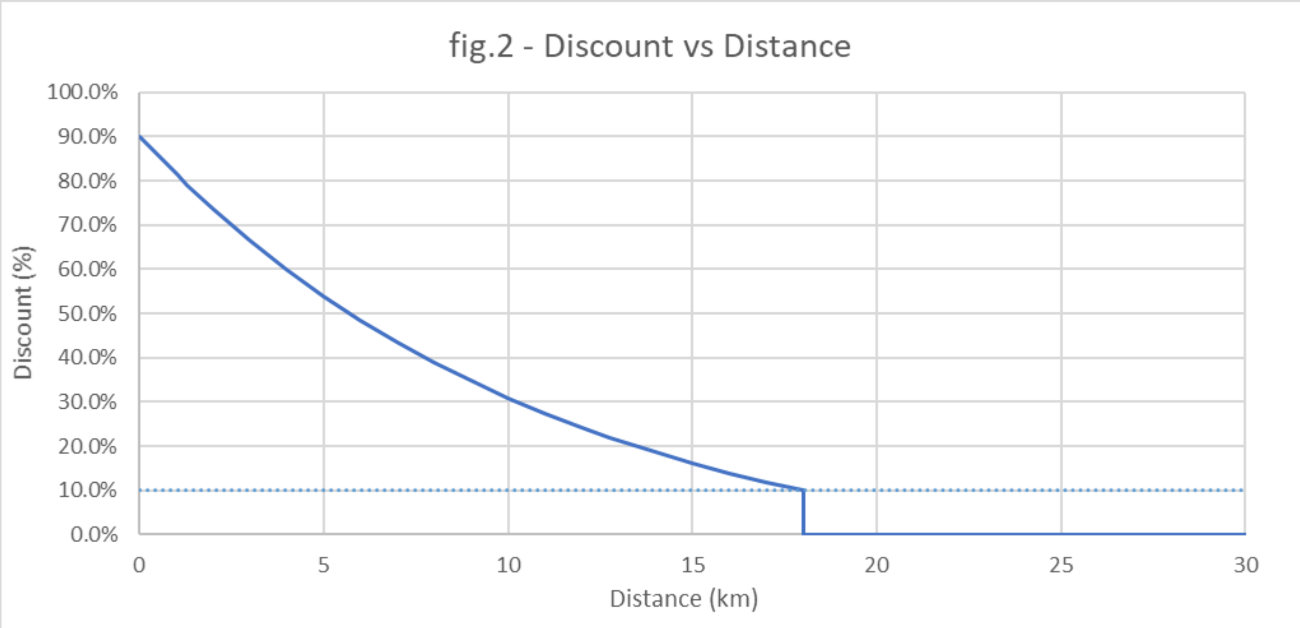
3.35. The scaling of the Route Specific Discount at any point between 0km and the Due Cross Subsidy Limitation is based on a curve. The curve is designed to peak at 0km with a discount of 90%, and meet the calculated distance cap at 10%. Immediately after this point the discount drops to zero.

$$PCDr = \left(\left(\frac{1}{IFERROR\left(e^{\left(\frac{1.6094}{CSL}\right)}, 1\right)}\right)^{SLDr}\right) - \left(1 - \left(\frac{MDA}{100}\right)\right)$$

0728C (Urgent): The scaling of the Route Specific Discount at any point between 0km and the Maximum Distance Limitation is based on a curve. The curve is designed to peak at 0km with a discount of 90%, and meet the calculated distance cap at 10%. Immediately after this point the discount drops to zero.

$$PCDr = \left(\left(\frac{1}{IFERROR\left(e^{\left(\frac{1.6094}{MDL}\right)}, 1\right)}\right)^{SLDr}\right) - \left(1 - \left(\frac{MDA}{100}\right)\right)$$

3.36. Using the established guidance points; 90% Max Discount Available (MDA), 10% Minimum Discount Available (which informs the constant: 1.6094) and a distance limitation of 18km, this plots a curve as demonstrated in fig.2 below:



3.37. The Cross Subsidy Limitation (CSL) of 18km could translate to an approximate socialisation of 7.2% of Transmission Services Revenue. This level of socialisation in addition to the distance limitation, will be kept under review over time so that there remains an attractive option for those more likely to consider a bypass and also does not unduly levy too high an impact (i.e. increase) in charges to other Users.

0728A (Urgent): ***Eligible Quantity for Transmission Services Discount***

0728B (Urgent): The Cross Subsidy Limitation (CSL) of 28km could translate to an approximate socialisation of 7.8% of Transmission Services Revenue. This has the effect of "shallowing" the curve in fig. 2 with the minimum 10% discount rate being achieved at 28km. The level of socialisation in addition to the distance limitation, will be kept under review over time so that there remains an attractive option for those more likely to consider a bypass and also does not unduly levy too high an impact (i.e. increase) in charges to other Users.

A comparison of the levels of socialisation under the current NTS OCC methodology (if applied to 2020/21 prices) and the socialisation based on the National Grid proposal applied alongside the revised Methodology for the year 2020/21 is provided below:

0728B (Urgent): A comparison of the levels of socialisation under the current NTS OCC methodology (if applied to 2020/21 prices) and the socialisation based on this Modification applied alongside Modification 0678 for the year 2020/21 is provided below.

To put this in context, based on the socialisation costs identified in this table, it is estimated that the impact on the average domestic customer will range between 54p per annum, assuming only Exit costs are passed through, to £1.76 per annum if all Entry and Exit costs are passed through[12]. These increases measure favourably against a total average gas bill in the region of £550 with total NTS charges contributing up to £26.

[12] Costs calculated by WWA Ltd using the National Grid Transmission Services Sensitivity and Non-Transmission Services Sensitivity models. Average domestic customer assumed to consume 1,200 kWh/annum with a capacity requirement of 107 kWh/pd/annum.

	Prevailing OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	20.6%
Routes Considered	37
Max TS Discount	N/A
Max Gen Non-TS Discount	N/A
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0 km

	NG Discount Proposal
OCC Contribution	£12,599,653.97
Potential TS Socialisation	£54,825,410.84
TS Socialisation as % of MAR	7.2%
Gen Non-TS Socialisation	£0.00
Gen Non-TS Socialisation as	0.0%
Total Socialisation as % of	7.2%
Routes Considered	17
Max TS Discount	90.0%
Max Gen Non-TS Discount	0.0%
Max Effective Rate Discount	61.7%
Longest Route Considered	17.7 km

0728B (Urgent):

	Prevailing OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	20.6%
Routes Considered	37
Max TS Discount	N/A
Max Gen Non-TS Discount	N/A
Longest Route Considered	244.0 km

	Vitol Discount Proposal
OCC Contribution	£42,626,731.41
Potential TS Socialisation	£59,230,544.91
TS Socialisation as % of MAR	7.8%
Gen Non-TS Socialisation	£0.00
Gen Non-TS Socialisation as %	0.0%
Total Socialisation as % of	6.1%
Routes Considered	22
Max TS Discount	90.0%
Max Gen Non-TS Discount	0.0%
Longest Route Considered	27.2 km

Details of the 17 routes considered, and those within the limitation which haven't been considered are detailed in the Appendix paragraph 18.

Eligible Quantity

0728D (Urgent): Eligible Quantity for Transmission Services Discount

3.38. The Route Specific Discount will only be applicable in respect of the Eligible Quantity.

0728C (Urgent): The Route Specific Discount will only be applicable in respect of the Eligible Quantity of capacity.

3.39. The Eligible Quantity (EQ) calculation is fully defined in the Business Rules (Section E) and examples are provided in paragraph 115 of the Analysis & Methodology document in the Appendix. There is potential for a different value for Entry EQ and Exit EQ in the same nominated route.

0728A (Urgent): The Eligible Quantity (EQ) calculation is fully defined in the Business Rules (Section E) and examples will be provided in the Appendix. There is potential for a different value for Entry EQ and Exit EQ in the same nominated route.

0728B (Urgent): The Eligible Quantity (EQ) calculation is fully defined in the Business Rules (Section E) and examples will be provided in the Appendix 1. There is potential for a different value for Entry EQ and Exit EQ in the same nominated route.

0728C (Urgent): The Eligible Quantity (EQ) of capacity calculation is fully defined in the Business Rules (Section E). There is potential for a different value for Entry EQ and Exit EQ in the same nominated route.

0728D (Urgent): The Eligible Quantity (EQ) calculation is fully defined in the Business Rules (Section E) and examples will be provided in the Appendix. There is potential for a different value for Entry EQ and Exit EQ in the same nominated route.

3.40. In summary, this is based on the minimum of four values (associated to the route requested and the User):

- the Firm* Capacity at Entry
- the Firm* Capacity at Exit
- the Flow at Entry
- the Flow at Exit.

0728C (Urgent): In summary, this is based on the minimum of two values (associated to the route requested and the User):

- the eligible Firm* Capacity at Entry
- the eligible Firm* Capacity at Exit

*Firm Capacity includes Obligated and Non-Obligated Firm Capacity

0728C (Urgent): The eligible shipper firm capacity at the eligible entry point(s) and the eligible shipper firm capacity at eligible exit point(s) will qualify for the discount (subject to the treatment of existing contract capacity). There is no requirement to flow gas with respect to the eligible firm capacity held by a shipper at an eligible entry point(s) and held by a shipper at an eligible exit point(s) with respect to the eligible route.

(Appendix Paragraph 60. Example 1 provides a step through of a basic scenario.)

3.41. It will be assumed that at an Entry Point, Existing Contracts (EC) will be flowed against first, and therefore as Existing Contracts are a fixed price which cannot be changed, any discount will not be applied to Existing Contracts. Only flows above the level of Existing Contracts will become Eligible, providing that there is also enough Firm Capacity in excess of the Existing Contract to match the flows. (See Appendix Paragraph 60. Example 2)

0728C (Urgent): It will be assumed that at an Entry Point, Existing Contracts (EC) will utilised against first, and therefore as Existing Contracts are a fixed price which cannot be changed, any discount will not be applied to Existing Contracts. Only capacity above the level of Existing Contracts will become Eligible, providing that there is also enough Firm Capacity in excess of the Existing Contract to match the shipper firm exit capacity (for the eligible route).

0728D (Urgent): It will be assumed that at an Entry Point, Existing Contracts (EC) will be flowed against first, and therefore as Existing Contracts are a fixed price which cannot be changed, any discount will not be applied to Existing Contracts. Only flows above the level of Existing

Contracts will become Eligible, providing that there is also enough Firm Capacity in excess of the Existing Contract to match the flows.

3.42. Capacity acquired via secondary transfers will not be considered for a discount, this is due to the liability for traded capacity remaining with the initial purchaser rather than transferring to the new holder making it impossible to discount under current trading rules. (See Appendix Paragraph 60. Example 3)

0728C (Urgent): Capacity acquired via secondary transfers will not be considered for a discount, this is due to the liability for traded capacity remaining with the initial purchaser rather than transferring to the new holder making it impossible to discount under current trading rules.

0728D (Urgent): Capacity acquired via secondary transfers will not be considered for a discount, this is due to the liability for traded capacity remaining with the initial purchaser rather than transferring to the new holder making it impossible to discount under current trading rules.

3.43. For Entry, Capacity acquired via secondary transfers and Existing Contracts under the revised Methodology, whilst ineligible for a discount on the Entry Reserve prices, can be used to calculate a discount to Exit Reserve Prices.

0728A (Urgent): For Entry, Capacity acquired via secondary transfers and Existing Contracts under the revised Methodology, whilst ineligible for a discount on the Entry Reserve prices, these can be used to calculate a discount to Exit Reserve Prices.

0728C (Urgent): For Entry, Capacity acquired via secondary transfers and Existing Contracts as per Modification 0678A and 0678, whilst ineligible for a discount on the Entry Reserve prices, these can be used to calculate a discount to Exit Reserve Prices.

3.44. For Exit, Capacity acquired via secondary transfers, whilst ineligible for a discount on the Exit Reserve prices, can be used to calculate a discount to Entry Reserve Prices.

0728A (Urgent): For Exit, Capacity acquired via secondary transfers, whilst ineligible for a discount on the Exit Reserve prices, these can be used to calculate a discount to Entry Reserve Prices.

3.45. Capacity sold via secondary transfers will also adjust the amount available for discount. Should there be transfers out equivalent to firm capacity purchased by that Shipper (as primary capacity, bought directly from National Grid Gas), then these two values offset each-other and no discount is available.

3.46. Where a Shipper has two eligible routes which start at the same Entry Point, the capacity and flow recorded at the Entry Point, will be split between the eligible Exit Points, proportional to the Exit capacity and Exit flows. Existing Contracts will also be apportioned between the two routes to ensure neither routes are disproportionately impacted. (See Appendix Paragraph 59. Examples 4 and 5)

0728C (Urgent): Where a Shipper has two eligible routes which start at the same Entry Point, the capacity recorded at the Entry Point, will be split between the eligible Exit Points, proportional to the Exit capacity and Exit capacity. Capacity from Existing Contracts will also be apportioned between the two routes to ensure neither routes are disproportionately impacted.

0728D (Urgent): Where a Shipper has two eligible routes which start at the same Entry Point, the capacity and flow recorded at the Entry Point, will be split between the eligible Exit Points, proportional to the Exit capacity and Exit flows. Existing Contracts will also be apportioned between the two routes to ensure neither routes are disproportionately impacted.

3.47. For any volumes in excess of the Eligible Quantities, these will pay the standard charges applicable (i.e. non-discounted Transmission Services capacity reserve charges, and any other Transmission Services and Non-Transmission Services Charges).

0728A (Urgent): ***Non-Transmission Services Commodity Discount***

The derivation of the level of discount to Non-Transmission Services Commodity Charges should reflect the costs of operating a bypass pipeline consistent with the approach adopted in the calculation of the Transmission Services Capacity Charge discount.

The discount to Non-Transmission Services Commodity Charges will only be available to sites eligible for the Transmission Services Charge Discount

The Non-Transmission Services Commodity Charge is applied for the purposes of recovering the revenue allocated to the provision of Non-Transmission Services by National Grid NTS.

Non-Transmission Services Charges are set to recover Maximum NTS SO Allowed Revenue (NTS SOM). In a paper[13] published by WWA as part of the development of Modification 0621G, a commentary was provided regarding the core components of the Maximum NTS SO Allowed Revenue determination. The paper concluded that "*the vast majority of costs which contribute to the calculation of the SO Allowed Revenue are specific to the NTS and not relevant to a private point to point pipeline.* National Grid Gas agreed with this principle and amended its Modification 0621 so that the proposed NTS Optional Charge, included in the proposal, was broadened to incorporate Non-Transmission Services Charges (in previous drafts the NTS Optional Charge was designed as an alternative to Transmission Services Revenue Recovery Charges only).

The Proposer maintains that the conclusions set out in the WWA paper remain valid and that in order to calculate operational costs relevant to a bypass pipeline, so as to discourage inefficient NTS bypass, a discount to the standard Non-Transmission Commodity Charges should be established.

The WWA paper identifies that Base NTS System Operation Revenue, which includes allowances for IT, property, processes and human resources is the only core component which legitimately would "read across" to the operation of bypass pipelines, notwithstanding that the NTS Base NTS System Operation Revenue reflects the costs of operating the entire NTS network. The latest assessment of the contribution of Base NTS System Revenue to Maximum NTS SO Allowed Revenue is published in National Grid Gas' NTS Charge Setting Information Publication April 2020[14] and is provided below in fig 3 for convenience

Figure 3 – Excerpt from National Grid Gas Charge Setting Publication – April 2020

Terms used for Final notification of charges	Current	April Ind	April
Base Price Control SO Revenue (SOBRt)	140.9	109.6	109.1
Constraint Management revenue adjustment (CMt)	14.1	12.9	12.9
SO external incentive adjustment (SOOIRCt)	103.9	105.2	92.7
SO Transportation Support Services revenue adjustment (TSSt)	-5.9	-3.0	-3.0

[13] https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2018-02/SO%20derivationv3%20NW.pdf
[14] https://www.nationalgridgas.com/charging/transmission-system-charges

SO Legacy accelerated incremental capacity delivery incentive (DELINCt)	0.00	0.00	0.00
Revenue adjustment term for prior year (SOKt) *	12.3	-12.1	-12.1
Maximum NTS SO allowed revenue (SOMRt)	**240.7**	**236.9**	**223.8**

The methodology for setting the standard Non-Transmission Services Discount assumes that there is a relationship between pipeline length and the level of costs associated with operating a pipeline. This is consistent with the approach adopted in the derivation of the Transmission Services Discount, although given the restriction applied to the length of eligible pipelines it is unreasonable to envisage that the operational costs for each of the routes will vary. Certainly, given the nature of these short distance, point-to-point type pipeline projects the Proposer anticipates that the operational costs associated with each route will be minimal and similar.

Based on the maximum distance cap of 18km for the application of Transmission Services discount it is predicted that 17 routes will be eligible for the product, although it should be recognised that this number may decrease if some offtakes decide to bypass the NTS, or increase if future NTS connectees are able to avail themselves of the Conditional Product.

The Proposer believes that drawing a direct relationship between the costs of operating the NTS and pipeline length is reasonable, however, expects that the allocation of NTS Allowed Revenues to individual pipelines no longer than 18 km, is likely to result in costs which will exceed those incurred in practice i.e. the £/km costs associated with operating a high pressure network will be greater than the £/km costs of operating a short distance pipeline.

The methodology adopted to determine the level of Non-Transmission Services discount allocates a proportion of National Grid NTS SO Base Allowed Revenues in accordance with the relative aggregate lengths of the forecast eligible routes (17 routes) compared to the total length of the NTS. The aggregate length of the eligible routes is based on the maximum permissible distance of 18km which will greatly exceed the aggregate actual lengths of the eligible routes. In addition to para 3.59 this will result in an allocation of costs which will exceed actual costs, where it is the case that there is a direct correlation between pipeline lengths and operational costs.

The level of the proposed Non-Transmission Services Discount is 80%. This translates to a socialisation of 8.8% of Non-Transmission Services Revenue.

A comparison of the levels of socialisation under the current NTS OCC methodology (if applied to 2020/21 prices) and the socialisation based on this Modification applied alongside Modification 0678 for the year 2020/21 is provided below.

To put this in context, based on the socialisation costs identified in this table, it is estimated that the impact on the average domestic customer will range between 65p per annum, assuming only Exit costs are passed through, to £1.94 per annum if all Entry and Exit costs are passed through[15]. These increases measure favourably against a total average gas bill in the region of £550 with total NTS charges contributing up to £26.

0728B (Urgent): For any volumes in excess of the Eligible Quantities, these will pay the standard charges applicable (i.e. non-discounted Transmission Services capacity reserve charges and any other Transmission Services).

[15] Costs calculated by WWA Ltd using the National Grid Transmission Services Sensitivity and Non-Transmission Services Sensitivity models. Average domestic customer assumed to consume 1,200 Kwh/annum with a capacity requirement of 107 Kwh/pd/annum.

0728C (Urgent): For any volumes in excess of the Eligible Quantities of capacity, these will pay the standard charges applicable (i.e. non-discounted Transmission Services capacity reserve charges, and any other Transmission Services and Non-Transmission Services Charges).

0728D (Urgent): For any volumes in excess of the Eligible Quantities, these will pay the standard charges applicable (i.e. non-discounted Transmission Services capacity reserve charges and any other Transmission Services).

Non-Transmission Services Commodity Discount

The derivation of the level of discount to Non-Transmission Services Commodity Charges should reflect the costs of operating a bypass pipeline consistent with the approach adopted in the calculation of the Transmission Services Capacity Charge discount.

The discount to Non-Transmission Services Commodity Charges will only be available to sites eligible for the Transmission Services Charge Discount

The Non-Transmission Services Commodity Charge is applied for the purposes of recovering the revenue allocated to the provision of Non-Transmission Services by National Grid NTS.

Non-Transmission Services Charges are set to recover Maximum NTS SO Allowed Revenue (NTS SOM). In a paper[16] published by WWA as part of the development of Modification 0621G, a commentary was provided regarding the core components of the Maximum NTS SO Allowed Revenue determination. The paper concluded that "the vast majority of costs which contribute to the calculation of the SO Allowed Revenue are specific to the NTS and not relevant to a private point to point pipeline. National Grid Gas agreed with this principle and amended its Modification 0621 so that the proposed NTS Optional Charge, included in the proposal, was broadened to incorporate Non-Transmission Services Charges (in previous drafts the NTS Optional Charge was designed as an alternative to Transmission Services Revenue Recovery Charges only).

The Proposer maintains that the conclusions set out in the WWA paper remain valid and that in order to calculate operational costs relevant to a bypass pipeline, so as to discourage inefficient NTS bypass, a discount to the standard Non-Transmission Commodity Charges should be established.

The WWA paper identifies that Base NTS System Operation Revenue, which includes allowances for IT, property, processes and human resources is the only core component which legitimately would "read across" to the operation of bypass pipelines, notwithstanding that the NTS Base NTS System Operation Revenue reflects the costs of operating the entire NTS network. The latest assessment of the contribution of Base NTS System Revenue to Maximum NTS SO Allowed Revenue is published in National Grid Gas' NTS Charge Setting Information Publication April 2020[17] and is provided below in fig 3 for convenience.

Figure 3 – Excert from National Grid Gas Charge Setting Publication – April 2020

[16] https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2018-02/SO%20derivationv3%20NW.pdf
[17] https://www.nationalgridgas.com/charging/transmission-system-charges

Terms used for Final notification of charges	**Current**	**April Ind**	**April**
Base Price Control SO Revenue (SOBRt)	140.9	109.6	109.1
Constraint Management revenue adjustment (CMt)	14.1	12.9	12.9
SO external incentive adjustment (SOOIRCt)	103.9	105.2	92.7
SO Transportation Support Services revenue adjustment (TSSt)	-5.9	-3.0	-3.0
SO Legacy accelerated incremental capacity delivery incentive (DELINCt)	0.00	0.00	0.00
Revenue adjustment term for prior year (SOKt) *	12.3	-12.1	-12.1
Maximum NTS SO allowed revenue (SOMRt)	**240.7**	**236.9**	**223.8**

The methodology for setting the standard Non-Transmission Services Discount assumes that there is a relationship between pipeline length and the level of costs associated with operating a pipeline. This is consistent with the approach adopted in the derivation of the Transmission Services Discount, although given the restriction applied to the length of eligible pipelines it is unreasonable to envisage that the operational costs for each of the routes will vary. Certainly, given the nature of these short distance, point-to-point type pipeline projects the Proposer anticipates that the operational costs associated with each route will be minimal and similar.

Based on the maximum distance cap of 5km for the application of Transmission Services discount it is predicted that 15 routes will be eligible for the product, although it should be recognised that this number may decrease if some offtakes decide to bypass the NTS, or increase if future NTS connectees are able to avail themselves of the Conditional Product.

The Proposer believes that drawing a direct relationship between the costs of operating the NTS and pipeline length is reasonable, however, expects that the allocation of NTS Allowed Revenues to individual pipelines no longer than 5km, is likely to result in costs which will exceed those incurred in practice i.e. the £/km costs associated with operating a high pressure network will be greater than the £/km costs of operating a short distance pipeline.

The methodology adopted to determine the level of Non-Transmission Services discount allocates a proportion of National Grid NTS SO Base Allowed Revenues in accordance with the relative aggregate lengths of the forecast eligible routes (15 routes) compared to the total length of the NTS. The aggregate length of the eligible routes is based on the maximum permissible distance of 5km which will greatly exceed the aggregate actual lengths of the eligible routes. In addition to para 3.54 this will result in an allocation of costs which will exceed actual costs, where it is the case that there is a direct correlation between pipeline lengths and operational costs.

The level of the proposed Non-Transmission Services Discount is 94%. This translates to a socialisation of 9.7% of Non-Transmission Services Revenue.

A comparison of the levels of socialisation under the current NTS OCC methodology (if applied to 2020/21 prices) and the socialisation based on this Modification applied alongside Modification 0678 for the year 2020/21 is provided below:

To put this in context, based on the socialisation costs identified in this table, it is estimated that the impact on the average domestic customer will range between 69p per annum, assuming only Exit costs are passed through, to £2.04 per annum if all Entry and Exit costs are passed through18. These increases measure favourably against a total average gas bill in the region of £550 with total NTS charges contributing up to £26.

	Prevailing OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max TS Discount	99.3%
Max Gen Non-TS Discount	N/A
Longest Route Considered	244.0 km

	Discount Proposal
OCC Contribution	£6,334,063.36,
Potential TS Socialisation	£ 57,006,570.28
TS Socialisation as % of MAR	7.5%
Gen Non-TS Socialisation	£ 20,606,991.69
Gen Non-TS Socialisation as % of MAR	9.7%
Total Socialisation as % of MAR	8%
Routes Considered	15
Max TS Discount	90.0%
Gen Non-TS Discount	94.0%
Longest Route Considered	4.5 km

[18] Costs calculated by WWA Ltd using the National Grid Transmission Services Sensitivity and Non-Transmission Services Sensitivity models. Average domestic customer assumed to consume 1,200 Kwh/annum with a capacity requirement of 107 Kwh/pd/annum.

Application and Disapplication

3.48. Once applied for, a nomination is considered to be enduring and will roll over for each Gas Year unless there is a disapplication.

3.49. A nomination is only valid should it be for a route permitted in the rules for eligibility.

3.50. Should a User wish to change the nominated route they can change the Entry Point flowing to an Exit point for example but cannot revert to the original nominated route within a Gas Year.

0728C (Urgent): Should a User wish to change the nominated route they can change the Entry Point with respect to an Exit point for a nominated route for example but cannot revert to the original nominated route within a Gas Year.

3.51. Once a route has been dis-applied for then a User can't nominate that route again in that Gas Year.

0728A (Urgent): Once dis-applied for a route then a User cannot nominate that route again in that Gas Year.

0728B (Urgent): Once dis-applied for a route then a User can't nominate that route again in that Gas Year.

0728C (Urgent): Once dis-applied for a route then a User cannot nominate that route again in that Gas Year.

0728D (Urgent): Once dis-applied for a route then a User cannot nominate that route again in that Gas Year.

3.52. Once on the route, the payable price, for Eligible Quantities will always be the lower of the discounted rate or the "standard" rates.

Review

3.53. It is proposed that the distance established for the purposes of this Modification as the maximum distance eligible, will remain in place until a suitable time for review. National Grid will consider it prudent to continually monitor the uptake and impacts of this Conditional Product and propose amendments should it be considered necessary via normal UNC change processes. Examples of what may drive a review may include and not be limited to, assessing the level of cross subsidisation, uptake, any other related modification that may require a change. Any change would follow UNC governance for changes.

0728A (Urgent): It is proposed that the distance established as the maximum distance eligible and the level of the discount to the Non-Transmission Services Commodity charge, for the purposes of this Modification, will remain in place until a suitable time for review. The Proposer considers it prudent to continually monitor the uptake and impacts of this Conditional Product and propose amendments should it be considered necessary via normal UNC change processes. Examples of what may drive a review may include and not be limited to, assessing the level of cross subsidisation, uptake, any other related modification that may require a change. Any change would follow UNC governance for changes.

0728C (Urgent): It is proposed that the distance established for the purposes of this Modification as the maximum distance eligible, will remain in place until a suitable time for review. It is expected that National Grid will continually monitor the uptake and impacts of this capacity discount and propose amendments should it be considered necessary via normal UNC change processes. Examples of what may drive a review may include and not be limited to, assessing the level of cross subsidisation, uptake, any other related modification that may require a change. Any change would follow UNC governance for changes.

0728D (Urgent): It is proposed that the distance established as the maximum distance eligible and the level of the discount to the Non-Transmission Services Commodity charge, for the purposes of this Modification, will remain in place until a suitable time for review. The Proposer considers it prudent to continually monitor the uptake and impacts of this Conditional Product and propose amendments should it be considered necessary via normal UNC change processes. Examples of what may drive a review may include and not be limited to, assessing the level of cross subsidisation, uptake, any other related modification that may require a change. Any change would follow UNC governance for changes.

3.54. Applications for new routes will be assessed based on the same criteria.

Implementation

3.55. Proposed arrangements need to refer to the effective date as given by any Ofgem direction.

Incorporation / Impacts on other charges

3.56. Where possible, any anticipated Shortfall in revenues as a result of applying this conditional discount will be accommodated into the Reference Price Methodology in determining the reference prices to apply for the tariff year.

0728A (Urgent): Where possible, any anticipated Shortfall in revenues as a result of applying the conditional discounts will be accommodated into the Reference Price Methodology in determining the reference prices and the Non-Transmission Services Commodity charges to apply for the tariff year.

0728B (Urgent): Where possible, any anticipated Shortfall in revenues as a result of applying the conditional discounts will be accommodated into the Reference Price Methodology in determining the reference prices to apply for the tariff year.

0728C (Urgent): Where possible, any anticipated Shortfall in revenues as a result of applying this capacity discount will be accommodated into the Reference Price Methodology in determining the reference prices to apply for the tariff year.

0728D (Urgent): Where possible, any anticipated Shortfall in revenues as a result of applying the conditional discounts will be accommodated into the Reference Price Methodology in determining the reference prices and the Non-Transmission Services Commodity charges to apply for the tariff year.

3.57. Transmission Services Revenue Recovery Charges, when set or updated, will also take into account the anticipated and actual recovery of revenues from the conditional discount product.

0728A (Urgent): Transmission Services Revenue Recovery Charges, when set or updated, will also take into account the anticipated and actual recovery of revenues from the Conditional Product.

0728C (Urgent): Transmission Services Revenue Recovery Charges, when set or updated, will also take into account the anticipated and actual recovery of revenues from the capacity discount.

0728D (Urgent): Transmission Services Revenue Recovery Charges, when set or updated, will also take into account the anticipated and actual recovery of revenues from the Conditional Product.

Revenues

3.58. Transmission Services Allowed Entry and Exit Revenues will be calculated as per the revised Methodology. The revenue collected from the conditional discount will go towards the Transmission Services Entry or Exit collection. As the charges for eligible quantities will be discounted capacity charges, they remain capacity revenue to be collected as part of the Transmission Services Revenues.

0728A (Urgent): Revenue collected from the Non-Transmission Services conditional discount will contribute towards Non-Transmission Services Revenue.

0728B (Urgent): Transmission Services Allowed Entry and Exit Revenues will be calculated as per the revised Methodology. The revenue collected from the Transmission conditional discount will go towards the Transmission Services Entry or Exit collection. As the charges for eligible quantities will be discounted capacity charges, they remain capacity revenue to be collected as part of the Transmission Services Revenues.

0728C (Urgent): Transmission Services Allowed Entry and Exit Revenues will be calculated as per Modifications 0678/0678A. The revenue collected from the capacity discount will go towards the Transmission Services Entry or Exit collection. As the charges for eligible quantities will be discounted capacity charges, they remain capacity revenue to be collected as part of the Transmission Services Revenues.

0728D (Urgent): Transmission Services Allowed Entry and Exit Revenues will be calculated as per the revised Methodology. The revenue collected from the Transmission conditional discount will go towards the Transmission Services Entry or Exit collection. As the charges for eligible quantities will be discounted capacity charges, they remain capacity revenue to be collected as part of the Transmission Services Revenues.

Revenue collected from the Non-Transmission Services conditional discount will contribute towards Non-Transmission Services Revenue.

4 Code Specific Matters

Reference Documents

UNC Request 0670R: https://www.gasgovernance.co.uk/0670

EU Tariff Code (Regulation 2017/460): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R0460

UNC Modification Proposal 0678 and Alternatives: https://www.gasgovernance.co.uk/0678

NTS Optional Commodity Charge (NTS OCC) Methodology (Part A1 of UNC TPD Y) effective to 30 September 2020: https://www.gasgovernance.co.uk/TPD

0728A (Urgent): Existing NTS Optional Commodity Charge (NTS OCC) Methodology (Part A1 of UNC TPD Y) effective to 30 September 2020: https://www.gasgovernance.co.uk/TPD

0728C (Urgent): Existing NTS Optional Commodity Charge (NTS OCC) Methodology (Part A1 of UNC TPD Y): https://www.gasgovernance.co.uk/TPD

0728D (Urgent): Existing NTS Optional Commodity Charge (NTS OCC) Methodology (Part A1 of UNC TPD Y): https://www.gasgovernance.co.uk/TPD

Gas Transmission Charging Review (GTCR) and associated update letters:
https://www.ofgem.gov.uk/gas/transmission-networks/gas-transmission-charging-review

Customer and Stakeholder Objectives developed within NTSCMF:
http://www.gasgovernance.co.uk/ntscmf/060916

Knowledge/Skills

An understanding of Request 0670R, Modification 0678 (and alternatives), UNC TPD Section Y Part A, the EU Tariff Code, Gas Transmission Charging Review (GTCR) documentation and the customer / stakeholder objectives developed within NTSCMF would be beneficial.

5 Solution

A. Introduction

1. These Business Rules describe the scope of, eligibility for, and calculation of, a Conditional Discount for Avoiding Inefficient Bypass of the NTS, which incorporates within the NTS Charging Methodology a conditional discount as a means of dis-incentivising inefficient bypass of the NTS.

   0728A (Urgent): These Business Rules describe the scope of, eligibility for, and calculation of, a Transmission Conditional Discount and Non-Transmission Conditional Discount for Avoiding Inefficient Bypass of the NTS, which incorporates within the NTS Charging Methodology conditional discounts as a means of dis-incentivising inefficient bypass of the NTS.

   0728D (Urgent): These Business Rules describe the scope of, eligibility for, and calculation of, a Transmission Conditional Discount and Non-Transmission Conditional Discount for Avoiding Inefficient Bypass of the NTS, which incorporates within the NTS Charging Methodology conditional discounts as a means of dis-incentivising inefficient bypass of the NTS.

2. These rules have been developed to form the solution for UNC Modification Proposal '*Introduction of a Conditional Discount for Avoiding Inefficient Bypass of the NTS*' (version 1.0). These rules do not constitute legal text.

   0728B (Urgent): These rules have been developed to form the solution for Modification 0728B 'Introduction of Conditional Discounts for Avoiding Inefficient Bypass of the NTS'. These rules do not constitute legal text.

   0728C (Urgent): These rules have been developed to form the solution for UNC Modification Proposal 'Introduction of a Capacity Discount for Avoiding Inefficient Bypass of the NTS' (version 1.0). These rules do not constitute legal text but are designed to allow legal text to be drafted.

B. Definitions

3. '**CDSP**' means the Central Data Services Provider;

4. '**Direct Connect**' or '**DC**' means an Exit Point from the National Transmission System (NTS) which does not comprise a Storage Connection Point or an Offtake to a Distribution Network;

5. '**Distance Matrix**' means the document owned and maintained by National Grid that specifies the straight-line distances in km (to an accuracy of one decimal place) between Entry Points and Exit Points on the National Transmission System;

   0728C (Urgent): '**Distance Matrix**' means the document owned and maintained by National Grid that specifies the straight-line distances in kilometres (to an accuracy of one decimal place) between Entry Points and Exit Points on the National Transmission System;

6. '**Entry Point**' means an Aggregate System Entry Point as defined in the Uniform Network Code;

7. '**Exit Point**' means NTS Exit Point as defined in the Uniform Network Code;

8. '**Existing Contracts**' means capacity procured (for an Entry Point) prior to 6th April 2017 (for the avoidance of doubt, the capacity purchased may apply in respect of a day or days following this

specified date). In respect of adjustments (including trades) to available Entry Capacity, where the adjustment is executed:

8.1. up to and including 5th April 2017, the Capacity will be treated as Entry Capacity procured via Existing Contracts; or

8.2. subsequent to the 5th April 2017, the Capacity will not be treated as Entry Capacity procured via Existing Contracts.

9. '**Firm Entitlement**' means, in the context of Entry capacity or Exit capacity, all Firm capacity (including any Existing Contracts) prior to adjustments for all Secondary Transactions;

10. '**Forecasted Contracted Capacity**' or '**FCC**' means the forecast capacity booked at an Entry Point or and Exit Point (for the forthcoming gas year) excluding Existing Contracts. The FCC for an Entry Point or an Exit Point will be equal to a forecast value determined by National Grid taking account of capacity booking trends observed at respective Entry Points and Exit Points as specified in the FCC Methodology.

11. '**Net Firm Entitlement**' means, Firm Entitlement adjusted for all Secondary Transactions and, for the avoidance of doubt, excluding all Interruptible Capacity;

12. '**PARCA**' means a Planning and Advanced Reservation of Capacity Agreement;

13. '**Premium Price**' means the difference between the allocated (final) price and the Reserve Price in the relevant auction or as specified in the relevant PARCA agreement;

14. '**Reserve Price**' means the price for a capacity product (p/kWh/d) following the application of any adjustments;

15. '**Secondary Transactions**' means:

15.1. 'acquiring' and 'disposing' capacity trades (System Capacity Transfer as per UNC TPD section 5.1);

15.2. long term use it or lose it (withdrawal of capacity by National Grid as per UNC EID section B8);

15.3. Congestion Management Procedure (CMP) surrender (Surrender as per UNC EID section B7);

15.4. rolling monthly surrender (Surrendered NTS Entry Capacity as per UNC TPD section B2.3); and

15.5. buybacks (Surrender of NTS Entry Capacity as per UNC TPD Section B2.10).

For the avoidance of doubt, Secondary Transactions do not include assignments (Capacity Assignment as per UNC TPD Section B6) nor EAFLEC decreases (Reduction of Enduring Annual NTS Exit (Flat) Capacity as per UNC TPD section B3.2).

16. '**Transmission Services Target Revenue**' means Transmission Owner (TO) revenue (as determined in the National Grid's Transporter Licence) minus revenue due in respect of NTS Metering activities and DN Pensions Deficit costs and including 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. The Transmission Services Target Revenue will also be reduced by any known revenue associated to Existing Contracts.

0728A (Urgent): **Transmission Conditional Discount**

0728D (Urgent): **Transmission Conditional Discount**

C. Product Description and Alternative Charges

0728A (Urgent): C. Product Description (Transmission Conditional Discount) and Alternative Charges

0728B (Urgent): Product Description (Transmission Conditional Discount) and Alternative Charges

0728C (Urgent): Capacity Discount Description and Alternative Charges

0728D (Urgent): C. Product Description (Transmission Conditional Discount) and Alternative Charges

17. The Conditional Discount for Avoiding Inefficient Bypass of the NTS ('**Conditional Discount**') is available, in respect of Firm Capacity only, for the relevant routes to derive a discount that will be applied to the standard Transmission Services Capacity Reserve Prices for Entry and Exit (the '**Discounted Reserve Price**'). A route comprises the combination of an Entry Point, an Exit Point and a User. Where the User elects to incur the Discounted Reserve Price, this will be payable in respect of the Entry Eligible Quantity (determined as per paragraph 35) and Exit Eligible Quantity (determined as per paragraph 36) of Transmission Service Entry Capacity and Exit Capacity respectively for the route.

0728A (Urgent): The Transmission Conditional Discount for Avoiding Inefficient Bypass of the NTS ('**Transmission Conditional Discount**') is available, in respect of Firm Capacity only, for the relevant routes to derive a discount that will be applied to the standard Transmission Services Capacity Reserve Prices for Entry and Exit (the '**Discounted Reserve Price**'). A route comprises the combination of an Entry Point, an Exit Point and a User. Where the User elects to incur the Discounted Reserve Price, this will be payable in respect of the Entry Eligible Quantity (determined as per paragraph 35) and Exit Eligible Quantity (determined as per paragraph 36) of Transmission Service Entry Capacity and Exit Capacity respectively for the route.

0728B (Urgent): The Transmission Conditional Discount for Avoiding Inefficient Bypass of the NTS ('Transmission **Conditional Discount**') is available, in respect of Firm Capacity only, for the relevant routes to derive a discount that will be applied to the standard Transmission Services Capacity Reserve Prices for Entry and Exit (the '**Discounted Reserve Price**'). A route comprises the combination of an Entry Point, an Exit Point and a User. Where the User elects to incur the Discounted Reserve Price, this will be payable in respect of the Entry Eligible Quantity (determined as per paragraph 34) and Exit Eligible Quantity (determined as per paragraph 35) of Transmission Service Entry Capacity and Exit Capacity respectively for the route.

0728C (Urgent): The Capacity Discount for Avoiding Inefficient Bypass of the NTS ('Capacity Discount') is available, in respect of Firm Capacity only, for the relevant routes to derive a discount that will be applied to the standard Transmission Services Capacity Reserve Prices for Entry and Exit (the 'Discounted Reserve Price'). A route comprises the combination of an Entry Point, an Exit Point and a User. Where the User elects to incur the Discounted Reserve Price, this will be payable in respect of the Entry Eligible Quantity (determined as per paragraph 35) and Exit Eligible Quantity (determined as per paragraph 36) of Transmission Service Entry Capacity and Exit Capacity respectively for the route.

0728D (Urgent): The Transmission Conditional Discount for Avoiding Inefficient Bypass of the NTS ('Transmission Conditional Discount') is available, in respect of Firm Capacity only, for the relevant routes to derive a discount that will be applied to the standard Transmission Services Capacity Reserve Prices for Entry and Exit (the 'Discounted Reserve Price'). A route comprises the combination of an Entry Point, an Exit Point and a User. Where the User elects to incur the Discounted Reserve Price, this will be payable in respect of the Entry Eligible Quantity (determined as per paragraph 30) and Exit Eligible Quantity (determined as per paragraph 31) of Transmission Service Entry Capacity and Exit Capacity respectively for the route.

18. The standard Transmission Services Capacity Reserve Prices for:

18.1. the relevant Entry Point will be payable for any Entry Capacity registered at the Entry Point in excess of the Entry Eligible Quantity; and

18.2. the relevant Exit Point will be payable for any Exit Capacity registered at the Exit Point in excess of the Exit Eligible Quantity.

19. The Discounted Reserve Price in respect of Entry Capacity (DRP_{En}) is determined using the following formula:

$$DRP_{En} = RP_{En} \times \frac{100 - CD_r}{100}$$

where:

RP_{En} means the standard Reserve Price for firm Entry Capacity (in respect of the relevant Eligible Entry Capacity Tranche as defined in paragraph 35.3) as determined pursuant to the Charging Methodology.

CD_r means the percentage value of the Conditional Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728A (Urgent):

$$DRP_{En} = RP_{En} \times \frac{100 - TCD_r}{100}$$

where:

RP_{En} means the standard Reserve Price for firm Entry Capacity (in respect of the relevant Eligible Entry Capacity Tranche as defined in paragraph 35.3) as determined pursuant to the Charging Methodology.

TCD_r means the percentage value of the Transmission Conditional Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728B (Urgent):

$$DRP_{En} = RP_{En} \times \frac{100 - TCD_r}{100}$$

where:

RP_{En} means the standard Reserve Price for firm Entry Capacity (in respect of the relevant Eligible Entry Capacity Tranche as defined in paragraph 35.3) as determined pursuant to the Charging Methodology.

TCD_r means the percentage value of the Transmission Conditional Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728C (Urgent):

$$DRP_{En} = RP_{En} \times \frac{100 - CD_r}{100}$$

where:

RP_{En} means the standard Reserve Price for firm Entry Capacity (in respect of the relevant Eligible Entry Capacity Tranche as defined in paragraph 35.3) as determined pursuant to the Charging Methodology If there is no Reserve Price for firm Entry Capacity in the Charging Methodology then the Reserve Price shall be set to zero.

CDr means the percentage value of the Capacity Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728D (Urgent):

$$DRP_{En} = RP_{En} \times \frac{100 - 90}{100}$$

where:

RP_{En} means the standard Reserve Price for firm Entry Capacity (in respect of the relevant Eligible Entry Capacity Tranche as defined in paragraph 35.3) as determined pursuant to the Charging Methodology.

20. The Discounted Reserve Price in respect of Exit Capacity (DRP_{Ex}) is determined using the following formula:

$$DRP_{Ex} = RP_{Ex} \times \frac{100 - CD_r}{100}$$

where:

RP_{Ex} means the standard Reserve Price for firm Exit Capacity (in respect of the relevant Eligible Exit Capacity Tranche as defined in paragraph 36.3) as determined pursuant to the NTS Charging Methodology.

CD_r means the percentage value of the Conditional Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728A (Urgent):

$$DRP_{Ex} = RP_{Ex} \times \frac{100 - TCD_r}{100}$$

where:

RP_{Ex} means the standard Reserve Price for firm Exit Capacity (in respect of the relevant Eligible Exit Capacity Tranche as defined in paragraph 36.3) as determined pursuant to the NTS Charging Methodology.

TCD_r means the percentage value of the Transmission Conditional Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728B (Urgent):

$$DRP_{Ex} = RP_{Ex} \times \frac{100 - TCD_r}{100}$$

where:

RP_{Ex} means the standard Reserve Price for firm Exit Capacity (in respect of the relevant Eligible Exit Capacity Tranche as defined in paragraph 36.3) as determined pursuant to the NTS Charging Methodology.

TCD_r means the percentage value of the Transmission Conditional Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728C (Urgent):

$$DRP_{Ex} = RP_{Ex} \times \frac{100 - CD_r}{100}$$

where:

RPEx means the standard Reserve Price for firm Exit Capacity (in respect of the relevant Eligible Exit Capacity Tranche as defined in paragraph 36.3) as determined pursuant to the NTS Charging Methodology. If there is no Reserve Price for firm Exit Capacity in the Charging Methodology, then the Reserve Price shall be set to zero.

CDr means the percentage value of the Capacity Discount (rounded to the nearest whole number) for the relevant route determined as per paragraph 34.

0728D (Urgent):

$$DRP_{Ex} = RP_{Ex} \times \frac{100 - 90}{100}$$

where:

RP_{Ex} means the standard Reserve Price for firm Exit Capacity (in respect of the relevant Eligible Exit Capacity Tranche as defined in paragraph 36.3) as determined pursuant to the NTS Charging Methodology.

21. The values DRP_{En} and DRP_{Ex} will be rounded to 10 decimal places where the relevant point is an Interconnection Point and 6 decimal places where the relevant point is not an Interconnection Point.

22. As the Conditional Discount represents a discount only to the Transmission Services Reserve Price for capacity, any Premium Price remains payable in full.

0728A (Urgent): As the Transmission Conditional Discount represents a discount only to the Transmission Services Reserve Price for capacity, any Premium Price remains payable in full.

0728B (Urgent): As the Transmission Conditional Discount represents a discount only to the Transmission Services Reserve Price for capacity, any Premium Price remains payable in full.

0728C (Urgent): As the Capacity Discount represents a discount only to the Transmission Services Reserve Price for capacity, any Premium Price remains payable in full.

0728D (Urgent): As the Transmission Conditional Discount represents a discount only to the Transmission Services Reserve Price for capacity, any Premium Price remains payable in full.

23. For the avoidance of doubt:

23.1. any capacity overrun charges will be calculated using the standard Transmission Services Capacity Reserve Prices for the relevant Entry Point or Exit Point; and

23.2. all other charges (where relevant) will remain payable including the General Non-Transmission Services Charges and any Transmission Services Revenue Recovery Charges.

0728A (Urgent): All other charges (where relevant) will remain payable including the any Transmission Services Revenue Recovery Charges.

0728B (Urgent): All other charges (where relevant) will remain payable including the any Transmission Services Revenue Recovery Charges.

0728D (Urgent): All other charges (where relevant) will remain payable including the any Transmission Services Revenue Recovery Charges.

Duration

24. The election to incur the Discounted Reserve Price (as a consequence of the application of the Conditional Discount) will be enduring until:

0728A (Urgent): The election to incur the Discounted Reserve Price (as a consequence of the application of the Transmission Conditional Discount) will be enduring until:

0728B (Urgent): The election to incur the Discounted Reserve Price (as a consequence of the application of the Transmission Conditional Discount) will be enduring until:

0728D (Urgent): The election to incur the Discounted Reserve Price (as a consequence of the application of the Transmission Conditional Discount) will be enduring until:

24.1. the relevant User makes a valid Dis-application in accordance with paragraph 46; or

24.2. the point at which the relevant User is no longer a Registered User at the specified Exit Point; or

24.3. a Periodic Review (undertaken as per paragraph 51) or recalculation undertaken as per paragraph 52 determines that the Conditional Discount (CD_r) for the relevant route is 0%.

0728A (Urgent): A Periodic Review (undertaken as per paragraph 51) or recalculation undertaken as per paragraph 51 determines that the Transmission Conditional Discount (TCD_r) for the relevant route is 0%.

0728B (Urgent): A Periodic Review (undertaken as per paragraph 51) or recalculation undertaken as per paragraph 52 determines that the Transmission Conditional Discount (TCD_r) for the relevant route is 0%.

0728D (Urgent): A Periodic Review (undertaken as per paragraph 46) or recalculation undertaken as per paragraph 46 determines that the Transmission Conditional Discount (TCDr) for the relevant route is 0%.

Interaction with Charging Methodology

25. National Grid will forecast the extent of all Users elections to incur the Discounted Reserve Price for the forthcoming Gas Year. The net impact (of this forecast) on the aggregate amounts of Transmission Services Revenue which National Grid NTS estimates would be earned in the Gas Year will be taken into account (where practicable) as follows:

    0728B (Urgent): National Grid will forecast the extent of all Users elections to incur the Discounted Reserve Price for the forthcoming Gas Year. The net impact (of this forecast) on the aggregate amounts of Transmission Services Revenue which National Grid NTS estimates would be earned in the Gas Year will be taken into account (where practicable) when assessing the Entry Revenue Scaling Factor and Exit Revenue Scaling Factor for the relevant Gas Year[19] otherwise will be taken into account in the determination of Transmission Services Revenue Recovery Charges for the relevant Gas Year.

    25.1. (except for the Gas Year Commencing 1st October 2020) when assessing the Entry Revenue Scaling Factor and Exit Revenue Scaling Factor for the relevant Gas Year; otherwise

    0728C (Urgent): (except for the Gas Year Commencing 1st October 2020) when assessing the Entry Revenue Scaling Factor and Exit Revenue Scaling Factor for the relevant Gas Year20; otherwise

    25.2. will be taken into account in the determination of Transmission Services Revenue Recovery Charges for the relevant Gas Year.

D. Route Eligibility

26. Whereas one Eligible Entry Point (see paragraph 27) can be associated with more than one Eligible Exit Point (see paragraph 28), it is not permitted for a single User to associate more than one Eligible Entry Point to an individual Eligible Exit Point.

Entry Points

27. The following Entry Point types (as listed in National Grid's Transporter Licence, Special Condition 5F.27, Table 4B) are '**Eligible Entry Points**':

    27.1. Beach Terminal;

    27.2. Biomethane Plant;

    27.3. Interconnection Point;

    27.4. LNG Importation Terminal; and

    27.5. Onshore Field

Exit Points

28. The following Exit Point types (as listed in National Grid's Transporter Licence, Special Condition 5G.31, Table 8) are '**Eligible Exit Points**':

    28.1. DC ('Direct Connect'); and

    28.2. Interconnector.

E. Determination of Discount

29. The sequential steps detailed below are applied in order to derive the percentage point value of the Conditional Discount (the term CD_r as applied in paragraphs 19 and 20) for the relevant route.

    0728A (Urgent): The sequential steps detailed below are applied in order to derive the percentage point value of the Transmission Conditional Discount (the term TCD_r as applied in paragraphs 19 and 20) for the relevant route.

[19] See Modification Proposal 0678A legal text: UNC TPD Section Y Part A-I paragraph 2.4.3 or Modification Proposal 0678 legal text: UNC TPD Section Y Part A-I paragraph 2.4.4

[20] See Modification 0678A legal text: UNC TPD Section Y Part A-I paragraph 2.4.3 or Modification Proposal 0678 legal text: UNC TPD Section Y Part A-I paragraph 2.4.4

0728B (Urgent): The sequential steps detailed below are applied in order to derive the percentage point value of the Transmission Conditional Discount (the term TCD_r as applied in paragraphs 19 and 20) for the relevant route.

0728D (Urgent): The Maximum Discount Available for a straight-line distance not exceeding 5km is 90%. The maximum distance will be reviewed in line with paragraph 46 to ensure it remains appropriate over time.

Minimum and Maximum Allowed Discount

30. The minimum discount available at the Due Cross Subsidy Limitation (see paragraph 32) is 10%.

0728C (Urgent): The minimum discount available at the maximum discount limit (see paragraph 32) is 10%.

31. The Maximum Discount Available (MDA) for a straight-line distance of zero is 90%.

0728C (Urgent):

Maximum Discount Limit (MDL)

The value, MDL will be set at 18km. This figure will be reviewed in line with paragraph 51 to ensure it remains appropriate over time.

Due Cross Subsidy Limitation

32. The value, CSL, will be set at 18km. This figure will be reviewed in line with paragraph 51 to ensure it remains appropriate over time.

0728B (Urgent): The value, CSL, will be set at 28km. This figure will be reviewed in line with paragraph 51 to ensure it remains appropriate over time.

Route Specific Discount

33. The Provisional Conditional Discount (PCD_r) for the relevant route will be determined by application of the following formula:

$$PCD_r = \left(\left(\frac{1}{IFERROR\left(e^{\left(\frac{1.6094}{CSL}\right)},1\right)} \right)^{\wedge SLDr} \right) - \left(1 - \left(\frac{MDA}{100}\right)\right)$$

where:

CSL means the Due Cross Subsidy Limitation determined in accordance with paragraph 32; and

MDA means the Maximum Discount Available determined in accordance with paragraph 31;

SLD_r means the Route Straight-line Distance.

0728A (Urgent): The Provisional Transmission Conditional Discount ($PTCD_r$) for the relevant route will be determined by application of the following formula:

$$PTCD_r = \left(\left(\frac{1}{IFERROR\left(e^{\left(\frac{1.6094}{CSL}\right)},1\right)} \right)^{\wedge SLDr} \right) - \left(1 - \left(\frac{MDA}{100}\right)\right)$$

where:

CSL means the Due Cross Subsidy Limitation determined in accordance with paragraph 32; and

MDA means the Maximum Discount Available determined in accordance with paragraph 31.

SLD_r means the Route Straight-line Distance.

0728B (Urgent): The Provisional Transmission Conditional Discount ($PTCD_r$) for the relevant route will be determined by application of the following formula:

$$PTCD_r = \left(\left(\frac{1}{IFERROR\left(e^{\left(\frac{1.6094}{CSL}\right)},1\right)}\right)^{\wedge SLDr}\right) - \left(1 - \left(\frac{MDA}{100}\right)\right)$$

where:

CSL means the Due Cross Subsidy Limitation determined in accordance with paragraph 32; and

MDA means the Maximum Discount Available determined in accordance with paragraph 31.

SLD_r means the Route Straight-line Distance.

0728C (Urgent): The Provisional Conditional Discount (PCDr) for the relevant route will be determined by application of the following formula:

$$PCD_r = \left(\left(\frac{1}{IFERROR\left(e^{\left(\frac{1.6094}{MDL}\right)},1\right)}\right)^{\wedge SLDr}\right) - \left(1 - \left(\frac{MDA}{100}\right)\right)$$

where:

MDL means the Maximum Discount limit determined in accordance with paragraph 32; and

MDA means the Maximum Discount Available determined in accordance with paragraph 31.

SLD_r means the Route Straight-line Distance.

34. The Conditional Discount (CD_r) for the relevant route will be equal to the Provisional Conditional Discount (PCD_r) unless the Provisional Conditional Discount is less than 10% in which case the Conditional Discount will be equal to zero.

0728A (Urgent): The Transmission Conditional Discount (TCD_r) for the relevant route will be equal to the Provisional Transmission Conditional Discount ($PTCD_r$) unless the Provisional Transmission Conditional Discount is less than 10% in which case the Transmission Conditional Discount will be equal to zero.

0728B (Urgent): The Transmission Conditional Discount (TCD_r) for the relevant route will be equal to the Provisional Transmission Conditional Discount ($PTCD_r$) unless the Provisional Transmission Conditional Discount is less than 10% in which case the Transmission Conditional Discount will be equal to zero.

0728C (Urgent): The Capacity Discount (CDr) for the relevant route will be equal to the Provisional Conditional Discount (PCDr) unless the Provisional Capacity Discount is less than 10% in which case the Capacity Discount will be equal to zero.

Eligible Quantities

35. The Entry Eligible Quantity (EQ_{En}) for which the Discounted Reserve Price applies will be determined per route, in respect of each day as follows:

$$EQ_{En} = Min(IEQ_{En}, AQ_{En})$$

where:

IEQ_{En} means the Initial Eligible Quantity at Entry determined in accordance with paragraph 35.1; and

AQ_{En} means the Apportionment Quantity at Entry determined in accordance with paragraph 35.2;

35.1. The Initial Eligible Quantity at Entry (IEQ_{En}) will be determined each day as follows:

$$IEQ_{En} = Max\left(0, \left(Min\left(CAP_{En}, CAP_{Ex}, A_{En}, A_{Ex}\right) - EC_{En}\right)\right)$$

CAP_{En} means in respect of Entry capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Entry Point;

CAP_{Ex} means in respect of Exit capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Exit Point;

A_{En} means the User's gas flow entry allocation on the day at the Eligible Entry Point; and

A_{Ex} means the User's gas flow exit allocation on the day at the Eligible Exit Point; and

EC_{En} means the quantity of Entry Capacity procured via an Existing Contract.

0728C (Urgent): The Initial Eligible Quantity at Entry (IEQ_{En}) will be determined each day as follows:

$$IEQ_{En} = Max\left(0, \left(Min\left(CAP_{En}, CAP_{Ex}\right) - EC_{En}\right)\right)$$

CAP_{En} means in respect of Entry capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Entry Point;

CAP_{Ex} means in respect of Exit capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Exit Point;

EC_{En} means the quantity of Entry Capacity procured via an Existing Contract.

35.2. The Apportionment Quantity at Entry (AQ_{En}) will be determined each day as follows:

$$AQ_{En} = \sum CTQ_{En}$$

where:

$\sum$ means the sum of; and

CTQ_{En} means the quantity of capacity in an Eligible Entry Capacity Tranche at Quantity Holder level as defined in paragraph35.3

35.3. An Eligible Entry Capacity Tranche means an Entry Capacity allocation procured or assigned in a single event at a known, uniform price that is not interruptible capacity nor Existing Contract Capacity and is not transacted via Secondary Transactions.

36. The Exit Eligible Quantity (EQ_{Ex}) for which the Discounted Reserve Price applies will be determined in respect of each day as follows:

$$EQ_{Ex} = Min(IEQ_{Ex}, AQ_{Ex})$$

where:

IEQ_{Ex} means the Initial Eligible Quantity at Exit determined in accordance with paragraph 36.1; and

AQ_{Ex} means the Apportionment Quantity at Exit determined in accordance with paragraph 36.2.

36.1. The Initial Eligible Quantity at Exit (IEQ_{Ex}) will be determined each day as follows:

$$IEQ_{Ex} = Min(CAP_{En}, CAP_{Ex}, A_{En}, A_{Ex})$$

CAP_{En} means in respect of Entry capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Entry Point;

CAP_{Ex} means in respect of Exit capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Exit Point;

A_{En} means the User's gas flow entry allocation on the day at the Eligible Entry Point; and

A_{Ex} means the User's gas flow exit allocation on the day at the Eligible Exit Point.

0728C (Urgent): The Initial Eligible Quantity at Exit (IEQ_{Ex}) will be determined each day as follows:

$$IEQ_{Ex} = Min(CAP_{En}, CAP_{Ex})$$

CAP_{En} means in respect of Entry capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Entry Point;

CAP_{Ex} means in respect of Exit capacity, the greater of zero (0) and the User's Net Firm Entitlement on the day at the Eligible Exit Point;

36.2. The Apportionment Quantity at Exit (AQ_{Ex}) will be determined each day as follows:

$$AQ_{Ex} = \sum CTQ_{Ex}$$

where:

$\sum$ means the sum of; and

CTQ_{Ex} means the quantity of capacity in an Eligible Exit Capacity Tranche at Quantity Holder level as defined in paragraph 36.3.

36.3. An Eligible Exit Capacity Tranche means Exit Capacity allocation procured or assigned in a single event at a known, uniform price that is not interruptible capacity and is not transacted via Secondary Transactions.

37. Where a User specifies a single Entry Point as the relevant Entry Point for more than one route (i.e. in respect of more than one Exit Point):

37.1. the Entry Capacity (CAP_{En}) for the relevant route will be equal to the User's Entry Capacity at the ASEP pro-rated on the basis of the Exit Capacity quantity as a proportion of the aggregate of the Exit Capacity quantities (for which the Entry Point is the relevant Entry Point for the nominated routes);

37.2. the quantity of Entry Capacity procured via an Existing Contract (EC_{En}) for the relevant route will be the equal to the User's Entry Capacity procured via an Existing Contract at the ASEP pro-rated on the basis of the Exit Capacity quantity as a proportion of the aggregate of the Exit Capacity quantities (for which the Entry Point is the relevant Entry Point for the nominated routes);

37.3. the Entry Allocation (A_{En}) for the relevant route will be the equal to the User's Entry Allocation at the ASEP pro-rated on the basis of the Exit Allocation quantity as a proportion of the aggregate of the Exit Allocation quantities (for which the Entry Point is the relevant Entry Point for the nominated routes);

37.4. the Apportionment Quantity (AQ_{En}) for the relevant route will be the equal to the User's Apportionment Quantity pro-rated on the basis of the Exit Capacity quantity as a proportion of the aggregate of the Exit Capacity quantities (for which the Entry Point is the relevant Entry Point for the nominated routes);

38. For the purposes of determining the apportionment of:

38.1. Entry Eligible Quantity between Eligible Entry Capacity Tranches, the Eligible Entry Quantity will be pro-rated on the basis of the Eligible Entry Capacity Tranche capacity quantity as a proportion of the aggregate of the Eligible Entry Capacity Tranche capacity quantities; and

38.2. Exit Eligible Quantity between Eligible Exit Capacity Tranches (that may have been procured at different unit rates i.e. p/kWh/d), the Eligible Exit Quantity will be pro-rated on the basis of the Eligible Exit Capacity Tranche capacity quantity as a proportion of the aggregate of the Eligible Exit Capacity Tranche capacity quantities.

F. Application and Dis-application Process

39. A User can elect to incur the Discounted Reserve Price by making a valid Application to the CDSP via the Supply Point Nomination and Confirmation process or Supply Point Amendment process (or the equivalent notification for Interconnection Points).

40. A valid Application in respect of a route must:

40.1. specify one Eligible Entry Point and one Eligible Exit Point;

40.2. have a Route Straight-line Distance (SLD_r) that is within the Due Cross Subsidy Limitation (as per paragraph 32);

0728C (Urgent): have a Route Straight-line Distance (SLDr) that is within the Maximum Distance Limit (as per paragraph 32);

40.3. not specify a route already elected by the applicant User previously within the Gas Year; and

40.4. not specify an alternate Entry Point where the Exit Point has already had a valid Application within the Gas Year from that applicant User.

0728A (Urgent):

- Specify one Eligible Entry Point and one Eligible Exit Point;
- Have a Route Straight-line Distance (SLD_r) that is within the Due Cross Subsidy Limitation (as per paragraph 32);
- Not specify a route already elected by the applicant User previously within the Gas Year; and
- Not specify an alternate Entry Point where the Exit Point has already had a valid Application within the Gas Year from that applicant User.

0728D (Urgent):

- Specify one Eligible Entry Point and one Eligible Exit Point;
- Have a Route Straight-line Distance (SLD_r) that does not exceed 5km (as per paragraph 29);
- Not specify a route already elected by the applicant User previously within the Gas Year; and

- Not specify an alternate Entry Point where the Exit Point has already had a valid Application within the Gas Year from that applicant User.

41. The Application will be validated against the criteria in paragraph 40 and a response will be issued to the User by the CDSP within two Supply Point Systems Business Days of receipt of the Application. This response will either be:

0728A (Urgent): The Application will be validated against the criteria in paragraph 39 and a response will be issued to the User by the CDSP within two Supply Point Systems Business Days of receipt of the Application. This response will either be:

41.1. rejection of the Application (specifying a reason); or

41.2. notice of referral of the Application to National Grid; or

41.3. a Conditional Discount offer (or the equivalent notification for Interconnection Points) quoting a Conditional Discount value for the relevant route which will be valid for a period of six-months from the date of the Conditional Discount offer.

0728A (Urgent): A Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points) quoting a Transmission Conditional Discount value for the relevant route which will be valid for a period of six-months from the date of the Transmission Conditional Discount offer.

0728B (Urgent): A Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points) quoting a Transmission Conditional Discount value for the relevant route which will be valid for a period of six-months from the date of the Transmission Conditional Discount offer.

0728C (Urgent): a Capacity Discount offer (or the equivalent notification for Interconnection Points) quoting a Capacity Discount value for the relevant route which will be valid for a period of six-months from the date of the Capacity Discount offer.

0728D (Urgent): A Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points) quoting a Transmission Conditional Discount value for the relevant route which will be valid for a period of six-months from the date of the Transmission Conditional Discount offer.

42. Where a valid Application is referred to National Grid (as per paragraph 41.2), a response will be issued to the User by the CDSP following the CDSP's receipt of the response to the referral from National Grid. This response will be that specified in either paragraph 41.1 or paragraph 41.3.

43. The User is entitled to dispute the Route Straight-line Distance utilised by National Grid to determine the Conditional Discount by submitting a new Application with an alternative six-figure grid reference for the Eligible Exit Point with supporting evidence. The CDSP will respond accordingly in line with paragraph 41.

0728A (Urgent): The User is entitled to dispute the Route Straight-line Distance utilised by National Grid to determine the Transmission Conditional Discount by submitting a new Application with an alternative six-figure grid reference for the Eligible Exit Point with supporting evidence. The CDSP will respond accordingly in line with paragraph 440.4.

0728B (Urgent): The User is entitled to dispute the Route Straight-line Distance utilised by National Grid to determine the Transmission Conditional Discount by submitting a new Application with an alternative six-figure grid reference for the Eligible Exit Point with supporting evidence. The CDSP will respond accordingly in line with paragraph 440.4.

0728D (Urgent): The User is entitled to dispute the Route Straight-line Distance utilised by National Grid to determine the Transmission Conditional Discount by submitting a new Application with an alternative six-figure grid reference for the Eligible Exit Point with supporting evidence. The CDSP will respond accordingly in line with paragraph 35.

44. User acceptance of a Conditional Discount offer (or the equivalent notification for Interconnection Points) issued in response to a valid Application must be confirmed (or the equivalent notification for Interconnection Points) by the User. It must specify a requested Effective Date which is between five and thirty Supply Point Systems Business Days after the date of receipt of the Conditional Discount offer (or the equivalent notification for Interconnection Points).

0728A (Urgent): User acceptance of a Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points) issued in response to a valid Application must be confirmed (or the equivalent notification for Interconnection Points) by the User. It must specify a requested Effective Date which is between five and thirty Supply Point Systems Business Days after the date of receipt of the Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points).

0728B (Urgent): User acceptance of a Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points) issued in response to a valid Application must be confirmed (or the equivalent notification for Interconnection Points) by the User. It must specify a requested Effective Date which is between five and thirty Supply Point Systems Business Days after the date of receipt of the Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points).

0728C (Urgent): User acceptance of a Capacity Discount offer (or the equivalent notification for Interconnection Points) issued in response to a valid Application must be confirmed (or the equivalent notification for Interconnection Points) by the User. It must specify a requested Effective Date which is between five and thirty Supply Point Systems Business Days after the date of receipt of the Capacity Discount offer (or the equivalent notification for Interconnection Points).

0728D (Urgent): User acceptance of a Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points) issued in response to a valid Application must be confirmed (or the equivalent notification for Interconnection Points) by the User. It must specify a requested Effective Date which is between five and thirty Supply Point Systems Business Days after the date of receipt of the Transmission Conditional Discount offer (or the equivalent notification for Interconnection Points).

45. Once a confirmation (or the equivalent notification for Interconnection Points) has been accepted, the Conditional Discount becomes active on the Effective Date.

0728A (Urgent): Once a confirmation (or the equivalent notification for Interconnection Points) has been accepted, the Transmission Conditional Discount becomes active on the Effective Date.

0728B (Urgent): Once a confirmation (or the equivalent notification for Interconnection Points) has been accepted, the Transmission Conditional Discount becomes active on the Effective Date.

0728C (Urgent): Once a confirmation (or the equivalent notification for Interconnection Points) has been accepted, the Capacity Discount becomes active on the Effective Date.

0728D (Urgent): Once a confirmation (or the equivalent notification for Interconnection Points) has been accepted, the Transmission Conditional Discount becomes active on the Effective Date.

46. A User which has elected to incur the Discounted Reserve Price may withdraw this election by making a valid Dis-application to the CDSP via the Supply Point Nomination, Confirmation or Supply Point Amendment process (or the equivalent notification for Interconnection Points). From the effective date of this withdrawal, the standard Transmission Services Capacity Reserve Price will become payable.

47. A valid Dis-application must specify a requested withdrawal date which is between five and thirty Supply Point Systems Business Days following the date of receipt the Dis-application.

48. In making a Dis-application, the User acknowledges and accepts that withdrawal of the election for the relevant route will prevent (within the same Gas Year):

48.1. re-application for the same route; and

48.2. an application for a new route based on the same Exit Point with an alternative Entry Point.

0728A (Urgent):

- Re-application for the same route; and
- An application for a new route based on the same Exit Point with an alternative Entry Point.

0728D (Urgent):

- Re-application for the same route; and
- An application for a new route based on the same Exit Point with an alternative Entry Point.

49. The Dis-application will be validated against the criteria in paragraph 47 and a response will be issued to the User by the CDSP within two Supply Point Systems Business Days of receipt of the

Dis-application. This response will either be rejection of the Dis-application (specifying a reason) or confirmation of the withdrawal date.

0728A (Urgent): The Dis-application will be validated against the criteria in paragraph 46 and a response will be issued to the User by the CDSP within two Supply Point Systems Business Days of receipt of the Dis-application. This response will either be rejection of the Dis-application (specifying a reason) or confirmation of the withdrawal date.

50. For the avoidance of doubt, a route, the combination of Entry Point, Exit Point and User, can only be elected once per Gas Year. A User may apply, and withdraw within-year, but would not be permitted to reapply for the same route unless the requested effective date is in the following Gas Year.

G. Periodic Review and Price Change Notification

51. National Grid will undertake a Periodic Review of the Conditional Discount mechanism to:

0728A (Urgent): National Grid will undertake a Periodic Review of the Transmission Conditional Discount mechanism to:

0728B (Urgent): National Grid will undertake a Periodic Review of the Transmission Conditional Discount mechanism to:

0728C (Urgent): National Grid will undertake a Review at the start of each price control period (Periodic Review) of the Capacity Discount mechanism to:

0728D (Urgent): National Grid will undertake a Periodic Review of the Transmission Conditional Discount mechanism to:

51.1. assess all new and existing Entry Points and Exit Points based on updated information, point classifications, new points and updated FCC values;

51.2. assess whether any Entry Points or Exit Points are no longer Eligible due to changes in site type or status;

51.3. assess the suitability of the Due Cross Subsidy Limitation (CSL_y)

0728C (Urgent): assess the suitability of the Maximum Distance Limit (MDLy) in relation to the feasibility for users to construct a bypass pipeline.

0728D (Urgent): Assess the suitability of the 5km maximum straight line distance.

52. National Grid will recalculate Conditional Discounts annually and issue a Price Change Notification to the relevant Users (by 01 August) specifying the updated Conditional Discount value and, where appropriate, advise Users of routes which no longer qualify for a Conditional Discount. In respect of the latter, the relevant Users election for the Conditional Discount will be automatically removed with effect from 1st October (with a notice to this effect issued to the User by the second Supply Point Systems Business Day prior to this date).

0728A (Urgent): National Grid will recalculate Transmission Conditional Discounts annually and issue a Price Change Notification to the relevant Users (by 01 August) specifying the updated Transmission Conditional Discount value and, where appropriate, advise Users of routes which no longer qualify for a Transmission Conditional Discount. In respect of the latter, the relevant Users election for the Transmission Conditional Discount will be automatically removed with effect from 1st October (with a notice to this effect issued to the User by the second Supply Point Systems Business Day prior to this date).

0728B (Urgent): National Grid will recalculate Transmission Conditional Discounts annually and issue a Price Change Notification to the relevant Users (by 01 August) specifying the updated Transmission Conditional Discount value and, where appropriate, advise Users of routes which no longer qualify for a Transmission Conditional Discount. In respect of the latter, the relevant Users election for the Transmission Conditional Discount will be automatically removed with effect from 1st October (with a notice to this effect issued to the User by the second Supply Point Systems Business Day prior to this date).

0728C (Urgent): National Grid will recalculate Capacity Discounts annually and issue a Price Change Notification to the relevant Users (by 01 August) specifying the updated Capacity Discount value and, where appropriate, advise Users of routes which no longer qualify for a Capacity Discount. In respect of the latter, the relevant Users election for the Capacity Discount will be automatically removed with effect from 1st October (with a notice to this effect issued to the User by the second Supply Point Systems Business Day prior to this date).

0728D (Urgent): National Grid will recalculate Transmission Conditional Discounts annually and issue a Price Change Notification to the relevant Users (by 01 August) specifying the updated Transmission Conditional Discount value and, where appropriate, advise Users of routes which no longer qualify for a Transmission Conditional Discount. In respect of the latter, the relevant Users election for the Transmission Conditional Discount will be automatically removed with effect from 1st October (with a notice to this effect issued to the User by the second Supply Point Systems Business Day prior to this date).

53. The recalculation referred to in paragraph 52 will take place prior to 1st May each year.

54. The CDSP will issue an annual reminder to the relevant Users that the Conditional Discount will continue to apply in following Gas Year unless a valid Dis-application is submitted by the User.

0728A (Urgent): The CDSP will issue an annual reminder to the relevant Users that the Transmission Conditional Discount will continue to apply in following Gas Year unless a valid Dis-application is submitted by the User.

0728B (Urgent): The CDSP will issue an annual reminder to the relevant Users that the Transmission Conditional Discount will continue to apply in following Gas Year unless a valid Dis-application is submitted by the User.

0728C (Urgent): The CDSP will issue an annual reminder to the relevant Users that the Capacity Discount will continue to apply in following Gas Year unless a valid Dis-application is submitted by the User.

H. Implementation (including transition)

55. The first day from which the Discounted Reserve Price can be levied is the first day from which new charges (applied pursuant to implementation of the revised Methodology and subject to direction to implement this Modification) are applied (the '**Earliest Charge Commencement Date**').

0728A (Urgent): The first day from which the Discounted Reserve Price can be levied is the first day from which new charges (subject to direction to implement this Modification) are applied (the '**Earliest Charge Commencement Date**').

0728B (Urgent): The first day from which the Discounted Reserve Price can be levied is the first day from which new charges (subject to direction to implement this Modification) are applied (the '**Earliest Charge Commencement Date**').

0728C (Urgent): Implementation of the modification proposal will terminate all existing NTS Optional Commodity Rate arrangements at the end of Gas Day prior to the Earliest Charge Commencement Date, accordingly:

> 55.1 notification of the termination of the existing NTS Optional Commodity Rate arrangements will be provided to all relevant Users as soon as reasonably practicable following publication of Ofgem's final decision to implement the Modification Proposal (the 'Modification Direction Date');
>
> 55.2 where, following the Modification Direction Date, a User elects to incur the NTS Optional Commodity Rate, National Grid NTS will inform the User, as soon as reasonably practicable after this election, that such election will lapse on the Earliest Charge Commencement Date; and
>
> 55.3 for the avoidance of doubt, any existing NTS Optional Commodity Charge nomination by a User, pursuant to TPD Section G (as in force prior to implementation of this Modification Proposal) shall lapse and have no effect on, and from, the Earliest Charge Commencement Date.

0728D (Urgent): The first day from which the Discounted Reserve Price can be levied is the first day from which new charges (subject to direction to implement this Modification) are applied (the 'Earliest Charge Commencement Date').

56. Implementation of the new UNC rules regarding the Conditional Discount will take effect in time to allow for the following to be completed ahead of the Earliest Charge Commencement Date:

0728C (Urgent): The first day from which the Discounted Reserve Price can be levied is from 01 October 2020 (the **'Earliest Charge Commencement Date'**).

56.1. the processing of Applications for the Discounted Reserve Price (providing sufficient notice for the Discounted Reserve Price to be levied from the Earliest Charge Commencement Date).

0728C (Urgent): Implementation of the new UNC rules regarding the Capacity Discount will take effect in time to allow for the following to be completed ahead of the Earliest Charge Commencement Date:

publication of the Transportation Statement for the first Gas Year (or part of such); and

the processing of Applications for the Discounted Reserve Price (providing sufficient notice for the Discounted Reserve Price to be levied from the Earliest Charge Commencement Date).

I. Invoicing

57. Capacity Charges levied at the Discounted Reserve Price will be invoiced and payable in accordance with UNC TPD Section S.

0728A (Urgent): **Non-Transmission Conditional Discount**

J. Product Description (Non-Transmission Conditional Discount)

A Non-Transmission Conditional Discount may only be applied on the relevant route from the Effective Date of the application of the Transmission Conditional Discount (para 45).

The value of the Non-Transmission Conditional Discount will be 80% where the discount will be applied to the General Non-Transmission Service Entry and Exit Charges and the resulting charge will be the Conditional Product Non-Transmission Charge (CPNTC), so as:

CPNTC = NTCD% x General Non-Transmission Services Charges (entry and exit)

The Non-Transmission Conditional Discount is fixed and determined as follows:

$$NTCD\% = 1 - (IPNTC/FNTC)$$

where:

NTCD% means Non-Transmission Conditional Discount fixed at 80%

ICPNTC means the Implied Conditional Product Non-Transmission Charge fixed at 0.0021 p/kwh

FNTC means Forecast General Non-Transmission Services Entry and Exit Charge for Formula Year 2020/21 fixed at 0.0103 p/kWh

Implied Product Non-Transmission Charge is determined as follows:

$$ICPNTC = (ICPNTC_{revenue} / FPQ) \times 100$$

where:

$ICPNTC_{revenue}$ means Revenue to recovered from the application of the Implied Conditional Product Non-Transmission Charge fixed at £4.68 million

FPQ means Forecast Product Volume which is the aggregate quantity of gas forecast by National Grid Gas to be allocated at the Entry and Exit Points on the forecast Conditional Product routes for Gas Year 2020/21 fixed at 224,384 GWh

Revenue to be recovered from the application of the Implied *Conditional Product* Non-Transmission Charge is determined as follows:

$$ICPNTC_{revenue} = (SOBR_t - SOK_t) \times RPLD$$

where:

$SOBR_t$ means Base Price Control SO Revenue for Formula Year 2020/21 as set out in National Grid Gas “NTS Charge Setting Report April 2020 Final” fixed at £109.1 million

SOK_t means the Revenue Adjustment Term (for the prior year) for Formula Year 2020/21 as set out in National Grid Gas “NTS Charge Setting Report April 2020 Final” fixed at -£12.1 million

RPLD means Relative Pipeline Distance of forecast product routes fixed at 0.03864

The Relative Pipeline Distance of forecast product routes is determined as follows:

RPLD = 0.03864 = (FCPR x CSL) / NTSD

where:

FPR means Forecast Conditional Product Routes as determined by National Grid fixed at 17

CSL means the Cross-Subsidy Limitation fixed at 18

NTSD means the total distance of the NTS fixed at 7919.56 km

K. Eligible Quantities

The Conditional Product Non-Transmission Charge (CPNTC) entry and exit will be applied to each User Eligible Conditional Product Non-Transmission Quantity as follows:

User Eligible Conditional Product Non-Transmission Quantity

$UECPNTCQ = Min (A_{En}, A_{Ex})$

Where:

A_{En} means the User’s gas flow entry allocation on the day at the Eligible Entry Point; and

A_{Ex} means the User’s gas flow exit allocation on the day at the Eligible Exit Point.

where a User has nominated or identified more than one Specified Exit Point at a Specified Entry Point, the UDQI shall be prorated in relation to the UDQOs at the relevant Specified Exit Points.

L. Price Change Notification

National Grid will publish the Conditional Product Non-Transmission Charges (entry and exit) at the same time as it publishes the General Non-Transmission Services Entry and Exit Charges

M. Interaction with Charging Methodology

National Grid will forecast the extent of all Users elections to incur the Discounted Non-Transmission Charges for the forthcoming Gas Year. The net impact (of this forecast) on the aggregate amounts of Non Transmission Services Revenue which National Grid NTS estimates would be earned in the Gas Year will be taken into account (where practicable) in the determination of General Non Transmission Services Charges for the relevant Gas Year

N. Invoicing

Conditional Product Non-Transmission Charges (entry and exit) will be invoiced and payable in accordance with UNC TPD Section S.

0728D (Urgent): **Non-Transmission Conditional Discount**

J. Product Description (Non-Transmission Conditional Discount)

A Non-Transmission Conditional Discount may only be applied on the relevant route from the Effective Date of the application of the Transmission Conditional Discount (para 40).

The value of the Non-Transmission Conditional Discount will be 94% where the discount will be applied to the General Non-Transmission Service Entry and Exit Charges and the resulting charge will be the Conditional Product Non-Transmission Charge (CPNTC), so as:

CPNTC = NTCD% x General Non-Transmission Services Charges (entry and exit)

The Non-Transmission Conditional Discount is fixed and determined as follows:

NTCD% = 1 –(IPNTC/FNTC)

where:

NTCD% means Non-Transmission Conditional Discount fixed at 94%

ICPNTC means the Implied Conditional Product Non-Transmission Charge fixed at 0.0006 p/kwh

FNTC means Forecast General Non-Transmission Services Entry and Exit Charge for Formula Year 2020/21 fixed at 0.0103 p/kWh

Implied Product Non-Transmission Charge is determined as follows:

$ICPNTC = (ICPNTC_{revenue} / FPQ) \times 100$

where:

$ICPNTC_{revenue}$ means Revenue to recovered from the application of the Implied Conditional Product Non-Transmission Charge fixed at £1.30 million

FPQ means Forecast Product Volume which is the aggregate quantity of gas forecast by National Grid Gas to be allocated at the Entry and Exit Points on the forecast Conditional Product routes for Gas Year 2020/21 fixed at 210,792 GWh

Revenue to be recovered from the application of the Implied *Conditional Product* Non-Transmission Charge is determined as follows:

$ICPNTC_{revenue} = (SOBR_t – SOK_t) \times RPLD$

where:

$SOBR_t$ means Base Price Control SO Revenue for Formula Year 2020/21 as set out in National Grid Gas "NTS Charge Setting Report April 2020 Final" fixed at £109.1 million

SOK_t means the Revenue Adjustment Term (for the prior year) for Formula Year 2020/21 as set out in National Grid Gas "NTS Charge Setting Report April 2020 Final" fixed at -£12.1 million

RPLD means Relative Pipeline Distance of forecast product routes fixed at 0.01073

The Relative Pipeline Distance of forecast product routes is determined as follows:

$$RPLD = 0.01073 = (FCPR \times DC) / NTSD$$

where:

FPR means Forecast Conditional Product Routes as determined by National Grid fixed at 15

DC means the Distance Cap fixed at 5

NTSD means the total distance of the NTS fixed at 7919.56 km

K. Eligible Quantities

The Conditional Product Non-Transmission Charge (CPNTC) entry and exit will be applied to each User Eligible Conditional Product Non-Transmission Quantity as follows:

User Eligible Conditional Product Non-Transmission Quantity

$$UECPNTCQ = Min (A_{En}, A_{Ex})$$

Where:

A_{En} means the User's gas flow entry allocation on the day at the Eligible Entry Point; and

A_{Ex} means the User's gas flow exit allocation on the day at the Eligible Exit Point.

where a User has nominated or identified more than one Specified Exit Point at a Specified Entry Point, the UDQI shall be prorated in relation to the UDQOs at the relevant Specified Exit Points.

L. Price Change Notification

National Grid will publish the Conditional Product Non-Transmission Charges (entry and exit) at the same time as it publishes the General Non-Transmission Services Entry and Exit Charges

M. Interaction with Charging Methodology

National Grid will forecast the extent of all Users elections to incur the Discounted Non-Transmission Charges for the forthcoming Gas Year. The net impact (of this forecast) on the aggregate amounts of Non Transmission Services Revenue which National Grid NTS estimates would be earned in the Gas Year will be taken into account (where practicable) in the determination of General Non Transmission Services Charges for the relevant Gas Year

N. Invoicing

Conditional Product Non-Transmission Charges (entry and exit) will be invoiced and payable in accordance with UNC TPD Section S.

6 Impacts & Other Considerations

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

None.

There could be some topics of discussion which may be discussed under Request 0705R[21] - The Capacity Access Review, based on the outcome of this Modification.

0728C (Urgent): The ongoing Capacity Access Review under Request 0705R[22] will not be directly affected by this Modification as it has its own objectives and structure. There could be some topics of discussion within that context that may be re-prioritised or discussed based on the outcome of this Modification.

0728D (Urgent): There could be some topics of discussion which may be discussed under Request 0705R[23] - The Capacity Access Review, based on the outcome of this Modification.

Consumer Impacts

There is likely to be impact on different consumer groups (e.g. those directly connected to the NTS who may not be a Shipper, Shippers, Distribution Networks, and ultimately end consumers). Due to the nature of potential bypass, in some circumstances it may not be a Shipper who would bypass and the charging relationship for capacity (and the responsibility to nominate for the conditional discount) remains with the Shipper.

It should be noted that the allowed revenue collected by National Grid NTS will not change, only the parties that pay and in what quantity. The Gas Transportation Charges recover a set amount of monies from Users of the NTS and these allowed revenues are determined in line with National Grid's Licence. This Modification is proposing a set of changes whereby it places the most appropriate levels of charges on those accessing and using the NTS, this Modification also considers those where it may be more likely to bypass the NTS.

This Modification provides a discounted transportation charge for relevant Users at a subset of Exit points (fulfilling the relevant criteria) that will essentially require the value of the discount to be recovered from Users at those points *not* electing to or not in a position to incur the Conditional Discount. This will seek to ensure that in a given Formula Year, the actual revenue recovered by National Grid is as close as possible to its allowed revenue by appropriate adjustments to the Scaling Factor, thereby minimising the value of any Revenue Recovery Charges.

The precise nature of how the User recovers the transportation charges it pays to National Grid NTS is dependent upon the downstream contractual arrangements Users have in place with their various counterparties. This may vary between individual Users.

Due to the complex arrangements highlighted above, it is prudent from National Grid's perspective to highlight the general picture for the impacts. This high-level impact is highlighted in Section 3 and the analysis contained in the Appendix (paragraph 22). If any changes proposed impact the commercial

[21] https://www.gasgovernance.co.uk/0705
[22] https://www.gasgovernance.co.uk/0705
[23] https://www.gasgovernance.co.uk/0705

arrangements between parties this will be for them to consider and how charges are ultimately levied to their customers.

0728A (Urgent): Due to the complex arrangements highlighted above, it is prudent from The Proposer's perspective to highlight the general picture for the impacts. This high-level impact is highlighted in Section 3 and the analysis contained in the Appendix.

If any changes proposed impact the commercial arrangements between parties this will be for them to consider and how charges are ultimately levied to their customers.

0728B (Urgent): Due to the complex arrangements highlighted above, it is prudent from The Proposer's perspective to highlight the general picture for the impacts. This high-level impact is highlighted in Section 3 and the analysis contained in the Appendix 1. If any changes proposed impact the commercial arrangements between parties this will be for them to consider and how charges are ultimately levied to their customers.

Cross Code Impacts

None

EU Code Impacts

EU Tariff Code compliance (in respect of the proposed Conditional Discount) is considered as part of this Modification. Please see Section 7 Relevant Objectives.

0728A (Urgent): EU Tariff Code compliance (in respect of the proposed Conditional Discounts) is considered as part of this Modification.

0728B (Urgent): EU Tariff Code compliance (in respect of the proposed Conditional Discounts) is considered as part of this Modification.

0728D (Urgent): EU Tariff Code compliance (in respect of the proposed Conditional Discounts) is considered as part of this Modification.

Central Systems Impacts

There will be impacts on Gemini and UK Link invoicing systems. These impacts are being assessed.

0728C (Urgent): There will be impacts on Gemini and UK Link invoicing systems.

7 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.	None

Demonstration of how the Relevant Objectives are furthered:

c) Efficient discharge of the licensee's obligations.

The proposed changes to the UNC support the implementation of the new NTS Conditional Discount. Standard Special Condition A5(5) of the NTS Licence sets outs the relevant methodology objectives and National Grid NTS believes that these objectives are better facilitated for the reasons detailed below (Relevant Charging Methodology Objectives: Demonstration of how the Relevant Objectives are furthered).

0728A (Urgent): The proposed changes to the UNC support the implementation of the new NTS Conditional Discounts. Standard Special Condition A5(5) of the NTS Licence sets outs the relevant methodology objectives and The Proposer believes that these objectives are better facilitated for the reasons detailed below (Relevant Charging Methodology Objectives: Demonstration of how the Relevant Objectives are furthered).

0728B (Urgent): The proposed changes to the UNC support the implementation of the new NTS Conditional Discounts. Standard Special Condition A5(5) of the NTS Licence sets outs the relevant methodology objectives and the Proposer believes that these objectives are better facilitated for the reasons detailed below (Relevant Charging Methodology Objectives: Demonstration of how the Relevant Objectives are furthered).

0728C (Urgent): The proposed changes to the UNC support the implementation of the new NTS Capacity Discount. Standard Special Condition A5(5) of the NTS Licence sets outs the relevant methodology objectives and the Proposer believes that these objectives are better facilitated for the reasons detailed below (Relevant Charging Methodology Objectives: Demonstration of how the Relevant Objectives are furthered).

0728D (Urgent): The proposed changes to the UNC support the implementation of the new NTS Conditional Discounts. Standard Special Condition A5(5) of the NTS Licence sets outs the relevant methodology objectives and The Proposer believes that these objectives are better facilitated for the reasons detailed below (Relevant Charging Methodology Objectives: Demonstration of how the Relevant Objectives are furthered).

d) Securing of effective competition between relevant Shippers;

The proposed changes to the UNC support the implementation of the new NTS Conditional Discount. To the extent that this charge is expected to provide an incentive for large consumers located close to NTS points of entry to utilise (or continue to utilise) the NTS, thereby enhancing effective competition.

0728A (Urgent): The proposed changes to the UNC support the implementation of the new NTS Conditional Discounts. To the extent that this charge is expected to provide an incentive for large consumers located close to NTS points of entry to utilise (or continue to utilise) the NTS thereby enhancing effective competition. The inclusion of a discount to both Transmission Services Capacity Charges and Non-Transmission Services Commodity Charges ensures that all costs relating to the construction and the operation of a bypass pipeline are properly represented On the basis that large consumers will consider the **total costs** of using the NTS when assessing the economic case for constructing and operating a bypass pipeline, this Modification will minimise inefficient NTS bypass to the benefit of competition.

0728B (Urgent): The proposed changes to the UNC support the implementation of the new NTS Conditional Discount. To the extent that this charge is expected to provide an incentive for large consumers located close to NTS points of entry to utilise (or continue to utilise) the NTS thereby enhancing effective competition. The establishment of a Cross Subsidy Limitation of 28km ensures all routes that exhibit a realistic probability of bypass are eligible for the NTS Conditional Discount. A Cross Subsidy Limitation set at a distance less than 28km will result in the discrimination against a number of routes with higher probabilities of bypass than those which would otherwise qualify. The removal of discriminatory practices will better facilitate effective competition.

0728C (Urgent): The proposed changes to the UNC support the implementation of the new NTS Capacity Discount. To the extent that this charge is expected to provide an incentive for large consumers located close to NTS points of entry to utilise (or continue to utilise) the NTS, thereby enhancing effective competition.

0728D (Urgent): The proposed changes to the UNC support the implementation of the new NTS Conditional Discounts. To the extent that this charge is expected to provide an incentive for large consumers located close to NTS points of entry to utilise (or continue to utilise) the NTS thereby enhancing effective competition. The Proposal recognises that only those sites located relatively close to Entry Points (within 5km) will realistically consider bypass and that those sites will likely co-invest in pipeline solutions and establish off-grid networks. The inclusion of a discount to both Transmission Services Capacity Charges and Non-Transmission Services Commodity Charges ensures that all costs relating to the construction and the operation of a bypass pipeline are properly represented On the basis that large consumers will consider the **total costs** of using the NTS when assessing the economic case for constructing and operating a bypass pipeline, this Modification will minimise inefficient NTS bypass to the benefit of competition.

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

Demonstration of how the Relevant Objectives are furthered:

This Modification proposal does not conflict with:

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

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

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

Demonstration of how the Relevant Objectives are furthered:

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

The discussions under Request 0670R identified that it would be beneficial to have a product that helps manage potential inefficient bypass through the charging framework. Request 0670R is not closed at the time of this Modification. However, National Grid expects this Modification will form the basis of further discussions on managing inefficient bypass via charging through industry discussions into the future.

0728A (Urgent): The discussions under Request 0670R identified that it would be beneficial to have a product that helps manage potential inefficient bypass through the charging framework. Request 0670R is not closed at the time of this Modification. However, the Proposer expects this Modification will form the basis of further discussions on managing inefficient bypass via charging through industry discussions into the future.

0728B (Urgent): The discussions under Request 0670R identified that it would be beneficial to have a product that helps manage potential inefficient bypass through the charging framework. Request 0670R is not closed at the time of this Modification. However, the Proposer expects this Modification will form the basis of further discussions on managing inefficient bypass via charging through industry discussions into the future.

0728C (Urgent): The discussions under Request 0670R identified that it would be beneficial to have a capacity discount that helps manage potential inefficient bypass through the charging framework. Request 0670R is not closed at the time of this Modification. However, the Proposer expects this Modification will form the basis of further discussions on managing inefficient bypass via charging through industry discussions into the future.

0728D (Urgent): The discussions under Request 0670R identified that it would be beneficial to have a product that helps manage potential inefficient bypass through the charging framework. Request 0670R is not closed at the time of this Modification. However, the Proposer expects this Modification will form the basis of further discussions on managing inefficient bypass via charging through industry discussions into the future.

Relevant Charging Methodology objective (a) is furthered by the introduction of a product that assists in providing an option to those more likely to consider a bypass of the NTS. This therefore provides a Charging Framework that is to the benefit of all Users by providing the infrastructure to access and use, maximising its use for all parties, limiting any additional costs (i.e. bypass costs) passing into the market and ultimately on to consumers. It also minimises the levels of charges associated to revenues that would still be charged via Transportation Charges for any potential underutilised parts of the network (as a result of bypass). Therefore, this is more ‘cost-reflective’ as it does provide an option over a bypass thereby, should parties continue to use the NTS, they contribute towards the NTS Costs and therefore do not result in the whole amount (i.e. If they did bypass and not contribute to the NTS at all, all costs would be socialised) being levied on other Users.

0728A (Urgent): Relevant Charging Methodology objective (a) is furthered by the introduction of a product that assists in providing an option to those more likely to consider a bypass of the NTS. This, therefore, provides a Charging Framework that is to the benefit of all Users by providing the infrastructure to access and use, maximising its use for all parties, limiting any additional costs (i.e. bypass costs) passing into the market and ultimately on to consumers. It also minimises the levels of charges associated to revenues that would still be charged via Transportation Charges for any potential underutilised parts of the network (as a result of bypass). Therefore, this is more ‘cost-reflective’ as it does provide a **fully** costed option over a bypass, thereby, should parties continue to use the NTS, they contribute towards the NTS Costs and therefore do not result in the whole amount being levied on other Users (i.e. If they did bypass and not contribute to the NTS at all, all costs would be socialised).

The inclusion of discounts to both Transmission Services Capacity Charges and Non-Transmission Services Commodity Charges means that the total product costs incurred by Users is more cost reflective than an approach which excludes one or other of the charging methods.

0728C (Urgent): Relevant Charging Methodology objective (a) is furthered by the introduction of a capacity discount that assists in providing an option to those more likely to consider a bypass of the NTS. This therefore provides a Charging Framework that is to the benefit of all Users by providing the infrastructure to access and use, maximising its use for all parties, limiting any additional costs (i.e. bypass costs) passing into the market and ultimately on to consumers. It also minimises the levels of charges associated to revenues that would still be charged via Transportation Charges for any potential underutilised parts of the network (as a result of bypass). Therefore, this is more 'cost-reflective' as it does provide an option over a bypass thereby, should parties continue to use the NTS, they contribute towards the NTS Costs and therefore do not result in the whole amount (i.e. If they did bypass and not contribute to the NTS at all, all costs would be socialised) being levied on other Users.

0728D (Urgent): Relevant Charging Methodology objective (a) is furthered by the introduction of a product that assists in providing an option to those more likely to consider a bypass of the NTS. This, therefore, provides a Charging Framework that is to the benefit of all Users by providing the infrastructure to access and use, maximising its use for all parties, limiting any additional costs (i.e. bypass costs) passing into the market and ultimately on to consumers. It also minimises the levels of charges associated to revenues that would still be charged via Transportation Charges for any potential underutilised parts of the network (as a result of bypass). Therefore, this is more 'cost-reflective' as it does provide a **fully** costed option over a bypass, thereby, should parties continue to use the NTS, they contribute towards the NTS Costs and therefore do not result in the whole amount (i.e. If they did bypass and not contribute to the NTS at all, all costs would be socialised) being levied on other Users.

The inclusion of discounts to both Transmission Services Capacity Charges and Non-Transmission Services Commodity Charges means that the total product costs incurred by Users is more cost reflective than an approach which excludes one or other of the charging methods. Moreover, a distance cap of 5km ensures that the Conditional Product is available to only those offtakes which, in reality, will be able to bypass the NTS and that any such bypass is likely to be achieved via co-operation between these Users in order to exploit economies of scale. The application of a standard discount for all offtakes within the 5km radius more reasonably reflects the costs which would be borne by multiple Users investing jointly in bypass pipelines.

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.

The product proposed uses more up to date costing assessments from a recent CEER review and publication. It also takes on board elements from PARCA timelines to help inform the build period.

0728A (Urgent): The Non-Transmission Services element of the product builds on the distance-based method embedded in the derivation of the Transmission Services discount and similarly links into the costs borne by National Grid for the provision of operational services.

0728C (Urgent): The capacity discount proposed uses more up to date costing assessments from a recent CEER review and publication. It also takes on board elements from PARCA timelines to help inform the build period.

0728D (Urgent): The Non-Transmission Services element of the product builds of the distance-based method embedded in the derivation of the Transmission Services discount and similarly links into the costs borne by National Grid for the provision of operational services.

In putting this product in place, with more up to date costs and that provides an even level of access, this considers the updated Charging Framework to be delivered under the revised Methodology and also how the network is accessed and used. This provides an alternative to bypass for those within a specific distance informed by several factors, where it is economic to do so.

0728A (Urgent): This, the Proposer believes, takes into account the changing nature of how Users wish to access the NTS, and a desire to make the NTS an attractive option for those who may be more likely to consider a bypass, to use the existing NTS infrastructure.

Given the nature of cross subsidies inherent with any methodology that affords some discounts or alternative treatment (e.g. exemptions) this is also a factor that needs to be reflected on. Any amount, effectively not charged on one User, will be borne by another. In the case of the conditional discounts the amount of the discount is by default levied on those ineligible. By limiting the level of this amount, this provides a well-used NTS, competition amongst Users and avoids potential costs being levied. These could include charges to recover the revenues associated to the potentially underutilised part of the network (in the event of a bypass) onto those who will pay NTS Transportation Charges. It could also include any costs of a bypass that, would in some way be charged to a set of consumers in the wider market. By striking the balance with the application of the conditional discounts this minimises any undue levels of charges levied onto those ineligible for this product.

0728B (Urgent): This, the Proposer believes, takes into account the changing nature of how Users wish to access the NTS, and a desire to make the NTS an attractive option for those who may be more likely to consider a bypass, to use the existing NTS infrastructure.

Given the nature of cross subsidies inherent with any methodology that affords some discounts or alternative treatment (e.g. exemptions) this is also a factor that needs to be reflected on. Any amount, effectively not charged on one User, will be borne by another. In the case of the conditional discount the amount of the discount is by default levied on those ineligible. By limiting the level of this amount, this provides a well-used NTS, competition amongst Users and avoids potential costs being levied. These could include charges to recover the revenues associated to the potentially underutilised part of the network (in the event of a bypass) onto those who will pay NTS Transportation Charges. It could also include any costs of a bypass that, would in some way be charged to a set of consumers in the wider market. By striking the balance with the application of the conditional discount this minimises any undue levels of charges levied onto those ineligible for this product.

0728C (Urgent): In putting this capacity discount in place, with more up to date costs and that provides an even level of access, this considers the updated Charging Framework to be delivered by Modification 0678A and also how the network is accessed and used. This provides an alternative to bypass for those within a specific distance informed by several factors, where it is economic to do so.

This, National Grid believes takes into account the changing nature of how Users wish to access the NTS, and a desire to make the NTS an attractive option for those who may be more likely to consider a bypass, to use the existing NTS infrastructure.

0728D (Urgent): This, the Proposer believes, takes into account the changing nature of how Users wish to access the NTS, and a desire to make the NTS an attractive option for those who may be more likely to consider a bypass, to use the existing NTS infrastructure.

Given the nature of cross subsidies inherent with any methodology that affords some discounts or alternative treatment (e.g. exemptions) this is also a factor that needs to be reflected on. Any amount, effectively not charged on one User, will be borne by another. In the case of the conditional discount the amount of the discount is by default levied on those ineligible (save for the use of Non-Transmission Charges, where applicable). By limiting the level of this amount, this provides a well-used NTS, competition amongst Users and avoids potential costs being levied. These could include charges to recover the revenues associated to the potentially underutilised part of the network (in the event of a bypass) onto those who will pay NTS Transportation Charges. It could also include any costs of a bypass that, would in some way be charged to a set of consumers in the wider market. By striking the balance with the application of the conditional discount this minimises any undue levels of charging levied onto those ineligible for this product.

0728C (Urgent): Given the nature of cross subsidies inherent with any methodology that affords some discounts or alternative treatment (e.g. exemptions) this is also a factor that needs to be reflected on. Any amount, effectively not charged on one User, will be borne by another. In the case of the capacity discount the amount of the discount is by default levied on those ineligible (save for the use of Non-Transmission Charges, where applicable). By limiting the level of this amount, this provides a well-used NTS, competition amongst Users and avoids potential costs being levied. These could include charges to recover the revenues associated to the potentially underutilised part of the network (in the event of a bypass) onto those who will pay NTS Transportation Charges. It could also include any costs of a bypass that, would in some way be charged to a set of consumers in the wider market. By striking the balance with the application of the capacity discount this minimises any undue levels of charging levied onto those ineligible for this discount.

0728D (Urgent): Given the nature of cross subsidies inherent with any methodology that affords some discounts or alternative treatment (e.g. exemptions) this is also a factor that needs to be reflected on. Any amount, effectively not charged on one User, will be borne by another. In the case of the conditional discounts the amount of the discount is by default levied on those ineligible. By limiting the level of this amount to reflect those routes which have a realistic option to bypass, the use of the NTS is optimised; competition amongst Users is maintained; and potential costs avoided. These could include charges to recover the revenues associated to the potentially underutilised part of the network (in the event of a bypass) onto those who will pay NTS Transportation Charges. It could also include any costs of a bypass that, would in some way be charged to a set of consumers in the wider market. By striking the balance with the application of the conditional discounts this minimises any undue levels of charges levied onto those ineligible for this product.

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

This Modification recognises the different Users of the NTS. Some Users, particularly those with direct or indirect links to the direct connections to the NTS that are near to an Entry Point, may actively consider a bypass to the NTS if it is, all things considered, economic and commercially preferable to do so. This Modification, which builds on the UNC baseline, would put in place a methodology for those Users who are considered more likely to bypass the NTS and provide an option to use the NTS in place of a bypass pipeline.

0728B (Urgent): The Cross-Subsidy Limitation of 28km ensures that those routes with a higher probability of bypass that some located offtakes located closer to entry points are not unduly discriminated against. Any such form of discrimination is detrimental to competition. Further, the 'clusters of offtakes" concentrated between 18km and 28km are encouraged to remain connected directly to the NTS. A reduction in the Cross-Subsidy Limitation may result in inefficient bypasses being constructed embedded alongside downstream NTS pipelines for the single purpose of gaining access to discounted NTS charges. This outcome would be wholly undesirable, not only in terms of inefficient capital investment, but contradict the primary objective of establishing the conditional discount and the wider benefits that this delivers to Users and customers of reducing overall transportation charges. This would be detrimental to competition.

0728C (Urgent): This Modification recognises the different Users of the NTS. Some Users, particularly those with direct or indirect links to the direct connections to the NTS that are near to an Entry Point, may actively consider a bypass to the NTS if it is, all things considered, economic and commercially preferable to do so. This Modification which builds on Modification 0678A, would put in place a methodology for those Users who are considered more likely to bypass the NTS and provide an option to use the NTS in place of a bypass pipeline.

0728D (Urgent): This Modification recognises the different Users of the NTS. Some Users, particularly those with direct or indirect links to the direct connections to the NTS that are near to an Entry Point, may actively consider a bypass to the NTS if it is economic, practical and commercially preferable to do so. This Modification which builds on the UNC baseline would put in place a methodology for those Users who are considered more likely to bypass the NTS and provide an option to use the NTS in place of a bypass pipeline.

This option is available for them to factor into decision-making processes as it would not be the only consideration in a bypass decision. This Modification therefore furthers this objective as it provides an option for those Users who are more likely to consider a bypass based on costs and payback periods versus Transportation charges. It will therefore provide effective competition on access and use of the NTS. This Modification assumes that any discount does make its way to the end consumer, who may pay for access to the NTS via a Shipper.

0728D (Urgent): This option is available for them to factor into decision-making processes as it would not be the only consideration in a bypass decision. This Modification therefore furthers this objective as it provides an option for those Users who are more likely to consider a bypass based on construction and operational costs and payback periods versus Transportation charges. It will, therefore, provide effective competition on access and use of the NTS. This Modification assumes that any discount does make its way to the end connectee who may pay for access to the NTS via a Shipper.

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.

National Grid believes that this Modification is also compliant with EU Tariff Code Article 4 (2) which states “Transmission tariffs may be set in a manner as to take into account the conditions for firm capacity products.”. This product represents a Transmission Service and the conditional discount is on utilised firm capacity only. Any unutilised firm and any non-firm capacity is ineligible for a discount. This also does not create any undue cross subsidy for other Users with the use of limiting factors such as the accessibility and eligibility of the product and that if the capacity is not utilised then there is no discount.

0728A (Urgent): The Proposer believes that this Modification is also compliant with EU Tariff Code Article 4 (2) which states “Transmission tariffs may be set in a manner as to take into account the conditions for Firm Capacity products.”. This Transmission Service conditional discount is on unutilised Firm Capacity only. Any utilised Firm and any non-firm Capacity is ineligible for a discount. This also does not create any undue cross subsidy for other Users with the use of limiting factors such as the accessibility and eligibility of the product and that if the capacity is not utilised then there is no discount.

In relation to the Non-Transmission Services discount, the Proposer believes that it is compliant with EU Tariff Code Article 4 (4) which does not preclude the application of different commodity charges for the purposes of recovering Allowed Revenue. Further, it requires that the tariffs should be cost reflective, non-discriminatory, objective and transparent. Were this Modification not implemented it seems clear that the Non-Transmission Services Commodity Charge which would be levied on Users of an eligible route would result in tariffs which are neither cost-reflective nor non-discriminatory.

0728B (Urgent): The Proposer believes that this Modification is also compliant with EU Tariff Code Article 4 (2) which states "Transmission tariffs may be set in a manner as to take into account the conditions for firm capacity products.". This product represents a Transmission Service and the conditional discount is on utilised firm capacity only. Any unutilised firm and any non-firm capacity is ineligible for a discount. This also does not create any undue cross subsidy for other Users with the use of limiting factors such as the accessibility and eligibility of the product and that if the capacity is not utilised then there is no discount.

0728C (Urgent): The Proposer believes that this Modification is compliant with EU Tariff Code Article 4 (2) which states "Transmission tariffs may be set in a manner as to take into account the conditions for firm capacity products.". This capacity discount relates to a Transmission Services. The capacity discount is on firm capacity only and does not have any dependence on flows at the eligible entry and eligible exit points for an eligible route. Non-firm capacity is ineligible for a discount with respect to an eligible route. The proposal does not create any undue cross subsidy for other Users with the use of limiting factors such as the accessibility and eligibility of the capacity.

0728D (Urgent): The Proposer believes that this Modification is also compliant with EU Tariff Code Article 4 (2) which states "Transmission tariffs may be set in a manner as to take into account the conditions for Firm Capacity products.". This Transmission Service conditional discount is on utilised Firm Capacity only. Any unutilised Firm and any non-firm Capacity is ineligible for a discount. This also does not create any undue cross subsidy for other Users with the use of limiting factors such as the accessibility and eligibility of the product and that if the capacity is not utilised then there is no discount.

In relation to the Non-Transmission Services discount, the Proposer believes that it is compliant with EU Tariff Code Article 4 (4) which does not preclude the application of different commodity charges for the purposes of recovering Allowed Revenue. Further, it requires that the tariffs should be cost reflective, non-discriminatory, objective and transparent. Were this Modification not implemented it seems clear that the Non-Transmission Services Commodity Charge which would be levied on Users of an eligible route would result in tariffs which are neither cost-reflective nor non-discriminatory.

8 Implementation

Implementation dates will ideally be such as to maintain an appropriate mechanism within the NTS Charging Methodology to dis-incentivise bypass of the NTS, in practice this will be achieved by a seamless transition between the existing NTS Optional Commodity Rate and the Conditional Capacity Charge Discount advocated by this Modification. Implementation is proposed to therefore take effect concurrent with the introduction of the revised Methodology, i.e. 01 October 2020, however implementation will be in line with any Ofgem direction.

0728A (Urgent): In order to maintain an appropriate mechanism within the NTS Charging Methodology to dis-incentivise bypass of the NTS, in practice achieved by a seamless transition between the existing NTS Optional Commodity Rate and the Conditional Capacity Charge and Commodity Charge Discounts advocated by this Modification.

Implementation is proposed to take effect concurrent with the introduction of the revised Methodology, i.e. 01 October 2020, however implementation will be in line with any Ofgem direction.

0728B (Urgent): In order to maintain an appropriate mechanism within the NTS Charging Methodology to dis-incentivise bypass of the NTS, in practice achieved by a seamless transition between the existing NTS Optional Commodity Rate and the Conditional Capacity Charge and Commodity Charge Discounts advocated by this Modification. Implementation is proposed to take effect concurrent with the introduction of the revised Methodology, i.e. 01 October 2020, however implementation will be in line with any Ofgem direction.

0728C (Urgent): Implementation dates will ideally be such as to maintain an appropriate mechanism within the NTS Charging Methodology to dis-incentivise bypass of the NTS, in practice achieved by a seamless transition between the existing NTS Optional Commodity Rate and the capacity discount advocated by this Modification. Implementation is proposed to take effect from the start of the gas year and is compatible with the implementation of Modification 0678A.

0728D (Urgent): In order to maintain an appropriate mechanism within the NTS Charging Methodology to dis-incentivise bypass of the NTS, in practice achieved by a seamless transition between the existing NTS Optional Commodity Rate and the Conditional Capacity Charge and Commodity Charge Discounts advocated by this Modification. Implementation is proposed to take effect concurrent with the introduction of the revised Methodology, i.e. 01 October 2020, however implementation will be in line with any Ofgem direction.

9 Legal Text

Legal Text for all these Modifications has been provided by National Grid NTS and is published alongside this report.

Text Commentary

Legal Text Commentary is provided at: https://www.gasgovernance.co.uk/0728/text

Text

Legal Text is provided at: https://www.gasgovernance.co.uk/0728/text

10 Consultation

Ofgem invited representations from interested parties on 15 June 2020. The summaries in the following tables are provided for reference on a reasonable endeavours basis only.

It is recommended that all representations are read in full when considering this Final Modification Report. All Representations received are published alongside this Final Modification Report at: https://www.gasgovernance.co.uk/0728/Reps

Outline Responses Table - Consultation Representations

The Consultation requested that respondents provided the Joint Office with a single preference. Having reviewed the Consultation responses it became evident that a number of respondents expressed multiple preferences. For the purposes of completeness, the Joint Office has recorded these in the table below.

Outline Consultation Responses (Support/Oppose/Qualified Support/Comments, Preference and Relevant Objectives)

*Please note * denotes additional comments received, please refer to the individual representation for more details.*

Organisation		0728 (Urgent)	0728A (Urgent)	0728B (Urgent)	0728C (Urgent)	0728D (Urgent)	Preference
BBLC	Support or Oppose Implementation	Support	Support	Support	Support	Support	**0728D**
	Standard Relevant Objectives	a) Positive c) Positive d) Positive e) Positive g) Positive	a) Positive c) Positive d) Positive e) Positive g) Positive	a) Positive c) Positive d) Positive e) Positive g) Positive	a) Positive c) Positive d) Positive e) Positive g) Positive	a) Positive c) Positive d) Positive e) Positive g) Positive	

	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
BOC* *(Additional comments provided)*	Support or Oppose Implementation	**Oppose**	**Qualified Support**	**Oppose**	**Oppose**	**Support**	**0728D** **(then 0728A)**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Positive d) None	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Positive d) Positive	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) None aa) None b) None c) None e) Positive	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Positive aa) Positive b) Positive c) Positive e) Positive	
BP Gas Marketing* *(Additional comments provided)*	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728B**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive	a) Positive aa) Positive	a) Positive aa) Positive	a) Positive aa) Positive	a) Positive aa) Positive	

		b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	
Centrica	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728B or 0728D**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
CF Fertilisers UK Limited* *(Additional comments provided)*	Support or Oppose Implementation	**Oppose**	**Oppose**	**Oppose**	**Oppose**	**Support**	**0728D**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Positive d) None	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Positive d) Positive	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) None aa) None b) None c) None e) Positive	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Positive aa) Positive b) Positive c) Positive e) Positive	

ConocoPhilips (UK) Marketing and Trading Limited	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728B**
	Standard Relevant Objectives	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
Drax	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728C**
	Standard Relevant Objectives	a) None b) None c) Positive d) Positive e) None f) None	a) None b) None c) Positive d) Positive e) None f) None	a) None b) None c) Positive d) Positive e) None f) None	a) None b) None c) Positive d) Positive e) None f) None	a) None b) None c) Positive d) Positive e) None f) None	

		g) None	g) None	g) None	g) None	g) None	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive d) None e) Neutral	a) Positive aa) Positive b) Positive c) Positive d) None e) Neutral	a) Positive aa) Positive b) Positive c) Positive d) None e) Neutral	a) Positive aa) Positive b) Positive c) Positive d) None e) Positive	a) Positive aa) Positive b) Positive c) Positive d) None e) Neutral	
Energy Intensive Users Group* *(Additional comments provided)*	Support or Oppose Implementation	**Not provided**	**Not provided**	**Not provided**	**Not provided**	**Support**	**0728D**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Positive d) Positive	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Positive aa) Positive b) Positive c) Positive e) Positive	
Energy UK	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**Any of 0728 / 0728A / 0728B / 0728C / 0728D**

	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
E.ON	Support or Oppose Implementation	**Oppose**	**Oppose**	**Oppose**	**Oppose**	**Oppose**	**No preference provided**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	
EP UK Investments* *(Additional comments provided)*	Support or Oppose Implementation	**Qualified Support**	**Support**	**Qualified Support**	**Qualified Support**	**Oppose**	**0728A**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Negative d) Negative	

	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) None aa) Negative b) None c) Negative e) Positive	
ESB	Support or Oppose Implementation	**Comments**	**Comments**	**Comments**	**Qualified Support**	**Comments**	**0728C**
	Standard Relevant Objectives	c) Positive d) Negative	c) Positive d) Negative	c) Positive d) Negative	c) Positive d) Negative	c) Positive d) Negative	
	Charging Relevant Objectives	a) Positive aa) Negative b) Positive c) Negative e) Negative	a) Positive aa) Negative b) Positive c) Negative e) Negative	a) Positive aa) Negative b) Positive c) Negative e) Negative	a) Positive aa) Negative b) Positive c) Negative e) Positive	a) Positive aa) Negative b) Positive c) Negative e) Negative	
ExxonMobil Gas Marketing Europe Limited* *(Additional comments provided)*	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Comments**	**Support**	**0728A**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive	a) Positive aa) Positive	a) Positive aa) Positive	a) Positive aa) Positive	a) Positive aa) Positive	

		b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	b) Positive c) Positive e) Positive	
Gazprom Marketing & Trading Limited* *(Additional comments provided)*	Support or Oppose Implementation	**Comments**	**Qualified Support**	**Comments**	**Comments**	**Qualified Support**	**0728D**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Positive d) None	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Positive aa) Positive b) Positive c) None e) Positive	
Interconnector (UK) Limited* *(Additional comments provided)*	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728D**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	

Lucite International UK Ltd* *(Additional comments provided)*	Support or Oppose Implementation	**Oppose**	**Oppose**	**Oppose**	**Oppose**	**Support**	**0728D**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Positive d) Positive	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Positive aa) Positive b) Positive c) Positive e) Positive	
National Grid NTS* *(Additional comments provided)*	Support or Oppose Implementation	**Support**	**Oppose**	**Qualified Support**	**Oppose**	**Oppose**	**0728**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Negative	c) Positive d) Positive	c) Positive d) Negative	c) Positive d) Negative	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Negative aa) Negative b) Positive c) Negative e) None	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Negative aa) Negative b) Positive c) Negative e) Positive	a) Negative aa) Negative b) Positive c) Negative e) None	
OGUK* *(Additional*	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Qualified Support**	**Support**	**0728B**

comments provided)	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) None aa) Positive b) Positive c) None e) Positive	a) None aa) Positive b) Positive c) Positive e) Positive	a) None aa) Positive b) Positive c) Positive e) Positive	a) None aa) Positive b) Positive c) None e) Positive	a) None aa) Positive b) Positive c) Positive e) Positive	
PETRONAS Energy Trading Ltd	Support or Oppose Implementation	**Qualified Support**	**Support**	**Qualified Support**	**Qualified Support**	**Qualified Support**	**0728A**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	
RWE Supply & Trading GmbH* *(Additional comments provided)*	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728C**
	Standard Relevant Objectives	a) Positive c) Positive	a) Positive c) Positive	a) Positive c) Positive	a) Positive c) Positive	a) Positive c) Positive	

		d) Positive	d) Positive	d) Positive	d) Positive	d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
Sembcorp Energy UK	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728D**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
Shell Energy Europe Limited (SEEL)	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**In order of preference** **0728D** **0728A** **0728C** **0728B**
	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	

	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	**0728**
Sisman Energy Consultancy Limited* *(Additional comments provided)*	Support or Oppose Implementation	**Comments**	**Comments**	**Comments**	**Comments**	**Comments**	**No preference provided**
	Standard Relevant Objectives	a) None b) None c) None d) Negative e) None f) None g) Negative	a) None b) None c) None d) Negative e) None f) None g) Negative	a) None b) None c) None d) Negative e) None f) None g) Negative	a) None b) None c) None d) Negative e) None f) None g) Negative	a) None b) None c) None d) Negative e) None f) None g) Negative	
	Charging Relevant Objectives	a) None aa) None b) None c) None d) None e) Negative	a) None aa) None b) None c) None d) None e) Negative	a) None aa) None b) None c) None d) None e) Negative	a) None aa) None b) None c) None d) None e) Negative	a) None aa) None b) None c) None d) None e) Negative	
South Hook Gas Company Ltd	Support or Oppose Implementation	**Qualified Support**	**Support**	**Qualified Support**	**Comments**	**Support**	**0728A / 0728D**

(SHG)* *(Additional comments provided)*	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
SSE* *(Additional comments provided)*	Support or Oppose Implementation	**Support**	**Support**	**Support**	**Support**	**Support**	**0728C**
	Standard Relevant Objectives	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	a) Positive b) Positive c) Positive d) Positive e) Positive f) Positive g) Positive	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive d) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive d) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive d) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive d) Positive e) Positive	a) Positive aa) Positive b) Positive c) Positive d) Positive e) Positive	

Triton Power Ltd	Support or Oppose Implementation	**Oppose**	**Oppose**	**Support**	**Oppose**	**Oppose**	**0728B**
	Standard Relevant Objectives	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	c) Not provided d) Not provided	
	Charging Relevant Objectives	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	
Uniper	Support or Oppose Implementation	**Oppose**	**Support**	**Oppose**	**Oppose**	**Support**	**0728D**
	Standard Relevant Objectives	c) Negative d) Negative	c) Positive d) Positive	c) Negative d) Negative	c) Negative d) Negative	c) Positive d) Positive	
	Charging Relevant Objectives	a) Negative aa) None b) None c) Negative e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Negative aa) None b) None c) Negative e) Positive	a) Negative aa) None b) None c) Negative e) Positive	a) Positive aa) Positive b) Positive c) Positive e) Positive	
Vermilion Energy Ireland Limited	Support or Oppose Implementation	**Qualified Support**	**Qualified Support**	**Qualified Support**	**Oppose**	**Qualified Support**	**No preference in respect of 0728**

("Vermilion")* *(Additional comments provided)*	Standard Relevant Objectives	c) Positive d) Positive	c) Positive d) Positive	c) Positive d) Positive	c) Negative d) Negative	c) Positive d) Positive	**0728A** **0728B** **0728D**
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) None	a) Positive aa) Positive b) Positive c) Positive e) None	a) Positive aa) Positive b) Positive c) Positive e) None	a) Negative aa) Negative b) Negative c) Negative e) Negative	a) Positive aa) Positive b) Positive c) Positive e) None	
VPI Immingham LLP* *(Additional comments provided)*	Support or Oppose Implementation	**Oppose / Comments**	**Oppose**	**Support**	**Oppose**	**Oppose**	**0728B**
	Standard Relevant Objectives	c) Positive d) Positive	c) Not provided d) Not provided	c) Positive d) Positive	c) Not provided d) Not provided	c) Not provided d) Not provided	
	Charging Relevant Objectives	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Positive aa) Positive b) Positive c) Positive e) Positive	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	a) Not provided aa) Not provided b) Not provided c) Not provided e) Not provided	
Wales & West Utilities* *(Additional comments provided)*	Support or Oppose Implementation	**Oppose**	**Oppose**	**Oppose**	**Oppose**	**Oppose**	**No preference expressed**
	Standard Relevant Objectives	c) Negative d) None	c) Negative d) Not provided	c) Negative d) Not provided	c) Negative d) Not provided	c) Negative d) Not provided	

	Charging Relevant Objectives	a) Negative aa) No response b) None c) None e) None	a) Negative aa) No response b) None c) None e) None	a) Negative aa) No response b) None c) None e) None	a) Negative aa) No response b) None c) None e) None	a) Negative aa) No response b) None c) None e) None	

Consultation Outline Result – Support or Oppose or Qualified Support or Comments

30 representations were received in total during the consultation period.

Of the 30 representations received, the following results were observed in terms of supporting or opposing the Modification Proposals:

With regards to 0728A/B/C/D, one respondent provided two views (oppose and comments) (For the purposes of the numerical count, the Joint Office has recorded both views, hence a total 31 for UNC Modification 0728A/B/C/D (Urgent) in this instance)

<u>Outline Results of Consultation Responses (Support/Oppose/Qualified Support/Comments)</u>

Response	0728 (Urgent)	0728A (Urgent)	0728B (Urgent)	0728C (Urgent)	0728D (Urgent)
Support	14	17	15	11	19
Qualified Support	4	3	5	4	3
Comments	4	2	3	4	2
Oppose	8	7	6	10	6
None Given	1	1	1	1	0

Consultation Outline Result – Preference Expressed

Of the 30 representations received, the following results were observed in terms of expressing a preference for a particular Modification Proposals:

Consultation Responses Preference Results

With regards to the preferences expressed for 0728/A/B/C/D (Urgent) a few respondents provided more than one preference in their Consultation representation. For the purposes of the numerical count, the Joint Office has recorded the first preference where clearly indicated and all other preferences where not clearly indicated, for UNC Modification 0728/A/B/C/D (Urgent)

Expression of Preference	0728 (Urgent)	0728A (Urgent)	0728B (Urgent)	0728C (Urgent)	0728D (Urgent)	No Preference	TOTAL
Preference	2	5	7	4	13	4	35

Please note that there were no late submitted representations for inclusion within this Final Modification Report. All representations received in response to this consultation are published in full alongside this Report and will be taken into account when the UNC Modification Panel makes its assessment and recommendation. Please refer to: https://www.gasgovernance.co.uk/0728/Reps

Consultation Outline Result – Summary of Responses to the Two Consultation Points of Note

Point 1 - Respondents are requested to provide a view as to whether the solution provided within the Modification(s) is fully compliant with the relevant legislation (including, but not limited to, Articles 28-32 of the Tariff Network Code).

Point 2 - Respondents are requested to provide views on the proposed implementation date(s).

30 representations were received in total during the consultation period.

Of the 30 representations received, the following results were observed in terms of responses to the two specific consultation points.

Outline Results of Consultation Responses in respect of Point 1

Respondents are requested to provide a view as to whether the solution provided within the Modification(s) is fully compliant with the relevant legislation (including, but not limited to, Articles 28-32 of the Tariff Network Code).

Organisation	Summary of responses taken directly from the Consultation Response in respect of Point 1
BBLC	*'In BBLC's opinion all five of the Modification Proposals are compliant with relevant legislation and notes that National Grid has confirmed that it would be able to comply with the requirements of TAR Art. 28 to 32 should any of the Proposals be implemented according with the timetable set out in it. Furthermore, as set out in the relevant objective sections above, BBLC considers that the Proposals would enable the new tariff arrangements, post implementation of Proposal 0678A, to better reflect Articles 13.1 and 13.2 of the EU Gas Regulation (715/2009), Article 17.1 of EU Regulation (2017/460) and are aligned with the intent of EU Regulation 2017/459 in regard to avoiding inefficient duplication of network assets.'*
BOC	*'BOC cannot specifically comment on this point but believe that all solutions are compliant with the EU Tariff Code.'*
BP Gas Marketing	*'It is our view that the requirements as set out in Article 28 – 32 of the Tariff Network Code have been met. There are still some tariffs to be published but National Grid have already confirmed the these will be published by the beginning of September.'*
Centrica	*'Centrica believes that all the proposals are fully compliant with relevant legislation.*

	In particular: *- Article 28: the relevant part of the legislation on consulting about discounts is undergoing with the 728 Modification process.* *- Article 29: identifies information that must be published before the annual yearly capacity auction, including reserve prices: we understand that the potential impact on forecasted revenues of shorthaul tariffs will not impact the reserve prices published by the gas transporter on the 5 June 2020.* *- Article 30: identifies information that must be published before the tariff period.* *- Article 31 relates to the form of publication.* *- Article 32 requires information referred to in Article 29 to be published no later than 30 days before the annual yearly capacity auction. The timescale for Article 30 information is no later than 30 days before the tariff period.* *None or the Modifications under consideration include proposals that are in violation with provisions in Articles 30 to 32.* *We acknowledge that if the impact of shorthaul tariffs on transmission revenues is substantial, this may lead to the need to increase the capacity-based RRC either before or within the gas year. However, we note that according to the estimates National Grid shared recently[1], the potential level of socialisation – transmission and general non-transmission – may vary substantially (between £18 and £181 million/year depending on the solution and uptake). Therefore, an increase of the RRC may not be needed in case the impact is minimal and/or offset by other changes.* *The possibility to increase/decrease the RRC is embedded in the legal text of the UNC. The legal text in Section Y, A-I, paragraph 3 provides for the RRC to be set before the annual auctions[2]. It also provides the possibility for subsequent revisions where forecast revenues deviate from allowed revenues. Two months' notice is required, and this could take place also within the gas year.* *This is part of the reference price methodology as just recently approved by Ofgem under UNC678A. Therefore, this must be compliant with NC TAR, otherwise Ofgem would have rejected the modification as non-compliant. The compliance of the RRC methodology with NC TAR should be valid regardless of the origin of the potential under or over recovery of the gas transporter.* *For instance, if the new charging methodology would have been in place at the time of the current pandemic, it most likely would have required an increase of the RRC during the gas year because of the impact on forecasted revenues of the gas transporter.* *Therefore, we do not see any compliance limitation with relevant legislation.'* [1] *See here: UNC 0728/A/B/C/D: Managing Inefficient bypass in Charging UNC 0728/A/B/C/D: 24/06/2020* [2] *See here: Modification 0678A ANNEX B, SECTION Y – CHARGING METHODOLOGIES, PART A – NTS CHARGING METHODOLOGIES, A-I – NTS TRANSPORTATION CHARGING METHODOLOGY*
CF Fertilisers UK Limited	*'All solutions are compliant with the EU Tariff Network Code. Capacity charges were published by National Grid on 5th June. The Modifications propose discounts to the reserve prices based on an ex-post assessment of the eligible amounts, i.e. the discounts are*

	applied to the standard reserve prices. *In the case of Modifications 0718A/D, it is proposed that an additional discount, is provided to eligible amounts from the standard Non-Transmission Services Commodity Charges. These charges are required to be set no later than 30 days before the respective tariff period.* *Art 4.2 of the EU Tariff Network Code permits the setting of tariffs to take into account conditions for firm capacity products, which captures the application of Optional Charges.* *In the case of Transmission revenue under-recovery caused by the implementation of a Optional Charge, Art 17 requires that such revenue should be minimised, recovered in a timely manner and that differences in tariff levels across two consecutive periods should be avoided to the extent possible. This implies that a Revenue Recovery Charge (RRC) should be applied, in particular during the transition phase if implementation is to be permitted on 1 October 2020. The RRC is consistent with Art 4.3 in that the RRC is a capacity-based tariff.* *We note that there is explicit reference to the provision of information related to transmission and non-transmission tariffs in Art 30.1.(c), which sets out those tariffs that can be published up to 30 days prior to the tariff period. A discount applied to Non-Commodity charges as set out in 0728A/D is consistent with this Article and can be published in time to enable a 1 Oct 2020 implementation. In addition, as the RRC is not required to be published in accordance with Art. 29, by extension it is a relevant charge for the purposes of Art. 30.* *In the case of Art. 29, the provisions are particular to Interconnection Points (IP) and Points subject to the CAM Code (which is not the case at non-IP points in GB) and as such generally is only relevant where changes to the reserve prices at IPs are required. This is not the case with any of the 0718 Proposals.'*
ConocoPhilips (UK) Marketing and Trading Limited	*'We believe all the proposals are compliant, including Articles 28-32 of TAR NC.'*
Drax	*'Having reviewed the TAR provisions, we believe that all proposals are compliant. As highlighted above, we also believe that UNC0728C is positive against CO (E) and other proposals are neutral.* *Looking specifically at articles 28-32 of the TAR, we have noted no conflict with the modifications proposed in terms of enabling any of the proposals to be implemented, including any necessary within year adjustment of Revenue Recovery Charges (RRC).'*

Energy Intensive Users Group	'*Not expressed'*
Energy UK	'*Energy UK believes that all the proposals are compliant with TAR NC and other EU legislation. The revenue impact of implementation of any 0728 variant will not impact reserve / reference prices which have already been set for Gas Year 2020. However, it is acknowledged that, if substantial, National Grid may need to revise the capacity based RRC either before or within the gas year.* *Article 28 relates to the consultation on discounts, multipliers and seasonal factors – this consultation has already been completed* *Article 29 identifies information that must be published before the annual yearly capacity auction – this does not mention the RRC* *Article 30 identifies information that must be published before the tariff period, 1 (C)(iii) refers to information relating to reference prices and other prices. This could include RRC prices* *Article 31 relates to the form of publication* *Article 32 Publication notice period, requires information referred to in Article 29 to be published no later than 30 days before the annual yearly capacity auction. The timescale for Article 30 information is no later than 30 days before the tariff period.* *Article 20 Reconciliation of the regulatory account may also be relevant. It requires reconciliation to be carried out in accordance with the applied reference price methodology.* *This has been approved by Ofgem, therefore it must have been already considered as compliant with TAR NC. The legal text[24] in Section 3 provides for RRC to be set and revised prior to and during the gas year where forecast revenues deviate from allowed revenues. 2 months' notice is required which exceeds that required by TAR NC. This would provide for an implementation date within the gas year. Compliance of the RRC methodology with TAR NC should be valid regardless of the origin of the potential under or over recovery.* *To summarise, TAR NC provides a limited point of reference for RRC charges other than to say 'other charges' should be published no later than 30 days before the tariff period. Rather the reference price methodology as approved defines the requirements for RRC which allow for RRC charges to be set where forecast revenues deviate from allowed revenues. Therefore, it seems to be complaint to allow*

	RRC to be used for any forecast under recovery arising from the implementation of any of the 0728 UNC modification proposals.' [1] https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-05/Modification%200678A%20-%20Annex%20B%20Draft%20Legal%20Text%20-%20TPD%20Y%20Part%20I-A%20-%2015.05.2019%2864273200_3%29.pdf
E.ON	*'No comments.'*
EP UK Investments	*'We consider all the proposals to be compliant with the Tariff Network Code and other relevant legislation.'*
ESB	*'Article 29 refers to the publication timeline for reserve prices at interconnection points to be 30 days prior to the annual yearly capacity auction. This timeline has been met with publication of the 678A tariffs on 5 June. We understand that 728/A/B/C/D would lead to a change in the RRC rate to be revised from zero. There is no reference to RRCs in Article 29. We note that Article 4 (b) (iii) specifies that the complementary revenue recovery charge shall be applied at points other than interconnection points, which would explain this omission in TAR. The spirit of the regulation appears to be that annual capacity purchases at IPs should be fully informed at the time of the auction, with no subsequent adjustment to capacity price paid.* *Article 4 also states that Transmission Services revenue shall be recovered by capacity based transmission tariffs. It is a compliance concern that 728/A/B and D feature a flow basis for application of discount and charging.'*
ExxonMobil Gas Marketing Europe Limited	*'Yes.'*
Gazprom	*'All solutions are compliant with the EU Tariff Code. We note that there is explicit reference to the provision of information related to transmission and non-transmission tariffs in Art 30.1.(c) which sets out those tariffs which can be published up to 30 days prior to the tariff period. A discount applied to Non-Commodity charges as set out in 0728A/D is consistent with this Article and can be published in time to enable a 1 Oct 2020 implementation. In addition, as the RRC is not required to be published in accordance with Art. 29, by extension it is a relevant charge for the purposes of Art. 30.'*
Interconnector (UK) Limited	*'Capacity discounts to avoid bypass of the network have been approved in other European countries after going though the National Regulatory Authority/ACER consultation process e.g. The OCUC[1] in Belgium. The proposals meet the requirement to be cost reflective having been carefully calculated to only provide a discount where there is a genuine the risk of bypass.* *We do not see a conflict with the requirements of Article 28-32 of the European Tariff Network Code. We believe the obligations outlined for Article 28 have already been covered in the UNC678 and related consultations. The reserve prices published in accordance with Article 29 linked to Article 32 will also not be changed if the proposals are implemented from October 2020. An adjustment would be*

	made via the revenue recovery charge component which is a "floating" element permitted to be changed with appropriate notice. Article 30 linked with Article 32 furthermore, whilst obliging the publication of a number of elements 30 days before the gas year commences, does not appear to oblige those particular parameters to be locked in for the gas year. The information can be changed with suitable notice.' [1] Operational Capacity Usage Commitment. See Fluxys website for further details: https://www.fluxys.com/en/products-services/ztp-trans-shorthaul-ocuc
Lucite International UK Ltd	*'All solutions are compliant with the EU Tariff Code.* *Capacity charges were published by National Grid on 5th June. The Modifications propose discounts to the reserve prices based on an ex-post assessment of the eligible amounts i.e. the discounts are applied to the standard reserve prices.* *In the case of Modifications 0728A/D it is proposed that an additional discount is provided to eligible amounts from the standard Non-Transmission Services Commodity Charges. These charges are required to be set no later than 30 days before the respective tariff period.* *Art 4.2 permits the setting of tariffs to take into account conditions for firm tariffs, which captures the application of Optional Charges. In the case of Transmission revenue under-recovery caused by the implementation of a Optional Charge Art 17 requires that such revenue should be minimised, recovered in timely manner and that differences in tariff levels across two consecutive periods should be minimised. This implies that a RRC should be applied, in particular during the transition phase if implementation is to be permitted on 1st October 2020. The RRC is consistent with Art 4.3 in that the RRC is a capacity-based tariff.* *We note that there is explicit reference to the provision of information related to transmission and non-transmission tariffs in Art 30.1.(c) which sets out those tariffs which can be published up to 30 days prior to the tariff period. A discount applied to Non-Commodity charges as set out in 0728A/D is consistent with this Article and can be published in time to enable a 1st Oct 2020 implementation. In addition, as the RRC is not required to be published in accordance with Art. 29, by extension it is relevant charge for the purposes of Art. 30.* *In the case of Art.29 the provisions are particular to Interconnection Points and Points subject to the CAM Code (which is not the case at non-IP points in GB) and as such generally is only relevant where changes to the reserve prices at IPs is required. This is not the case with any of the 0728 Proposals.*
National Grid NTS	*'National Grid is of the view that the proposed conditional discount and the implementation of this product as proposed in 0728 is compliant with the Tariff Network Code.*

	We provide some additional commentary with reference to the relevant articles for 0728. We note that these can also provide relevance to aspects of 0728A, 0728B, 0728C and 0728D. *In calculating the discounted prices applicable, a discount factor is applied to the applicable Reserve Price (so that any premium is not discounted).* *The Reserve Prices for the relevant NTS Entry and Exit Points are therefore unchanged for the purposes of auctions or other allocations. The 0728 discount and the resulting payable price:* • *Is only applicable where a User elects it for a nominated Entry / Exit combination and where the eligible criteria are satisfied;* • *Can be elected at any time (with some restrictions);* • *Applies to a Day for specific quantities which depends on the variables for that day.* *For these reasons, in our view the discount under 0728 is not a discount (or multiplier) of the kind referred to in the EU Tariff Code and does not vary reserve prices for the purposes of Article 12 of EU Tariff Code.* *The conditional discount proposed in 0728 is not a parameter of the kind referred to in Article 12 or Article 29 (e.g. multiplier, interruptible). We do not believe this undermines or modifies auction information / reserve prices for the purposes for which they are published.* *Article 28* *The discount proposed under 0728 to the Reserve Prices is not a discount that falls within Article 28 of EU Tariff Code. The specific elements to be consulted on under Article 28 are parameters used to derive reserve prices. An election for the conditional discount product does not vary or adjust reserve prices.* *Election for the conditional discount is made by specifying a nominated route so there is no discount to consult on. The discounts do not exist until and unless a User made a specific nomination.* *Article 29* *As with Article 28, the 0728 discount to the Reserve Prices for a particular NTS Entry or Exit Point does not alter reserve prices (and is not a multiplier or other factor) for the purposes of Article 29 of TAR.* *Article 30* *This covers the "Information to be published before the tariff period". Information required under Article 30 does not cover specifically the*

	availability of the 0728 discount or a capacity-based transmission services revenue recovery charge such as was approved under 0678A. *Article 30 does not seem to preclude a within-year variation of anything consulted on (unless prohibited by or in consequence of Article 12). We note that 0678A allows within year updates of the TSRRCs.* *Article 31* *This article covers the format of publication only of details required under Articles 29 and 30 and set out in line with Article 32.* *Article 32* *Article 32 "Publication notice period" provides scope to update the report should any details, as necessary be updated. 0678A has charges introduced that can be updated within year.* *Use of Revenue Recovery Charges* *The principle of capacity-based TSRRCs for the Gas Year (based on forecast over/under recovery of Transmission Services revenue in that Gas Year), and the ability to adjust these within-year, was approved in UNC0678A. This fulfils the obligation in Article 17 of the Tariff Code which manages revenue recovery to minimise under / over recovery and to recover in a timely manner.* *The proposal under UNC0728 does not alter this.* *Irrespective of implementation date, there are multiple scenarios that could give rise to a need to introduce or vary the TSRRCs for the Gas Year.'*
OGUK	'*The proposed change appears to be consistent with the Tariff network code although it is noted that this will be modified by the Schedule 5 of the Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 on the expiry of the current transition period, currently expected at the end of 2020.'*
PETRONAS Energy Trading Ltd	'*No comment provided'*
RWE Supply & Trading GmbH	***'Compliance with Relevant Legislation*** *UNC728, UNC728A, UNC728B, UNC728C and UNC 728D are fully compliant with the Tariff Network Code and the Gas Regulation. We have completed an assessment of compliance with relevant legislation and this included with our response (and should be read as part*

	of our response). *With regard to compliance with Article 28-32 of the TAR Network Code we have the following observations (these are also included in our assessment of compliance with relevant legislation).* ***Compliance with Article 28 - 32*** *NGG has published the reference prices from 1st October 2020 under UNC0678A (postage Stamp) in advance of the annual capacity auctions as required by the TAR Network Code. These do not take into account any discounts that may be available 1st October 2020 as a result of implementation of UNC0728 and any of its alternatives.* *Market participants have been aware for some time that the issue of inefficient bypass of the NTS should be addressed alongside implementation of the new RPM under UNC0678A (Postage Stamp) either through the UNC0670R review group, the withdrawn modifications including UNC0718 and alternatives and through the NGG Gas Charging Discussion Document paper published on 28th April 2020 .* *UNC0728 and alternatives have been published in advance of the annual capacity auctions and market participants can take a view on the impact of discounts on reserve prices and any future marginal adjustments to revenue recovery charges for the gas year commencing 1st October 2020.* *There is sufficient time for implementation of UNC0728 or an alternative prior to the commencement of the new gas year on 1st October provided that an Ofgem decision is available to allow publication of the new revenue recovery charges prior to the start of the tariff period commencing on 1st October 2020 as required under the TAR Network Code. In any event UNC0728 or an alternative should be implemented as soon as possible.'*
Sembcorp Energy UK	*'Having reviewed Articles 28-32 of the Tariff Network Code, Sembcorp is not aware of any stipulations that would cause the proposals raised under UNC0728 to be non-compliant.'*
Shell Energy Europe Limited (SEEL)	*'In SEEL's view, all proposals are compliant with relevant legislation, including the EU Tariff Network Code (NC TAR). Similar concepts already exist, and have been approved by ACER. For example, benchmarking is allowed at specific locations in Germany where, 'absent*

	benchmarking, a pipeline with direct access would have been built'. *In ACER's report on 'The internal gas market in Europe: The role of transmission tariffs'[25], the Agency notes that 'if effective pipeline-to-pipeline competition exists, the benchmarking of tariffs by the regulatory authorities will be a relevant consideration'. Each proposal has demonstrated that effective pipeline-to-pipeline competition exists through identifying specific eligible routes where the construction of a bypass pipeline implies a real choice for the user, when compared to the associated costs of utilisation of the Gas Transmission System, which is in line with the Agency's recommendation in their report of the role of transmission tariffs.* *The two proposals, which also include a discount on the non-transmission services charge, achieve a greater level of cost-reflectivity by better reflecting the level of costs associated with operating competing pipelines.'*
Sisman Energy Consultancy Limited	*'Some specific comments about the compliance assessment have been raised elsewhere in this response.'*
South Hook Gas Company Ltd (SHG)	*'SHG believes that all Modifications under UNC 0728 are compliant with EU TAR.* *Article 4(2) of EU TAR states "Transmission Tariffs may be set in a manner as to take into account the conditions for firm capacity products" which captures the solutions contained within the suite of 0728 Modifications. The solutions apply a conditional discount only on utilised firm capacity within the eligibility criteria, therefore complying with Article 4(2).* *National Grid published the Transmission Services Capacity Reserve Prices for all NTS Points on the 5th June, in line with the rules set out in EU TAR NC. None of the UNC 0728 solutions propose to amend the Transmission Services Capacity Reserve Prices outside of the consultation and publication timelines stated in EU TAR, thereby complying.* *Should a UNC 0728 solution be implemented for 1st October 2020 then the under-recovery from such product should be recovered through a Revenue Recovery Charge. This is consistent with EU TAR Article 17 which states that under or over-recovery should be minimised and that significant differences between transmission tariffs for two consecutive tariff periods should be avoided where possible. Therefore, using the RRC mechanism to recover any under-recovery from the Conditional Discounts prescribed in these solutions is both pragmatic and compliant. It should also be noted that the RRC is a capacity-based tariff and therefore compliant with EU TAR. Neither Conditional Discounts nor Transmission Services RRC are specified within Article 29, meaning Articles 30-32 applies*

[25] https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/The%20internal%20gas%20market%20in%20Europe_The%20role%20of%20transmission%20tariffs.pdf

	which state that the information should be published no later than thirty days prior to the tariff period (i.e. Gas Year). *In relation to UNC 0728A and 0728D, which contain discounts to Non-Transmission Services Commodity Charges, these are compliant with Articles 30-32 of EU TAR, which state that non-transmission tariffs for non-transmissions services should be published at least 30 days prior to the relevant tariff period (i.e. Gas Year).* *Therefore, the implementation of the UNC 0728 Modifications on 1st October 2020, as per the timetables prescribed within the modifications, using the mechanisms specified above, is compliant with EU TAR.'*
SSE	*'This modification is compliant with EU TAR. Consultations in accordance with article 28 and Reference prices have been published in accordance with articles 29 & 32, there is no mention of Revenue Recovery Charge (RRC in these articles). If a subsequent change is made i.e. shorthaul or storage discount then a RRC can be utilised.* *Revenue Recovery Charges can be implemented with 2 months notice in the event that NG forecast a change in allowed revenue recovery. Hence, there is no reason why the incremental changes from mod 727 or 728 cannot be implemented at any time, just as capacity can stop being booked at any time by users once an offtake is curtailed. The latter impact will result in a larger RRC change as NTS bypass or storage closure will provide no revenue to NG but theses 728 mods will provide some. Hence, if no storage discount or shorthaul is available NG will require a larger RRC.* *Articles 30 & 31 will be met by publishing 30 days before the start of the respective tariff period on 30th September. The data published by NG will be made on the basis of best forecast, but will likely be imperfect. This is because the data to calculate the FCC will likely change regardless of if there is shorthaul or a storage mod discount.'*
Triton Power Ltd	*'All of the proposals are compliant with the EU Tariff Code.* *As described in all the proposals it is anticipated that in order to meet the proposed 1 October 2020 implementation date that Revenue Recover Charges are applied to ensure recovery of National Grid's Allowed Revenue. The use of a Revenue Recovery Charge is permitted under Article 17 and Article 4.3, in that it is a capacity-based tariff. There are no pre-conditions as the purpose of the Revenue Recovery Charge beyond those stated in Article 17. To this end the use of this charge is not excluded for the purpose of introducing a "shorthaul" tariff.* *Article 32 sets out the notice period for the publication of charges which includes a Revenue Recovery Charge as set out in Article 30. The notice period is no later than 30 days before the respective tariff period. As a general rule we'd expect year on year that National Grid will set the Revenue Recovery Charge with a minimum 30 days' notice and may make additional changes to the rate throughout the*

	Gas Year in accordance with its Licence and in the same manner as it sets the current TO Commodity Charges. *Notwithstanding the above, we believe that there is the ability to alter reserve prices, with the exception of IPs, which are subject to Article 29, up to 30 days before the respective tariff period. This is also permitted in the UNC Transitional Document, as follows:* *25.3.2 The Reserve Prices determined for the First New Period shall apply in respect of each Auction and Allocation Process:* *(a) which is initiated (by National Grid NTS sending the relevant invitation to Users) on or after the First Publication Date; and* *(b) in respect of NTS Capacity to be allocated for a period commencing on or after the Modification Effective Date.'*
Uniper	*'We have no reason to believe that they are not compliant, however generally Shippers do not have the resources to seek legal opinions on every new UNC Modification Proposal and in particular those raised on urgent timescales. Expecting Shippers to undertake such detailed analysis also risks distorting the governance process if those Shippers with legal resources are able to influence the outcome, potentially to the detriment of Shippers that do not have access to such resources. Assessing compliance is ultimately the role of the Regulator and we note that all of the proposers have provided commentary and analysis to assist in this process.'*
Vermillion Energy Ireland Limited ("Vermillion")	'*As explained above we do not consider 0728C as legally compliant. We cannot comment on whether the others are fully compliant.'* *'With respect to 0728C we see as risk that it introduces the possibility that shippers that have booked entry and/or exit capacity at the proposed discounted tariff, that they use this discounted capacity to reach NBP from entry or to source gas from NBP at exit. This would mean that for the same service (entry to NBP or exit from NBP respectively) different tariffs would be applicable. In our view this is not legally compliant. Some calculation examples are provided at the end of this document.'*
VPI Immingham LLP	*'VPI believes that 728 and 728B are compliant with TAR NC and other legislation.* *VPI notes the interaction between the timing of new tariffs and Articles 28-32. We therefore believe that 728 analysis and alternatives would improve after the July capacity window (i.e. where there could be changes to capacity bookings in response to 678A). Although exit charges have been fixed for October 2020, there is obviously still a high level of uncertainty around the new revenue recovery charge which could significantly impact users (potentially within year).'*
Wales & West Utilities	*'We have raised concerns previously in the 670R workgroup as to whether these modifications are compliant with NTS licence condition A5 that requires charges to reflect costs incurred by the Transporter. The driver for this arrangement is clearly not cost reflectivity but rather a desire (that our analysis suggests is misguided) to avoid these consumers disconnecting in the belief that this will financially benefit NTS. We have also raised issues regarding the discrimination issues. In our view the workgroup has largely ignored these*

	concerns. *We have not considered compliance with Articles 28-32 of the Tariff Network Code.'*

Outline Results of Consultation Responses in respect of Point 2

Respondents are requested to provide views on the proposed implementation date(s).

Organisation	Summary of responses taken directly from the Consultation Response in respect of Point 2
BBLC	*'See previous comments in the "Implementation" section above.'* *'BBLC believes that the implementation date of any successful 0728 Proposal should be aligned with the date of the removal of the current OCC short haul arrangements. BBLC believes that it is important that these dates are aligned as any delay between the removal of the existing OCC arrangements and the implementation of revised arrangements would be detrimental to:* *1) The efficient operation of National Grid's pipeline network, as throughput would be reduced as market arbitrage opportunities are reduced and / or shippers take steps to seek alternative transportation routes to markets and their customers, and,* *2) Cross border trading and shipper competition for the reasons stated above.* *Given that modification 0678A removes the current OCC arrangements and that Ofgem has directed this Modification to be implemented from 1st October 2020 BBLC proposes that the implementation date of 0728 should be aligned to this date. Also, EU Regulation 2017/460 Art. 17.1(c) states "significant differences between the levels of transmission tariffs applicable for two consecutive tariff periods shall be avoided to the extent possible". By aligning the introduction of a new short haul arrangement with the removal of the old arrangement, the magnitude of change in the tariff levels, applicable to relevant short haul routes, for two consecutive tariff periods will be significantly reduced thereby better facilitating compliance with this regulation.'*
BOC	*'Please refer to earlier answer'* *'We are aware that Xoserve systems have been developed to support implementation of any of the proposals. Any delay to the introduction of an Optional Charge will create a huge additional cost burden for BOC impacting the competitiveness of ourselves and our customers. Delay would also create the impetus to by-pass the NTS immediately as the project payback is less than a year so would pay for itself immediately and provide regulatory and cost certainty in the future.'*
BP Gas Marketing	*'We agree with the proposers of the modification that a 1st October 2020 implementation date should be met. If not, then implementation should be on the 1st of the month as close to October 2020 as possible.'*

Centrica	*'Implementation should align with the implementation of UNC MOD 0678A i.e. 1 October 2020. Otherwise as soon as possible afterwards. A revision of the RRC, if and when needed based on the gas transporter forecasts, will need to be issued providing for 2 months' notice.'*
CF Fertilisers UK Limited	*'Please refer to earlier answer. To prevent inefficient bypass, it is vital that Ofgem implement by October 2020.'* *'We support implementation in October 2020. Any delay beyond this date will create a very real risk that a number of customers, including CF Fertilisers, will execute plans to bypass the NTS.* *We are aware that Xoserve systems have been developed to support implementation of any of the proposals. Given that any delay to the introduction of an Optional Charge will a) impose significant, unwarranted and artificial costs on potential OCC customers; and b) a number of potential OCC customers will implement plans to bypass the network, the result will be damaging to UK industry and inefficient for all GB customers.'*
ConocoPhilips (UK) Marketing and Trading Limited	*'Implementation should be as soon as possible and ideally in conjunction with 0678A for a 1st October 2020 effective date. We agree with Ofgem's conclusions that an optional charge should be considered holistically as part of the charging landscape, aligning the start dates forms part of this holistic approach and would avoid a fragmented implementation of the charging arrangements.'*
Drax	*'The implementation should be aligned with the implementation of UNC0678A. This is currently set for 1 October 2020. If that is not possible, then it should be implemented as soon as possible thereafter.'*
Energy Intensive Users Group	'*It is important that implementation of a shorthaul modification that provides a real incentive for users not to build their own pipeline system is implemented for October 2020.'*
Energy UK	*'Energy UK considers implementation should align with the implementation of UNC MOD 0678A and therefore ideally be with effect from 1 October 2020, but otherwise as soon as possible afterwards.* *A decision will need to be issued in time to provide for 2 months' notice of the revenue recovery charge.* *Given Ofgem's acceptance of the request for urgency, it suggests that if none of the proposals are implemented on 1 October 2020 there may be a significant commercial impact on certain users. The implementation date should be set to minimise this, including within the gas year.'*

E.ON	*'Please see implementation comments.'* *'For the reasons outlined above no earlier than October 2020, we also anticipate that CDSP changes are required, which would need to be aligned to the implementation date of the associated XRN.'*
EP UK Investments	*'We consider it essential that the Conditional Discount is implemented at the same time as the gas charging reforms under UNC0678 on 1 October 2020. Without the Conditional Discount in place, some users currently benefiting from the Optional Commodity Charge will see large increases in their network charges and will start investing to bypass the NTS at the earliest opportunity.'*
ESB	*'Holistic change is preferable which would suggest October 2020 for implementation along with UNC 678A. However, we recognise that this represents a further material change to charging with potential large impacts on network users and consumers, and may require an Impact Assessment.'*
ExxonMobil Gas Marketing Europe Limited	*'The selected proposal should be implemented and become effective as soon as possible. We have a very strong preference for a date of 1 October 2020 in order to overlap with the removal of the current OCC regime, however if this date is not achievable then it should become effective as soon as possible thereafter, during gas year '20-21.'*
Gazprom	*'Please refer to the response above for "implementation".'* *'The short lead time provided for the new charging framework has already led to undesirable impacts for Users and customers with the latest tariff publication revealing a whopping 100% increase on the entry tariff, compared to forecasted scenarios.* *Therefore delayed implementation of an Optional Charge will further exacerbate a) significant, unwarranted and artificial costs on potential OCC customers and b) the number of potential OCC customers that will implement plans to bypass the network. The result will be damaging to UK industry and inefficient for all GB customers. Should there be any delay to implementation due to administrative constraints, we propose that National Grid does an annual reconciliation that retroactively reimburses users for the optional charging routes that would have been eligible had there not been these issues. Users should not be penalised for the temporary unavailability of optional charging due to such constraints.* *Additionally, transferred capacity continues to be excluded from accessing a Transmission Services discount the solution will be sub-optimal resulting in unnecessary costs and additional administrative burdens being imposed on Users and customers eligible for the conditional capacity product'*

Interconnector (UK) Limited	*'IUK supports implementation from 01 October 2020 to ensure a seamless transition between the existing NTS Optional Commodity Rate and the new Conditional Capacity Charge Discount. There is a risk that bypass plans will be initiated and that without an appropriate short haul tariff the NTS sees less activity which consequently reduces the actual level of NTS revenues received, resulting in higher charges for users overall.'*
Lucite International UK Ltd	*'Please refer to earlier answer'* *'We are aware that Xoserve systems have been developed to support implementation of any of the proposals. Given that any delay to the introduction of an Optional Charge will* *a) impose significant, unwarranted and artificial costs on potential OCC customers and* *b) a number of potential OCC customers will implement plans to bypass the network, the result will be damaging to UK industry and inefficient for all GB customers.* *We believe it will be in the best interests of all GB customers to implement an Optional Charge on 1st Oct 2020.'*
National Grid NTS	'*Implementation from 1 October 2020 is preferable in order to ensure continuity of a dis-incentive to bypass the NTS given that the NTS Optional Commodity Rate will be discontinued from 1st October 2020. National Grid is confident Central systems to support this can be in place by this date or the first day of any subsequent month. An extended implementation notice period may increase the implementation resource and support costs borne by National Grid.'*
OGUK	*'October 2020'*
PETRONAS Energy Trading Ltd	*'In line with implementation of Modification 0678A or as soon as possible thereafter.'*
RWE Supply & Trading GmbH	'*UNC728 or UNC728A or UNC728B or UNC728C or UNC 728D should be implemented with effect from 1st October 2020 or as soon as possible thereafter.'*
Sembcorp Energy UK	*'Sembcorp supports an October 2020 implementation date.'*
Shell Energy Europe	*'To align with implementation on the UNC proposal 0678A and on the basis of comments already made in this response, SEEL urges for*

Limited (SEEL)	*an October 2020 implementation date.'*
Sisman Energy Consultancy Limited	*'Addressed above'* *'Should Ofgem be convinced of lawfulness and the appropriateness of a proposal then it should be implemented from 1 October 2020. Otherwise the industry should be encouraged to derive a better proposal that balances the interests of all stakeholders and demonstrates that this is the case. If the industry was to deliver such an outcome then it should be implemented as soon as possible; there should be no assumption that if October 2020 is missed that a better approach would need to wait until an October 2021 implementation.* *That said it is important to acknowledge that the industry has known about the significant distortions associated with the OCC for six years and that during that period some Users and consumers will have benefitted from substantial cross-subsidy from domestic and smaller industrial and commercial consumers. It is however disappointing that an equitable approach to addressing the bypass issue has so far not been identified and justified.'*
South Hook Gas Company Ltd (SHG)	*'As described in the Implementation section above, SHG believes implementation should take place on 1st October 2020 alongside Modification 0678A to ensure the Charging Arrangement include a product which seeks to avoid users inefficiently bypassing the NTS.'*
SSE	'*To be implemented as close to the start of the charging year to avoid excess costs on users and subsequent risk of bypass for the reasons explained above. Reference prices have been published in accordance with articles 29 & 32. Revenue Recovery Charges can be implemented with 2 months notice in the event that NG forecast a change in allowed revenue recovery. Hence, there is no reason why this incremental change cannot be implemented at any time, just as capacity can stop being booked at any time by users once the NTS is bypassed.'*
Triton Power Ltd	*'See earlier comments, an implementation date of 01/10/2020 to coincide with the UNC678A start should be applied, or as soon as possible afterwards.'* *'Ideally, we would have preferred a sensible lead time of at least 6 months in order to provide a window to arrange shipping contracts which fully reflect the new service, however, the costs of the imminent removal of the shorthaul service mean that there is a compelling need to implement a new service absent of any lead time. An implementation date of 01/10/2020 to coincide with the UNC678A start should be applied, or as soon as possible afterwards.'*
Uniper	*'In light of Ofgem's recent decision to go ahead with UNC 0678A implementation by 1 October 2020, we believe it is critical that an*

	appropriate shorthaul product is in place at the same time. Otherwise, there risks being a hiatus of at least one gas year, during which many connectees may elect to bypass the NTS. *For clarity, we would support a mid-year implementation. Previous proposals that sought to remove shorthaul mid-year were opposed by many Shippers on timing grounds. However, the opposition was due to the adverse impact this would have on existing, agreed contracts. The effect of 0678A implementation is that no new shorthaul-based contracts will have been signed for Gas Year 20-21 and therefore no impact. Moreover, we believe that were shorthaul to be introduced mid-Gas Year, then the relevant Shippers would be able to react within year to ensure the benefits are passed to end consumers as soon as possible.'*
Vermillion Energy Ireland Limited ("Vermillion")	*'We would suggest implementation as per 1st October 2020. In case this date is not possible, we would suggest implementation as per the first day of a month, as soon as possible after 1st October 2020.'*
VPI Immingham LLP	'*As stated, it is in the interest of all users that a new short haul product in implemented as close to the 1st October 2020 as possible. It does however remain unclear whether an imperfect solution could be implemented which fails to prevent users building private infrastructure (i.e. the level of discount awarded is not sufficient to deter to the economic signal to bypass the network). For some users, this would also alleviate any further regulatory risk around future changes in the gas transmission charging regime.'*
Wales & West Utilities	*'We can understand the driver for those consumers that would benefit to get these arrangements in place by 1st October 2020. Solely from the point of view of NTS revenues, given that these consumers will take time to put in place by-pass arrangements there does not seem to be an immediate imperative to implement on 1st October 2020.* *If the intent is to implement one of these modifications then there are clearly benefits in terms of continuity of charging arrangements from implementing on 1st October 2020. If this date is chosen then we expect consequential price adjustments will be required for NTS.'*

11 Panel Discussions

Discussion

The Panel Chair summarised that Modifications 0728/A/B/C/D (Urgent) propose to introduce forms of capacity discount to manage potential inefficient bypass of the NTS. Each of the 5 Alternative Modifications has slightly nuanced methods for defining how the discount should be set up. Panel Members noted the helpful Comparison Table contained in Appendix 3 outlining some of the differences between the Modifications.

Support

Panel Members considered the representations made, noting that, of the 30 representations received, each Modification received between 11 (0728C (Urgent)) and 19 (0728D (Urgent)) Supporting representations, with 0728 (Urgent) receiving 14 Supporting representations, 0728B (Urgent) receiving 15 Supporting representations and 0728A (Urgent) receiving 17 Supporting representations.

Qualified Support

Similarly, each of the Modifications received several representations offering Qualified Support: 0728 (Urgent) received 4 of these, 0728A (Urgent) received 3 of these, 0728B (Urgent) received 5 of these, 0728C (Urgent) received 4 of these and 0728D (Urgent) received 3 representations offering Qualified Support.

Comments

Each of the Modifications received between 2 and 4 representations offering Comments.

Oppose

Opposing representations were received for all Modifications: 0728 (Urgent) received 8 of these, 0728A (Urgent) received 7 of these, 0728B (Urgent) received 6 of these, 0728C (Urgent) received 10 of these and 0728D (Urgent) received 6 representations opposing implementation.

There were no late representations.

Panel Members noted that 2 representations of the 30 received did not support any of the 5 Modifications and 1 other representation asserted that it was not possible to assess the merits of any of the Modifications due to the lack of any indication of the impact of loss of load under the “status quo” (Modification 0678A - the counterfactual).

Preference in representations

Panel Members noted that representations were received expressing a preference; Modification 0728D (Urgent) received the highest number of preference votes (13) with Modification 0728B (Urgent) receiving the next closest number (7).

Some Panel Members agreed with most respondents and the Proposer that these Modifications would all be welcomed as an improvement over the status quo.

A Panel Member noted that two respondents stated there was not enough evidence that the large discount proposed (for example 90% under Modification 0728D (Urgent)) would provide a benefit to the non-eligible connectees. i.e. there was a lack of counterfactual analysis.

A Panel Member noted that the analysis provided within the Modifications creates a range of scenarios. The proportion of socialisation of Maximum Allowed Revenue will potentially be much less than the maximum level (worst case scenario) due to, for example, the treatment of Existing Contracts. This information was complemented by the information given by National Grid at its Webinars on 23 and 24 June 2020[26].

Panel Members noted that capacity booking behaviour is likely to be different as a result of changes to the Charging Methodology.

Modifications 0728 (Urgent), 0728B (Urgent), 0728C (Urgent)

Panel Members noted that these three Modifications provide a discount only against Transmission Services (TS) charges, with varying distance caps.

Some Panel Members noted that from their own analysis or their own experience, that provision of a discount only on TS charges provides an incentive to bypass the network which is not great enough to provide enough motivation to disconnect. It is a relatively modest discount but leads to a significant charge increase, compared to what is currently being paid.

Some Panel Members noted the only parties to take up the product would be a handful, closely located to any distance limit, who may not have had a realistic chance of bypass which could then be perceived as a form of special treatment.

Modifications 0728A (Urgent) and 0728D (Urgent)

These two Modifications provide a discount on both TS and non-TS charges but have different distance caps.

Some Panel Members noted that from their own analysis or their own experience, providing a discount on both TS and non-TS charges provides an adequate incentive to avoid bypass

Some Panel Members believe, based on their own analysis or their own experience, that discounting both TS and non-TS charges will form an incentive which is greater, which will motivate parties at the sites affected. The level of discount in Modification 0728D (Urgent) comes quite close to the existing OCC for some sites, so those parties could maintain their behaviour.

A Panel Member noted that the size of cross subsidy appears to be a stumbling block for some parties though there is clearly a balance to be had.

A Panel Member noted that amendment of the product later is not necessarily possible, as once a bypass is built, the party will have left the network, potentially indefinitely. Once a pipeline is built, a return to the NTS may be considered unlikely.

A Panel Member noted that there are many pipes in existence already, pressurised by nitrogen which could be reinstated. There is a risk of a second wave effect, where clusters may be formed locally to any new or existing pipeline.

[26] Link to National Grid Webinar material (24 June 2020) on analysis for 0728/A/B/C/D Modifications and an updated comparison/interactions with other charges:
https://www.nationalgrid.com/uk/gas-transmission/charging/gas-charging-discussion-gcd-papers

A Panel Member noted that any discount is not the only basis for a commercial decision. Other factors such as benefits of connection to NBP, liquidity etc. are also to be considered.

A Panel Member noted that groups of customers utilising existing pipelines is not adequately analysed in the Modifications, as this is extremely difficult to predict and model.

Distance

A Panel Member noted that there is clearly a difference of opinion in terms of which is the better Modification in terms of the distance cap, noting that Modification 0728D (Urgent) has a distance limit of 5km.

A Panel Member noted that the longer the bypass pipeline is needed to be, the higher the cost.

A Panel Member noted that an independent assessment on a case by case basis would be preferred though this is difficult to implement.

A Panel Member noted the decision taken by Proposers as to where to put the distance cap, appears somewhat arbitrary. Whereas historical reasons for location of sites clearly included distance from the terminals.

A Panel Member noted that 5km was felt by many respondents to potentially be too short.

A Panel Member countered that the preference expressed by respondents (17 preferred Modification 0728D (Urgent)) would suggest that many did not agree with the above point.

A Panel Member noted that in the first year of implementation the Capacity-based Transmission Services Revenue Recovery Charges (TSRRCs) which was approved in Modification 0678A would be utilised to socialise the costs of any shorthaul discount.

Legal Text

Panel Members acknowledged that the Legal Text commentary for each of the Modification was received and published on 03 July 2020. National Grid apologised for the oversight.

Specific Consultation Questions

Panel Members considered the two questions which Consultation Respondents were asked to respond to:

Q1: Respondents are requested to provide a view as to whether the solution provided within the Modification(s) is fully compliant with the relevant legislation (including, but not limited to, Articles 28-32 of the Tariff Network Code);

Q2: Respondents are requested to provide views on the proposed implementation date(s).

Compliance (Q1)

- The Modification Panel Chair and Panel Members noted that the UNC Modification Panel does not have recourse to direct legal advice when considering legal matters relating to Modifications.
- Some Panel Members confirmed they were not in a position to comment on Legal Compliance.
- Panel Members noted it was for the Authority to consider the information given in the representations and any further consideration is for the Authority.

Implementation dates (Q2)

Panel Members noted that Modification 0728C (Urgent) has slightly different wording to the other 4 Modifications in regards to implementation. All respondents supporting the Modifications wished for implementation from 01 October 2020.

Some Panel Members agreed that implementation of any of the 5 Modifications should be as soon as possible, at the start of the Gas Year.

A Panel Member (domestic consumer representative) noted that it is difficult to understand the quantifiable cost impact on domestic consumers and especially taking into account the current pandemic situation. This is disappointing. There is not enough information in the Modifications to establish this cost impact, without specifying the change in capacity booking behaviours and other variables. This means that the view of this Panel Member is that implementation of the Modifications are not recommended.

Some Panel Members noted that the purpose of the Modifications is to provide a real alternative to those parties who may build their own pipelines, the result of which would lead to an increase in cost for consumers and NTS customers, as the contributions they currently pay to MAR would be removed.

Panel Members noted that the key unknown is the likelihood of parties who may build their own pipelines actually doing this.

A Panel Member challenged how the current pandemic situation affected the Modifications and noted that some non-domestic short haul customers are currently at the heart of the UK’s response to the pandemic (e.g. producing medical oxygen for hospitals) and a Panel Member stated that these customers would be adversely impacted by the changes to the short haul arrangements, whilst at the same time being asked by government to maximise their production capabilities for the benefit of all domestic consumers.

A Panel Member noted that there may be a negative impact on DN connected customers, though this is difficult to quantify.

Other Panel Members noted that there will be impacts, if none of the Modifications are implemented or if one of them is implemented. It is difficult to quantify the effect of these changes.

A Panel Members noted that flexibility of large users has some positive benefits for liquidity with resulting benefits for consumers.

Panel Members noted that one consultation respondent referred to compliance in reference to various Articles in EU Tariff Code.

Panel discussion of Relevant Objectives

All Modifications

Panel Members noted that the Proposers of all Modifications had indicated a positive impact on Standard Relevant Objectives c) and d) and on Charging Relevant Objectives a), aa) b), c) and e).

Panel Members discussed which were the most important Relevant Objectives for consideration in relation to these Modifications taking into account those which the Proposer indicated were positively impacted and the consultation responses. Accordingly, Panel Members wished to concentrate on:

- Standard Relevant Objectives c) and d) and on Charging Relevant Objectives a), aa) b), c) and e).

Standard Relevant Objectives

<u>Relevant Objective a) Efficient and economic operation of the pipe-line system.</u>

Some Panel Members agreed that parties going off grid is not an efficient use of the system therefore all Modifications are positive for **Relevant Objective a).**

Relevant objective c) Efficient discharge of the licensee's obligations.

Some Panel Members agreed with the Proposer of Modification 0728 (Urgent) and believed that this Modification should have a positive impact on **Relevant Objective c)** relating to efficient discharge of the licensee's obligations; because the product is expected to incentivise those parties close to an Entry point to continue to use the NTS.

Some Panel Members believed that Modifications 0728A/B/C/D (Urgent) are expected to have greater impact than 0728 (Urgent).

Some Panel Members believed Modifications 0728A (Urgent) and 0728D (Urgent) are likely to have a greater positive impact for those parties as they include TS and non-TS charges.

Some Panel Members felt that the Modifications would all negatively impact **Relevant Objective c)** relating to efficient discharge of the licensee's obligations; because Licence condition A5 requires charges to be reflective of costs incurred by the licensee and with these modifications this is not the case.

Some Panel Members countered that the costs of building a bypass pipeline may be lower than the licensee's costs, though there are other benefits of connecting to the NTS (the value of the other benefits must be considered and may be different depending on who is valuing the particular benefits).

Some Panel Members believed that the inclusion of non-TS charges in 0728A (Urgent) and 0728D (Urgent) would negatively impact **Relevant Objective c)** because all users of the network get the same level of service (relating to non-TS charges).

All Modifications Relevant Objective d) Securing of effective competition:

(i) between relevant Shipper Users;

(ii) between relevant suppliers; and/or

(iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant Shipper Users.

Some Panel Members agreed with the Proposer and many respondents that these Modification should have a positive impact on **Relevant Objective d)** relating to competition; because all Modifications aim to avoid these customers disconnecting from the system which would be worse for competition. Some Modifications may be felt to be more likely to deliver the outcome wanted.

Some Panel Members believed the discounts in Modifications 0728A (Urgent) and 0728D (Urgent) were at a level required to stop people leaving.

Some Panel Members believed the discounts in Modifications 0728 (Urgent), 0728B (Urgent) and 0728C (Urgent) were not at a high enough level to stop people leaving.

Relevant Objective 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.

Panel Members agreed that consideration of this **Relevant Objective e)** was not relevant for this Modification.

Relevant Objective f) Promotion of efficiency in the implementation and administration of the Code.

Panel Members agreed that consideration of this **Relevant Objective f)** was not relevant for this Modification.

Relevant Objective 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.

- Panel Chair and Panel Members noted that the UNC Modification Panel does not have recourse to direct legal advice when considering legal matters relating to Modifications.
- Some Panel Members confirmed they were not in a position to comment on legal compliance.
- Panel Members noted it was for the Authority to consider the information given in the representations.

Panel Members noted the Consultation representation which referred to it being preferable to avoid the duplication of gas transmission systems[27].

Competition

Some Panel Members noted that some Consultation representations raised the issue of competition compliance in terms of offering the same product for a lower price.

Charging Relevant Objectives

Charging Relevant Objective 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;

- Some Panel Members felt that the Modifications would all negatively impact **Relevant Objective a)** relating to costs incurred; because Licence condition A5 requires charges to be reflective of costs incurred by the licensee and with these modifications this is not the case.
- Some Panel Members countered that the costs of building a bypass pipeline may be lower than the licensee's costs, though there are other benefits of connecting to the NTS (the value of the other benefits must be considered and may be different depending on who is valuing the particular benefits).

Charging Relevant Objective 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;

Some Panel Members agreed with the Proposer that this Modification should have a positive impact on Charging **Relevant Objective aa)** relating to auction process and competition; because these Modifications are aiming to be more reflective of costs incurred when judged against scenarios where no product is implemented.

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

Some Panel Members agreed with the Proposer that this Modification should have a positive impact on Charging **Relevant Objective b)** relating to developments in the transportation business; because the development of the Modifications has been linked to up to date costing assessment developed by CEER (dated 17 July 2019) and therefore provides a site an alternative to bypassing, whilst minimising undue charges being levied on those ineligible for the product.

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[27] BBLC Representation https://www.gasgovernance.co.uk/0728/Reps

Some Panel Members noted that Modification 0678A has the effect of removing shorthaul but the industry consensus, confirmed through Request 0670R workgroup discussions has been that having a shorthaul product of some form is desirable.

Relevant objective 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;

Some Panel Members agreed with the Proposer and many respondents that these Modifications should have a positive impact on Charging **Relevant Objective c)** relating to competition; because all Modifications aim to avoid these customers disconnecting from the system which would be worse for competition. Some Modifications may be felt to be more likely to deliver the outcome wanted.

Some Panel Members believed Modifications 0728A (Urgent) and 0728D (Urgent) had discounts which were set at a level required to stop people leaving.

Some Panel Members believed Modifications 0728 (Urgent), 0728B (Urgent) and 0728C (Urgent) had discounts which weren't at a high enough level to stop people leaving.

Some Panel Members felt that Modifications 0728A (Urgent) and 0728D (Urgent) would negatively impact Charging **Relevant Objective c)** relating to competition and charging. This is because the non-Transmission Services changes are available consistently for all parties. In addition, the methodology applied to Non-Transmission Services discount in variants 0728A (Urgent) and 0728D (Urgent) potentially result in differing volumes being subject to the discount to that discounted on Transmission Services. This negatively impacts competition as parties are potentially gaining discounts on volumes over and above the quantity that is being discounted for Transmission Services which exceeds their utilisation of capacity.

Relevant objective 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).

Panel Members agreed that consideration of this standard **Relevant Objective d**) was not relevant for this Modification.

Panel Members noted that some Respondents stated the Modifications were negative for charging **Relevant Objective d)** regarding disposal of assets, but Panel Members did not consider that this Relevant Objective was applicable as no assets were being disposed of by NTS, although some may become redundant if consumers disconnect from the NTS.

Relevant objective 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.

- Panel Chair and Panel Members noted that the UNC Modification Panel does not have recourse to direct legal advice when considering legal matters relating to Modifications.
- Some Panel Members confirmed they were not in a position to comment on legal compliance.
- Panel Members noted it was for the Authority to consider the information given in the representations

Panel Members noted that the Proposers did not consider this **Relevant Objective e)** to be positively impacted.

Determinations

Panel Members voted unanimously that none of the Modifications 0728/A/B/C/D (Urgent) have an SCR impact.

Panel Members voted with 7 votes in favour (out of a possible 14), did not agree to recommend implementation of Modification 0728 (Urgent).

Panel Members voted with 6 votes in favour (out of a possible 14), did not agree to recommend implementation of Modification 0728A (Urgent).

Panel Members voted with 5 votes in favour (out of a possible 14), did not agree to recommend implementation of Modification 0728B (Urgent).

Panel Members voted with 5 votes in favour (out of a possible 14), did not agree to recommend implementation of Modification 0728C (Urgent).

Panel Members voted with 7 votes in favour (out of a possible 14), did not agree to recommend implementation of Modification 0728D (Urgent).

Preference

Panel Members determined, should one of the Modifications be implemented, which one would better facilitate achievement of the Relevant Objectives, as follows:

Panel Members voted and there were 0 votes in favour that proposed Modification 0728 (Urgent) better facilitates the Relevant Objectives than proposed Modifications 0728A/B/C/D (Urgent).

Panel Members voted and there were 0 votes in favour that proposed Modification 0728A (Urgent) better facilitates the Relevant Objectives than proposed Modifications 0728/B/C/D (Urgent).

Panel Members considered, should one of the Modifications be implemented, which one better facilitated the Relevant Objectives, concluding, with 1 votes in favour (out of a possible 14), that proposed Modification 0728B (Urgent) better facilitates the Relevant Objectives than proposed Modifications 0728/A/C/D (Urgent).

Panel Members considered, should one of the Modifications be implemented, which one better facilitated the Relevant Objectives, concluding, with 2 votes in favour (out of a possible 14), that proposed Modification 0728C (Urgent) better facilitates the Relevant Objectives than proposed Modifications 0728/A/B/D (Urgent).

Panel Members considered, should one of the Modifications be implemented, which one better facilitated the Relevant Objectives, concluding, with 7 votes in favour (out of a possible 14), that proposed Modification 0728D (Urgent) better facilitates the Relevant Objectives than proposed Modifications 0728/A/B/C (Urgent).

Should one of the Modifications be implemented, the Panel concluded that no clear majority view existed on the preference of whether any one of the proposed Modifications 0728 (Urgent), 0728A (Urgent), 0728B (Urgent), 0728C (Urgent) or 0728D (Urgent) better facilitates the Relevant Objectives than the others.

12 Recommendations

Panel Recommendation

Panel Members recommended:

- that Modification 0728 (Urgent) should not be implemented.
- that Modification 0728A (Urgent) should not be implemented.

- that Modification 0728B (Urgent) should not be implemented.
- that Modification 0728C (Urgent) should not be implemented.
- that Modification 0728D (Urgent) should not be implemented.

13 Appendices

Modification 0728 (Urgent)

Appendix 1 - Analysis

Introduction

1. The following analysis has been completed by National Grid in support of Modification 0728[28]. It is intended to provide additional information regarding analysis and figures quoted in the Modification text.

2. Due to the commercially sensitive nature of NTS Optional Commodity Charge (NTS OCC) data, this analysis could only be undertaken by National Grid. All data corresponding to the existing NTS OCC and any subsequent charges arising from the analysis will be presented at an aggregated level.

3. Where relevant, the analysis uses the Modification 0678 V3.1 CWD Transmission Services - Sensitivity Model[29]. This is an illustrative model and should always be considered as such. It provides support to Modification 0678A and is a sensitivity tool to demonstrate the way in which charges under Modification 0678A would be calculated, and as a result the same consideration should be taken when reviewing this Optional Charge analysis.

4. This analysis is structured in the following way:

   (a) Description of the assumptions that have been made in order to carry out a consistent method of analysis

   (b) Some non-Modification specific analysis, related to actions raised in Review Modification 0670R Workgroup.

   (c) Analysis of optional charge proposed, which consists of:

      i. an assessment of the number of routes applicable

      ii. the potential under recovery of transmission services revenue the specified charges could generate

      iii. the indicative impact this could have on reference and reserve prices for the relevant Reference Price Methodology (RPM) and the same approach on non-transmission charges.

Assumptions

5. In order to carry out the analysis on the prevailing NTS OCC, "Methodology 2" as described in Modifications 0678H/J and the proposal raised in 0728 in a consistent manner, the following assumptions or limitations have been made:

[28] https://www.gasgovernance.co.uk/livemods
[29] https://www.gasgovernance.co.uk/index.php/0678/Models

(a) Users and routes based on NTS OCC historical flows and revenues from October 2017 to September 2018 (Gas Year 2017/18), replicating Gas Year format of the sensitivity tool.

(b) Assessment is undertaken at NTS OCC route level basis, not shipper level.

(c) Assessment is undertaken against Modification 0678A as a base case.

(d) No behavioural changes are assumed. All NTS OCC routes and flows used during Gas Year 2017/18 are considered to use any new optional charge proposed, on the condition the charge is less than the prevailing firm RPM entry and exit prices.

(e) No consideration is given between Users of the proposed optional charges and Users that hold Existing Contracts. Where reference prices are referred to, these are prices from the Sensitivity Model, set to the parameters defined in Modification 0678A and calculated based on Gas Year 2020/21, with any over or under recovery recycled until the initial Revenue Recovery Charge (RRC) is set at zero.

(f) For the purpose of this assessment, the Forecasted Contracted Capacity (FCC) as defined in the FCC Methodology Statement[30] is considered to be 100% accurate.

(g) For the purpose of calculating adjustments within the sensitivity model, perfect foresight of applicable quantities for the optional charge is assumed in order to give indicative reserve price increases to account for optional charge under recovery.

(h) Any further modification specific sensitivity analysis or assumptions are stated where necessary

Comparison of Prevailing and Alternative Products

6. Rates were first calculated by the Sensitivity Tool using parameters defined by Modification 0678A for the gas year October 2020 – September 2021. On this baseline, several scenarios were then run.

7. First, we assessed the impact if all Users of the current NTS Optional Commodity Charge (NTS OCC) bypassed the NTS entirely. While this scenario is not supported by the likelihood of bypass analysis carried out it gives us a useful set of data to validate against.

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0

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

8. The 24.4% quoted in the Modification text relates to the total contribution loss of those sites currently using the prevailing NTS OCC, i.e. the total of their contribution under the NTS OCC and the difference between their NTS OCC contributions and the figures they would be paying if no such product existed.

9. Under Modification 0678 and alternatives a number of options for a new Optional Capacity Charge were proposed. Methodology 1 was dismissed as too generous. Methodology 3 was dismissed as too restrictive. Methodology 2 offered a solution which Ofgem described as too generous, but the Minded to Position also offered a potential change to the formula.

10. When discussed by the 0670 Review group it was proposed that the impact on standard Users of the NTS based on Methodology 2 should be compared to an adjusted formula which used FCC rather than MNEPOR.

11. The analysis assumed no changes in behaviour, i.e. only current NTS OCC Users would take up the product, they would not make any significant adjustments to their portfolio to shift capacity or flow between existing Entry or Exit Points.

12. Methodology 2 acts as an alternative charge to both the Transmission and General Non-Transmission charges. It also introduces a Minimum Fee for Users of a route.

13. NTS costs were calculated for all routes based on the Entry and Exit FCCs along with current NTS OCC Throughput, using the Reserve Prices calculated by the Sensitivity tool and General Non-Transmission Charges. It was assumed that Revenue Recovery Charges would be zero.

14. Using the Same FCC and flow values, the charges incurred under the Alternative Charge and Minimum Fee were also calculated.

15. Where the Alternative Charge costs were lower than the standard costs it was assumed that the User would opt for the cheaper of these and use the Optional Capacity Charge.

16. These calculations were repeated based on the adjustment to the formula proposed by the Review group which transplanted FCC for MNEPOR in to stage one of the calculation.

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0

	0678H/J Baseline	FCC into Stage 1
OCC Contribution	£16,993,934.00	£13,612,172.74
Potential Socialisation (£)	£65,207,293.37	£60,920,174.44
TS Socialisation as % of MAR	8.6%	8.1%
Gen Non-TS Socialisation	£42,648,739.22	£39,072,506.45
Gen Non-TS Socialisation as % of MAR	5.6%	5.2%
Total as % of MAR	14.3%	13.2%
Routes Considered	14	12
Max Effective Rate Discount	97.6%	95.7%
Longest Route Considered	53.0	27.0

17. This Modification sets a distance cap at 18km based on the likelihood of bypass analysis detailed below. The Maximum Discount applied to be applied to Transmission charges will be 90% at 0km. We do not propose to discount General Non-Transmission charges.

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09

	0678H/J Baseline	NG Discount Proposal
OCC Contribution	£16,993,934.00	£12,599,653.97
Potential TS Socialisation	£65,207,293.37	£54,825,410.84

TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max TS Discount	
Max Gen Non-TS Discount	
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0

TS Socialisation as % of MAR	8.6%	7.2%
Gen Non-TS Socialisation	£42,648,739.22	£0.00
Gen Non-TS Socialisation as % of MAR	5.6%	0.0%
Total Socialisation as % of MAR	14.3%	7.2%
Routes Considered	14	17
Max TS Discount		90.0%
Max Gen Non-TS Discount		0.0%
Max Effective Rate Discount	97.6%	61.7%
Longest Route Considered	53.0	17.7

18. Based on this Modification, a distance cut-off at 18km, the routes which fall within the distance are as follows:

Entry Point	Exit Point	Straight-Line Distance (km)	Calculated Discount
Bacton IP	Bacton (BBL)	0.0	90%
Bacton IP	Bacton (Great Yarmouth)	0.0	90%
Bacton IP	Bacton (IUK)	0.0	90%
Bacton UKCS	Bacton (BBL)	0.0	90%
Bacton UKCS	Bacton (Great Yarmouth)	0.0	90%
Bacton UKCS	Bacton (IUK)	0.0	90%
Barrow	Barrow (Black Start)	0.0	90%
Barrow	Roosecote Power Station (Barrow)	0.0	90%
Burton Point	Burton Point (Connahs Quay)	0.0	90%
Hatfield Moor (onshore)	Hatfield Power Station	0.0	90%
Isle of Grain	Grain Power Station	0.0	90%
Moffat (Irish Interconnector)	Moffat (Irish Interconnector)	0.0	90%
St Fergus	Apache (Sage Black Start)	0.0	90%
St Fergus	St. Fergus (Peterhead)	0.0	90%
St Fergus	St. Fergus (Shell Blackstart)	0.0	90%
St Fergus	St_Fergus_Segal	0.0	90%
Teesside	Air_Products (Teesside)	0.0	90%
Teesside	Brine Field (Teesside) Power Station	0.0	90%
Teesside	Phillips Petroleum, Teesside	0.0	90%
Teesside	Seal Sands TGPP	0.0	90%
Teesside	Teesside Hydrogen	0.0	90%
Teesside	Teesside (BASF, aka BASF Teesside)	0.0	90%
Milford Haven	Upper Neeston (Milford Haven Refinery)	0.2	89%
Burton Point	Deeside	0.4	87%
Milford Haven	Pembroke Power Station	0.8	83%
Isle of Grain	Medway (aka Isle of Grain Power Station, NOT Grain Power)	1.0	81%
Burton Point	Harwarden (Shotton, aka Shotton Paper)	1.3	79%
Teesside	Billingham ICI (Terra Billingham)	4.4	58%
Teesside	Enron Billingham	4.4	58%
Teesside	Zeneca (ICI Avecia, aka 'Zenica')	4.4	58%

Isle of Grain	Middle Stoke (Damhead Creek, aka Kingsnorth Power Station)	4.5	57%
Burton Point	Shotwick (Bridgewater Paper)	4.9	55%
Hatfield Moor (onshore)	Eastoft (Keadby Blackstart)	6.7	45%
Hatfield Moor (onshore)	Eastoft (Keadby)	6.7	45%
Hatfield Moor (onshore)	KEADBY_2 PS	10.2	30%
Isle of Grain	Stanford Le Hope (Coryton)	13.6	20%
Hatfield Moor (onshore)	West Burton Power Station	17.7	11%
Easington	Stallingborough	17.7	11%

19. Of these, seventeen routes are considered in this analysis. The other routes which fall within this distance limitation have a zero figure in either Entry Firm FCC, Exit Firm FCC, MNEPOR or current Throughput which will mean the route is not considered in the analysis as no discount would be applicable.

20. The Cross Subsidy figures for considered routes which fall within the distance splits below are as follows:

Distance	Cross Subsidy	% MAR	Cumulative	% MAR
<= 1km	£52,000,208.26	6.87%	£52,000,208.26	6.87%
1km - 5km	£2,414,467.73	0.32%	£54,414,675.99	7.19%
5km - 18km	£441,435.17	0.06%	£54,856,111.15	7.25%

21. The presence of Existing Contracts at Entry, or traded capacity are both Entry and Exit is not considered in this analysis. These volumes can be used to enable discounts at the opposing end of the route they relate to, but will not be considered for Discount themselves, as detailed in the Modification text. As a result, the figures quoted are “worst case”. Over time, the expiry of Existing Contracts and changes to booking and trading behaviours is expected to bring the figures closer to expectation.

22. The impact each of these scenarios could potentially have on the Postage Stamp rates calculated under Modification 0678A is detailed below.

	0678A		**Prevailing NTS OCC**		**0678H/J**		**FCC Adjustment**		**Current Proposal**	
	Entry	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**
Rate Increase	0.0%		+14.8%		+9.4%		+8.8%		+8.7%	

Likelihood of Bypass

23. In assessing the routes which posed a genuine threat of bypass we have used a set of data published by the Council of European Energy Regulators.[31]

24. From this report, we have taken the formula below as the option presented which "defines better the costs at both ends of the graph, so for small diameters and large diameters":

Pipeline Construction Cost (€/km) = 642.985 D² (") + 2,464.295 D (") + 398,135.326

Where D is the pipe diameter in inches.

25. To calculate the pipe diameter for a range of routes we have used the General Flow Equation as below:

$$D = \left(\frac{10^4}{7.574} * \frac{Q\sqrt{K}}{E}\right)^{0.4} * \left(\frac{Ps}{Ts}\right)^{0.4} * \left(\frac{S * L * Z * T}{P1^2 - P2^2}\right)^{0.2}$$

Where:

D is the pipe diameter in mm (to be converted to inches)

Q is the Flow in mscmd, National Grid has used the current MNEPOR as at 31 January 2020

K is the Friction Factor

E is the Efficiency of the pipe (assumed to be 1.0 for a new, perfectly efficient pipe)

P_s is Standard Pressure

T_s is Pipe Average Temperature

S is the Specific Gravity of Gas

L is the Length of Pipe taken from the Distance Matrix as described below

Z is the Compressibility of Gas

T is Temperature

P_1 is the Inlet Pressure

P_2 is the Outlet Pressure

All constants are taken from the UNC TPD Section Y 2.5.2 - The Expansion Constant, effective to 30 September 2020. The section references the Long Run Marginal Costs and is removed from the UNC as part of the implementation of Modification 0678A.

26. This calculation uses two sets of distances. As part of Modification 0678 a Pipeline Distance Matrix was produced, providing point to point distances for all Entry and Exit Points using the NTS. The prevailing NTS Optional Commodity Charge uses a Matrix of Straight-line Distances

[31] https://www.ceer.eu/1767

created for any Entry and Exit Point currently opting to use the NTS OCC product. The use of Straight-line Distance is proposed in Modification 0728 but these distances are not currently available for all sites. In this calculation, we have used the minimum of the distances currently available for each route.

27. For each potential route a pipe diameter in mm was calculated based on the General Flow Equation, the constants held in Section Y prior to implementation of Modification 0678A, the MNEPOR and the Distance as described above.

28. Each calculated diameter has been scaled up to the next available standard pipe diameter as the minimum size of pipe required to supply the Exit Point at the Maximum Daily Offtake Rate.

29. These diameters have been converted from millimetres to inches by dividing by 25.4.

30. This Diameter has been fed in to the CEER equation to produce a cost in EUR for each route.

31. The EUR cost has been divided by 1.1748 to give a cost in GBP based on the currency conversion rate[32] at the time this analysis was produced in January 2020.

32. Separate to this, based on the timescales cited in the PARCA process, approximate construction timescales were calculated for each route based on the distance and the pipe size. The minimum time scale quoted, 12 months, has been attributed to a 0km distance for the smallest standard pipe diameter, 50mm. The longest time scale quoted, 90 months, has been attributed to a 50km section of the largest standard diameter of pipe, 1220mm. Timescales for distances and pipe sizes between these extremes have been scaled accordingly.

33. A construction timescale figure, in whole months, has been calculated for each route.

34. Based on the MNEPOR, Entry & Exit Reserve Prices and construction timescale, a cost of using the NTS during the period the User is constructing their hypothetical bypass pipeline has been calculated.

35. The Pipeline Construction Costs and Interim NTS Usage Costs have been combined to give a figure for the route. Assuming a simple ten-year repayment period this figure has been divided by 10 to give an annual cost.

36. Using the MNEPOR and Entry & Exit Reserve Prices, an Annual NTS Cost has been calculated.

37. The ratio of these two figures defines the likelihood of a User choosing to bypass the NTS.

38. The highest ratio recorded was approximately 10:1, suggesting that the User with the highest likelihood of bypass, over ten years, would achieve a 90% reduction in transmission costs.

39. It is assumed that a ratio below 1:1 would never consider bypass as the repayment term would exceed 10 years.

40. Even above this ratio a User would have to consider the high levels of upfront capital cost, the long-term commitment to operational costs associated with the asset and the loss of access to the NTS increasing the uncertainty around supply security.

41. In addition to this, the longer the distance, the increased level of uncertainty when constructing a pipeline. The increased possibility of delays and additional costs cannot be accounted for but mean a route becomes less attractive as risk levels increase.

42. A subset of likely routes, once identified, was used to generate an Average Cost Driver linked to Surface Features and Special Construction requirements as detailed in Section 3.5 of the CEER.

[32] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/855436/exrates-monthly-0120.csv/preview

43. Using grid references, each route was measured and using aerial photographs, significant surface features were identified and the cost factors detailed in "Table 3-2" were applied for the appropriate proportion of the distance.

44. An average factor for these routes, weighted by distance, was generated and fed back in to the calculation to ensure the most reflective set of construction costs possible was produced.

45. It is important to highlight that while the CEER document provides a significant level of detail, as per section 3.9 - "Factors for associated costs", it does not account for costs associated with any land purchases to enable the pipeline to be constructed.

Derivation of the Discount Curve

46. The likelihood of bypass, calculated using the CEER pipeline cost equation, provides us with a maximum discount level of 90%. It also suggests the shape of the discount provided, an inverse exponential curve.

47. Given that a 10% discount is available to all Users via the interruptible capacity option, a cut-off is proposed where the curve meets a 10% discount. Users can achieve a greater discount via an alternative method, so the product becomes irrelevant below 10%.

48. Based on Maximum Discount, an adjustment is made to the starting point of the curve

49. A constant, 1.6094, is fed into the equation to ensure that the Discount Curve meets the 10% lower threshold at the distance cap.

50. The likelihood of bypass analysis also suggests that it is more likely for Users within 17.7km to consider bypass, while Users beyond that point would be less likely to consider bypass. It should be recognised that the design of the product is generic in its nature and application and may not consider every possible specific scenario and can only assume that a new pipeline is necessary for each potential combination.

51. Based on this analysis a distance cap of 18km is proposed, being the longest distance likely to consider bypass, rounded up to the nearest whole kilometre.

Reassessment of the Distance Cap

52. As part of National Grids periodic review, we may look to assess the level of socialisation generated by the product and how variations in the Distance Cap may affect levels of socialisation based on the latest Charging and FCC data.

53. We will monitor the cross subsidy generated by the Distance Cap, this assessment requires the following inputs:

    i) confirmation of the Maximum Discount. Expected to remain as 90% in line with the Likelihood of Bypass analysis

    ii) confirmation of the Minimum Discount. Expected to remain 10% in line with the Interruptible Discount

    iii) updated Maximum Allowed Revenue figure

    iv) updates to the Entry & Exit FCC values based on latest calculated figure

    v) updates to the Entry & Exit Reserve Prices for the Gas Year ahead

    vi) the latest Optional Capacity Charges

    vii) the Optional Capacity Charge associated Distance Matrix

54. From the updated Entry & Exit FCCs and the updated Optional Capacity Charge Throughput, an updated Forecasted Eligible Quantity is created.

55. Based on a set range of distances, 5km increments from 5km to 75km, an estimated monetary Socialisation figure is calculated.

56. A graph and trendline can be plotted based on the data calculated

57. From these figures the current Socialisation can be calculated

58. Based on a change in the cross subsidy figure a request for a formal review may be triggered and, alongside industry input, the product will be reassessed for future viability.

Eligible Quantity Calculations

59. The Eligible Quantity Calculation is detailed in the Business Rules. Below are a number of examples stepping through possible scenarios using the Business Rules.

Example 1 - Simple

Entry Point A

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route A1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(0, (Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(0, (Min\,(105000, 100000, 90000, 95000) - 0)\big)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh and so, in accordance with BR35, the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(90000{,}105000)$$

$$\boldsymbol{EQEn = 90{,}000\ kWh}$$

When considering Route A1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000{,}100000)$$

$$\boldsymbol{EQEx = 90{,}000\ kWh}$$

Example 2 – Existing Contract at Entry

Entry Point C

Date Booked	Source	Type	kWh
01/04/2017	Auction	Existing	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route C1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(0, (Min(CAPEn, CAPEx, AEn, AEx) - ECEn))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(0, (Min(105000{,}100000{,}90000{,}95000) - 105000))$$

$$IEQEn = 0\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min(IEQEn, AQEn)$$

$$EQEn = Min(0{,}0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route C1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min(105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min(IEQEx, AQEx)$$

$$EQEx = Min(90000{,}100000)$$

$$\boldsymbol{EQEx = 90{,}000\ kWh}$$

Example 3 – Traded Capacity at Entry

Entry Point B

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route B1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\left(0, (Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn)\right)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\left(0, (Min\ (105000,100000,90000,95000) - 0)\right)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (90{,}000,0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route B1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (105000,100000,90000,95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\ (90000,100000)$$

$$\boldsymbol{EQEx = 90,000\ kWh}$$

Example 4 – Multiple Exit Points

Entry Point D

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	45,000
		Exit Flow	40,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	55,000
		Exit Flow	45,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities (CAP_{En}) and Flows (A_{En})based on the ratio of Exit Capacities and Flows, i.e.

37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point D to Exit Point 1

Type	kWh
CAP_{En1}	47,250
AQ_{En1}	47,250
A_{En1}	42,353

Exit Point 1

Entry Point D to Exit Point 2

Type	kWh
CAP_{En2}	57,750
AQ_{En2}	57,750
A_{En2}	47,647

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	45,000
		Exit Flow	40,000

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	55,000
		Exit Flow	45,000

Example 4 (cont.)

When considering Route D1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn \ = \ Max\big(\ 0\ , (\ Min\ (CAPEn, CAPEx, AEn, AEx) - \ ECEn\ )\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn \ = \ Max\big(\ 0\ , (\ Min\ (47250{,}45000{,}42353{,}40000) - \ 0\ )\big)$$

$$IEQEn \ = 40{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 47,250. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn \ = \ Min\ (IEQEn, AQEn)$$

$$EQEn \ = \ Min\ (40000{,}47250)$$

$$\boldsymbol{EQEn \ = 40{,}000\ kWh}$$

When considering Route D1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx \ = \ Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx \ = \ Min\ (47250{,}45000{,}42353{,}40000)$$

$$IEQEx \ = 40{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 45,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx \ = \ Min\ (IEQEx, AQEx)$$

$$EQEx = Min\,(40000{,}45000)$$

$$\boldsymbol{EQEx = 40{,}000\ kWh}$$

Example 4 (cont.)

When considering Route D2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(0, (Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(0, (Min\,(57750{,}55000{,}47647{,}45000) - 0)\big)$$

$$IEQEn = 45{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 57,750. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(45000{,}57750)$$

$$\boldsymbol{EQEn = 45{,}000\ kWh}$$

When considering Route D2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(57750{,}55000{,}47647{,}45000)$$

$$IEQEx = 45{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 55,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(45000{,}55000)$$

$$\boldsymbol{EQEx = 45{,}000\ kWh}$$

Example 5 – Complex

Entry Point E

Date Booked	Source	Type	kWh
01/04/2017	Existing	Firm	100,000
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	50,000
01/07/2020	Trade	Firm	-20,000
		Entry Flow	170,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	20,000
01/07/2020	Trade	Firm	-10,000
		Exit Flow	55,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	60,000
01/04/2020	Auction	Interruptible	30,000
01/07/2020	Trade	Firm	15,000
		Exit Flow	110,000

Example 5 (cont.)

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities and Flows based on the ratio of Exit Capacities (CAP_{Ex}) and Flows (A_{Ex}).

37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

37.2 $ECPEn1 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx1$ & ECEn2 $= \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx2$

37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point E to Exit Point 1

Type	kWh
CAP_{En1}	45,217
EC_{En1}	34,783
AQ_{En1}	17,391
A_{En1}	56,667

Entry Point E to Exit Point 2

Type	kWh
CAP_{En2}	84,783
EC_{En2}	65,217
AQ_{En2}	32,609
A_{En2}	113,333

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	20,000
01/07/2020	Trade	Firm	-10,000
		Exit Flow	55,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	60,000
01/04/2020	Auction	Interruptible	30,000
01/07/2020	Trade	Firm	15,000
		Exit Flow	110,000

Example 5 (cont.)

When considering Route E1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(0, (Min(CAPEn, CAPEx, AEn, AEx) - ECEn))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(0, (Min(45217, 40000, 56667, 55000) - 34783))$$

$$IEQEn = 5{,}217\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 17,391. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(5217{,}17391)$$

$$\mathbf{EQEn = 5{,}217\ kWh}$$

When considering Route E1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(45217{,}40000{,}56667{,}550000)$$

$$IEQEx = 40{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 50,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(40000{,}50000)$$

$$\mathbf{EQEx = 40{,}000\ kWh}$$

Example 5 (cont.)

When considering Route E2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(0, (Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(0, (Min\,(84783{,}75000{,}113333{,}110000) - 65217)\big)$$

$$IEQEn = 9{,}783\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50.000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 32,609 kWh. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(9783{,}32609)$$

$$\boldsymbol{EQEn \ = 9,783 \ kWh}$$

When considering Route E2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx \ = \ Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx \ = \ Min\ (84783{,}75000{,}113333{,}110000)$$

$$IEQEx \ = \ 75{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 60,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx \ = \ Min\ (IEQEx, AQEx)$$

$$EQEx \ = \ Min\ (75000{,}60000)$$

$$\boldsymbol{EQEx \ = \ 60,000\ kWh}$$

Appendix 2 – Routes between 18km and 28km

No content provided.

Appendix 3 – Comparison Table for Modifications 0728/A/B/C/D (Urgent)

No content provided.

Modification 0728A (Urgent)

Appendix 1 - Analysis

Introduction

1. The following analysis has been completed by South Hook Gas (SHG) in support of Modification 0728A[33]. It is intended to provide additional information regarding analysis and figures quoted in the Modification text.

2. Due to the commercially sensitive nature of NTS Optional Commodity Charge (NTS OCC), National Grid provided data on an aggregate level to allow for analysis to be conducted. Therefore, all data corresponding to the existing NTS OCC and any subsequent charges arising from the analysis will be presented at an aggregated level.

3. Where relevant, the analysis uses the Modification 0678 V3.1 CWD Transmission Services - Sensitivity Model34. This is an illustrative model and should always be considered as such. It provides support to Modification 0678A Modification and is a sensitivity tool to demonstrate the way in which charges under Modification 0678A would be calculated, and as a result the same consideration should be taken when reviewing this Optional Charge analysis.

4. This analysis is structured in the following way:

   (a) Description of the assumptions that have been made in order to carry out a consistent method of analysis

   (b) Some non-Modification specific analysis related to actions raised in Review Modification 0670R Workgroup.

   (c) Analysis of optional charge proposed, which consists of:

      i. an assessment of the number of routes applicable

      ii. the potential under recovery of transmission services and non-transmission services revenues the specified charges could generate

      iii. the indicative impact this could have on reference and reserve prices for the relevant Reference Price Methodology (RPM) and the same approach on non-transmission charges.

Assumption

5. In order to carry out the analysis on the prevailing NTS OCC and this proposal in a consistent manner, the following assumptions or limitations have been made:

   (a) Users and routes based on NTS OCC historical flows and revenues from October 2017 to September 2018 (Gas Year 2017/18), replicating Gas Year format of the sensitivity tool.

   (b) Assessment is undertaken at NTS OCC route level basis, not shipper level.

   (c) Assessment is undertaken against Modification 0678A as a base case.

   (d) No behavioural changes are assumed. All NTS OCC routes and flows used during Gas Year 2017/18 are considered to use any new optional charge proposed, on the condition the charge is less than the prevailing firm RPM entry and exit prices.

[33] https://www.gasgovernance.co.uk/livemods
[34] https://www.gasgovernance.co.uk/index.php/0678/Models

(e) No consideration is given between Users of the proposed optional charges and Users that hold Existing Contracts. Where reference prices are referred to, these are prices from the Sensitivity Model, set to the parameters defined in Modification 0678A and calculated based on Gas Year 2020/21, with any over or under recovery recycled until the initial Revenue Recovery Charge (RRC) is set at zero.

(f) For the purpose of this assessment, the Forecasted Contracted Capacity (FCC) as defined in the FCC Methodology Statement35 is considered to be 100% accurate.

(g) For the purpose of calculating adjustments within the sensitivity model, perfect foresight of applicable quantities for the optional charge is assumed in order to give indicative reserve price increases to account for optional charge under recovery.

(h) Any further modification specific sensitivity analysis or assumptions are stated where necessary

Comparison of Prevailing and Alternative Products

6. Rates were first calculated by the Sensitivity Tool using parameters defined by Modification 0678A for the gas year October-2020 – Sep -2021On this baseline, several scenarios were then run.

7. First, we assessed the impact if all Users of the current NTS Optional Commodity Charge (NTS OCC) bypassed the NTS entirely. While this scenario is not supported by the likelihood of bypass analysis carried out it gives us a useful set of data to validate against.

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0

8. The 24.4% quoted in the Modification text relates to the total contribution loss of those sites currently using the prevailing NTS OCC, i.e. the total of their contribution under the NTS OCC and the difference between their NTS OCC contributions and the figures they would be paying if no such product existed.

9. This Modification sets a distance cap at 18km based on the likelihood of bypass analysis detailed below. The Maximum Discount applied to be applied to Transmission charges will be 90% at 0km. In addition, a discount of 80% is applied to Non-Transmission Services Commodity Charges is applied to flows along the eligible routes.

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

	Prevailing OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation (as % of MAR)	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation (as % of MAR)	7.7%
Total Socialisation (as % of MAR)	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%-
BLANK	BLANK-
Longest Route Considered	244.0km

	SHG Discount Proposal
Conditional Discount Contribution	£12,599,653.97
Potential TS Socialisation	£54,825,410.84
TS Socialisation (as % of MAR)	7.2%
Non-TS Socialisation	£18,668,769.70
Non-TS Socialisation (as % of MAR)	8.8%
Total Socialisation (as % of MAR)	7.6% 7.2%
Routes Considered	17
Max Effective TS Discount	90.0%
Max Effective Non-TS Discount	80.0%
Longest Route Considered	17.7km

10. Based on this Modification, a distance cut-off at 18km, the routes which fall within the distance are as follows:

Entry Point	Exit Point	Straight-Line Distance (km)	Calculated Discount
Bacton IP	Bacton (BBL)	0.0	90%
Bacton IP	Bacton (Great Yarmouth)	0.0	90%
Bacton IP	Bacton (IUK)	0.0	90%
Bacton UKCS	Bacton (BBL)	0.0	90%
Bacton UKCS	Bacton (Great Yarmouth)	0.0	90%
Bacton UKCS	Bacton (IUK)	0.0	90%
Barrow	Barrow (Black Start)	0.0	90%
Barrow	Roosecote Power Station (Barrow)	0.0	90%
Burton Point	Burton Point (Connahs Quay)	0.0	90%
Hatfield Moor (onshore)	Hatfield Power Station	0.0	90%

Isle of Grain	Grain Power Station	0.0	90%
Moffat (Irish Interconnector)	Moffat (Irish Interconnector)	0.0	90%
St Fergus	Apache (Sage Black Start)	0.0	90%
St Fergus	St. Fergus (Peterhead)	0.0	90%
St Fergus	St. Fergus (Shell Blackstart)	0.0	90%
St Fergus	St_Fergus_Segal	0.0	90%
Teesside	Air_Products (Teesside)	0.0	90%
Teesside	Brine Field (Teesside) Power Station	0.0	90%
Teesside	Phillips Petroleum, Teesside	0.0	90%
Teesside	Seal Sands TGPP	0.0	90%
Teesside	Teesside Hydrogen	0.0	90%
Teesside	Teesside (BASF, aka BASF Teesside)	0.0	90%
Milford Haven	Upper Neeston (Milford Haven Refinery)	0.2	89%
Burton Point	Deeside	0.4	87%
Milford Haven	Pembroke Power Station	0.8	83%
Isle of Grain	Medway (aka Isle of Grain Power Station, NOT Grain Power)	1.0	81%
Burton Point	Harwarden (Shotton, aka Shotton Paper)	1.3	79%
Teesside	Billingham ICI (Terra Billingham)	4.4	58%
Teesside	Enron Billingham	4.4	58%
Teesside	Zeneca (ICI Avecia, aka 'Zenica')	4.4	58%
Isle of Grain	Middle Stoke (Damhead Creek, aka Kingsnorth Power Station)	4.5	57%
Burton Point	Shotwick (Bridgewater Paper)	4.9	55%
Hatfield Moor (onshore)	Eastoft (Keadby Blackstart)	6.7	45%
Hatfield Moor (onshore)	Eastoft (Keadby)	6.7	45%
Hatfield Moor (onshore)	KEADBY_2 PS	10.2	30%
Isle of Grain	Stanford Le Hope (Coryton)	13.6	20%

Hatfield Moor (onshore)	West Burton Power Station	17.7	11%
Easington	Stallingborough	17.7	11%

11. Of these, seventeen routes are considered in this analysis. The other routes which fall within this distance limitation have a zero figure in either Entry Firm FCC, Exit Firm FCC, MNEPOR or current Throughput which will mean the route is not considered in the analysis as no discount would be applicable.

12. The Cross-subsidy figures for considered routes which fall within the distance splits below are as follows:

(a) Transmission Services

Distance	Cross Subsidy	% MAR	Cumulative	% MAR
<= 1km	£52,000,208.26	6.87%	£52,000,208.26	6.87%
1km - 5km	£2,414,467.73	0.32%	£54,414,675.99	7.19%
5km - 18km	£441,435.17	0.06%	£54,856,111.15	7.25%

(b) Non-Transmission Services

Distance	Cross Subsidy	% MAR	Cumulative	% MAR
<= 1km	**£17,690,268.67**	**8.32%**	**£17,690,268.67**	**8.32%**
1km - 5km	**£824,000.87**	**0.39%**	**£18,514,269.54**	**8.71%**
5km - 18km	**£154,500.16**	**0.07%**	**£18,668,769.70**	**8.78%**

N.B. Non-Transmission services figures above have been derived by taking the Transmission Services ratios and applying them to the Non-Transmission services cross subsidy.

13. The presence of Existing Contracts at Entry, or traded capacity are both Entry and Exit is not considered in this analysis. These volumes can be used to enable discounts at the opposing end of the route they relate to, but will not be considered for Discount themselves, as detailed in the Modification text. As a result, the figures quoted are “worst case”. Over time, the expiry of Existing Contracts and changes to booking and trading behaviours is expected to bring the figures closer to expectation.

14. The impact of each of these scenarios could potentially have on the Postage Stamp and Non-Transmission Commodity rates calculated under this Modification 0728A is detailed below. In terms of Transmission Charges a figure has been provided which refers to an equivalent Revenue Recovery Charge.

	0678A RRC	0678A Forecast Non-Transmission Services Commodity Rate	Proposal Transmission Services Entry RRC Rate	Proposal Transmission Services Exit RRC Rate	Proposal Incremental Non-Transmission Services Commodity Rate
Rate	0	0.0138	0.00291	0.00128	0.0013

15. To appreciate the impact on customers, the following table sets out how the RRC rates and incremental Non-Transmission Services charges translate into costs for a typical domestic customer with an annual consumption of 12,000 KWh36 and a capacity requirement of 107 KWh/d. Based on BEIS published statistical data sets, average gas bills for a domestic customer of this size was £550 p.a.in 2019.

	NTS Exit Capacity	NTS Entry Capacity	Non-Transmission Total	Forecast RRC Exit	Forecast RRC Entry	Forecast Incremental Non-Transmission Services	Total Exit Only	Total Entry and Exit
Annual Cost	£6.87	£16.09	£3.31	£0.50	£1.13	£0.31	£0.65	£1.94

Likelihood of Bypass

16. In assessing the routes which posed a genuine threat of bypass we have used a set of data published by the Council of European Energy Regulators.37

17. From this report, we have taken the formula below as the option presented which "defines better the costs at both ends of the graph, so for small diameters and large diameters":

Pipeline Construction Cost (€/km) = 642.985 D^2 (") + 2,464.295 D (") + 398,135.326

Where D is the pipe diameter in inches.

18. To calculate the pipe diameter for a range of routes we have used the General Flow Equation as below:

$$D = \left(\frac{10^4}{7.574} * \frac{Q\sqrt{K}}{E}\right)^{0.4} * \left(\frac{Ps}{Ts}\right)^{0.4} * \left(\frac{S * L * Z * T}{P1^2 - P2^2}\right)^{0.2}$$

[36] Figure from Ofgem https://www.ofgem.gov.uk/system/files/docs/2020/03/bills_prices_profits_-_march_2020.pdf

[37] https://www.ceer.eu/1767

Where:

D is the pipe diameter in mm (to be converted to inches)

Q is the Flow in mscmd, we have used the current MNEPOR as at 31/01/2020

K is the Friction Factor

E is the Efficiency of the pipe (assumed to be 1.0 for a new, perfectly efficient pipe)

P_s is Standard Pressure

T_s is Pipe Average Temperature

S is the Specific Gravity of Gas

L is the Length of Pipe taken from the Distance Matrix as described below

Z is the Compressibility of Gas

T is Temperature

P_1 is the Inlet Pressure

P_2 is the Outlet Pressure

All constants are taken from the current UNC TPD Section Y 2.5.2 - The Expansion Constant, effective to 30 September 2020. This section is used currently in reference to the Long Run Marginal Costs and will be removed from the UNC as part of the implementation of Modification 0678A.

19. This calculation uses two sets of distances. As part of Modification 0678 a Pipeline Distance Matrix was produced, providing point to point distances for all Entry and Exit Points using the NTS. The prevailing NTS Optional Commodity Charge uses a Matrix of Straight-line Distances created for any Entry and Exit Point currently opting to use the NTS OCC product. The use of Straight-line Distance is proposed in Modification 0728A but these distances are not currently available for all sites. In this calculation, we have used the minimum of the distances currently available for each route.

20. For each potential route a pipe diameter in mm was calculated based on the General Flow Equation, the constants held in Section Y prior to implementation of Modification 0678A, the MNEPOR and the Distance as described above.

21. Each calculated diameter has been scaled up to the next available standard pipe diameter as the minimum size of pipe required to supply the Exit Point at the Maximum Daily Offtake Rate.

22. These diameters have been converted from millimetres to inches by dividing by 25.4.

23. This Diameter has been fed in to the CEER equation to produce a cost in EUR for each route.

24. The EUR cost has been divided by 1.1748 to give a cost in GBP based on the currency conversion rate[38] at the time this analysis was produced in January 2020.

25. Separate to this, based on the timescales cited in the PARCA process, approximate construction timescales were calculated for each route based on the distance and the pipe size. The minimum time scale quoted, 12 months, has been attributed to a 0km distance for the smallest standard pipe diameter, 50mm. The longest time scale quoted, 90 months, has been attributed to a 50km section of the largest standard diameter of pipe, 1220mm. Timescales for distances and pipe sizes between these extremes have been scaled accordingly.

26. A construction timescale figure, in whole months, has been calculated for each route.

[38] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/855436/exrates-monthly-0120.csv/preview

27. Based on the MNEPOR, Entry & Exit Reserve Prices and construction timescale, a cost of using the NTS during the period the User is constructing their hypothetical bypass pipeline has been calculated.

28. The Pipeline Construction Costs and Interim NTS Usage Costs have been combined to give a figure for the route. Assuming a simple ten-year repayment period this figure has been divided by 10 to give an annual cost.

29. Using the MNEPOR and Entry & Exit Reserve Prices, an Annual NTS Cost has been calculated.

30. The ratio of these two figures defines the likelihood of a User choosing to bypass the NTS.

31. The highest ratio recorded was approximately 10:1, suggesting that the User with the highest likelihood of bypass, over ten years, would achieve a 90% reduction in transmission costs.

32. It is assumed that a ratio below 1:1 would never consider bypass as the repayment term would exceed 10 years.

33. Even above this ratio a User would have to consider the high levels of upfront capital cost, the long-term commitment to operational costs associated with the asset and the loss of access to the NTS increasing the uncertainty around supply security.

34. In addition to this, the longer the distance, the increased level of uncertainty when constructing a pipeline. The increased possibility of delays and additional costs cannot be accounted for but mean a route becomes less attractive as risk levels increase.

35. A subset of likely routes, once identified, was used to generate an Average Cost Driver linked to Surface Features and Special Construction requirements as detailed in Section 3.5 of the CEER.

36. Using grid references, each route was measured and using aerial photographs, significant surface features were identified and the cost factors detailed in “Table 3-2” were applied for the appropriate proportion of the distance.

37. An average factor for these routes, weighted by distance, was generated and fed back into the calculation to ensure the most reflective set of construction costs possible was produced.

38. It is important to highlight that while the CEER document provides a significant level of detail, as per section 3.9 - “Factors for associated costs”, it does not account for costs associated with any land purchases to enable the pipeline to be constructed.

Derivation of the Discount Curve

38. The likelihood of bypass, calculated using the CEER pipeline cost equation, provides us with a maximum discount level of 90%. It also suggests the shape of the discount provided, an inverse exponential curve.

39. Given that a 10% discount is available to all Users via the interruptible capacity option, a cut-off is proposed where the curve meets a 10% discount. Users can achieve a greater discount via an alternative method, so the product becomes irrelevant below 10%.

40. Based on Maximum Discount, an adjustment is made to the starting point of the curve

41. A constant, 1.6094, is fed into the equation to ensure that the Discount Curve meets the 10% lower threshold at the distance cap.

42. The likelihood of bypass analysis also suggests that it is more likely for Users within 17.7km to consider bypass, while Users beyond that point would be less likely to consider bypass. It should be recognised that the design of the product is generic in its nature and application and may not consider every possible specific scenario and can only assume that a new pipeline is necessary for each potential combination.

43. Based on this analysis a distance cap of 18km is proposed, being the longest distance likely to consider bypass, rounded up to the nearest whole kilometre.

Reassessment of the Distance Cap

44. As part of National Grids periodic review, National Grid may look to assess the level of socialisation generated by the product and how variations in the Distance Cap may affect levels of socialisation based on the latest Charging and FCC data.

45. National Grid will monitor the cross subsidy generated by the Distance Cap, this assessment requires the following inputs:

    i) confirmation of the Maximum Discount. Expected to remain as 90% in line with the Likelihood of Bypass analysis

    ii) confirmation of the Minimum Discount. Expected to remain 10% in line with the Interruptible Discount

    iii) updated Maximum Allowed Revenue figure

    iv) updates to the Entry & Exit FCC values based on latest calculated figure

    v) updates to the Entry & Exit Reserve Prices for the Gas Year ahead

    vi) the latest Optional Capacity Charges

    vii) the Optional Capacity Charge associated Distance Matrix

46. From the updated Entry & Exit FCCs and the updated Optional Capacity Charge Throughput, an updated Forecasted Eligible Quantity is created.

47. Based on a set range of distances, 5km increments from 5km to 75km, an estimated monetary Socialisation figure is calculated.

48. A graph and trendline can be plotted based on the data calculated

49. From these figures the current Socialisation can be calculated

50. Based on a change in the cross subsidy figure a request for a formal review may be triggered and, alongside industry input, the product will be reassessed for future viability.

Eligible Quantity Calculations

51. The Eligible Quantity Calculations for application of the Transmission Services Discount and the Non-Transmission Services Discount are detailed in the Business Rules. Below are a number of examples stepping through possible scenarios using the Business Rules.

Example 1 - Simple

Entry Point A

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route A1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\left(0, \left(Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\right)\right)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\left(0, \left(Min\,(105000,100000,90000,95000) - 0\right)\right)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh and so, in accordance with BR35, the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(90000,105000)$$

$$\boldsymbol{EQEn = 90,000\ kWh}$$

When considering Route A1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(105000,100000,90000,95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000,100000)$$

$$\boldsymbol{EQEx = 90,000\ kW}$$

When considering Route A1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90,000\ kWh}$$

Example 2 – Existing Contract at Entry

Entry Point C

Date Booked	Source	Type	kWh
01/04/2017	Auction	Existing	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/04/2017	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route C1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(0 , (Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ )\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(0 , (Min\ (105000{,}100000{,}90000{,}95000) - 105000\ )\big)$$

$$IEQEn = 0\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (0{,}0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route C1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000{,}100000)$$

$$\boldsymbol{EQEx = 90,000\ kWh}$$

When considering Route C1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90,000\ kWh}$$

Example 3 – Traded Capacity at Entry

Entry Point B

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route B1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(105000{,}100000{,}90000{,}95000) - 0\,)\big)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(90{,}000{,}0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route B1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000{,}100000)$$

$$\boldsymbol{EQEx = 90,000\ kWh}$$

When considering Route B1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90,000\ kWh}$$

Example 4 – Multiple Exit Points

Entry Point D

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	45,000
		Exit Flow	40,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	55,000
		Exit Flow	45,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities (CAP_{En}) and Flows (A_{En})based on the ratio of Exit Capacities and Flows, i.e.

BR37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point D to Exit Point 1

Type	kWh
CAP_{En1}	47,250
AQ_{En1}	47,250
A_{En1}	42,353

Entry Point D to Exit Point 2

Type	kWh
CAP_{En2}	57,750
AQ_{En2}	57,750
A_{En2}	47,647

When considering Route D1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ ))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (47250{,}45000{,}42353{,}40000) - 0\ ))$$

$$IEQEn = 40{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 47,250. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (40000{,}47250)$$

$$\boldsymbol{EQEn = 40,000\ kWh}$$

When considering Route D1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (47250{,}45000{,}42353{,}40000)$$

$$IEQEx = 40{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 45,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\ (40000{,}45000)$$

$$\boldsymbol{EQEx = 40,000\ kWh}$$

When considering Route D1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}40000)$$

$$\boldsymbol{UECPNTCQ\ =\ 40,000\ kWh}$$

When considering Route D2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn\ =\ Max(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ ))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn\ =\ Max(\ 0\ ,(\ Min\ (57750,55000,47647,45000) - 0\ ))$$

$$IEQEn\ = 45{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 57,750. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn\ =\ Min\ (IEQEn, AQEn)$$

$$EQEn\ =\ Min\ (45000,57750)$$

$$\boldsymbol{EQEn\ = 45,000\ kWh}$$

When considering Route D2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx\ =\ Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx\ =\ Min\ (57750,55000,47647,45000)$$

$$IEQEx\ =\ 45{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 55,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx\ =\ Min\ (IEQEx, AQEx)$$

$$EQEx\ =\ Min\ (45000,55000)$$

$$\boldsymbol{EQEx\ =\ 45,000\ kWh}$$

When considering Route D2, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ\ =\ Min(A_{en,}A_{ex})$$

$$UECPNTCQ\ =\ Min(90000,45000)$$

$$\boldsymbol{UECPNTCQ\ =\ 45,000\ kWh}$$

Example 5 – Complex

Entry Point E

Date Booked	Source	Type	kWh
01/04/2017	Existing	Firm	100,000
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	50,000
01/07/2020	Trade	Firm	-20,000
		Entry Flow	170,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	20,000
01/07/2020	Trade	Firm	-10,000
		Exit Flow	55,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	60,000
01/04/2020	Auction	Interruptible	30,000
01/07/2020	Trade	Firm	15,000
		Exit Flow	110,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities and Flows based on the ratio of Exit Capacities (CAP_{Ex}) and Flows (A_{Ex}).

BR37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.2 $ECPEn1 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx1$ & $ECEn2 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx2$

BR37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point E to Exit Point 1

Entry Point E to Exit Point 2

Type	kWh
CAP_{En1}	45,217
EC_{En1}	34,783
AQ_{En1}	17,391
A_{En1}	56,667

Type	kWh
CAP_{En2}	84,783
EC_{En2}	65,217
AQ_{En2}	32,609
A_{En2}	113,333

When considering Route E1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn \ = \ Max\big(\ 0 \ , (\ Min \ (CAPEn, CAPEx, AEn, AEx) - ECEn \ )\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn \ = \ Max\big(\ 0 \ , (\ Min \ (45217{,}40000{,}56667{,}55000) - 34783 \ )\big)$$

$$IEQEn \ = 5{,}217 \ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 17,391. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn \ = \ Min \ (IEQEn, AQEn)$$

$$EQEn \ = \ Min \ (5217{,}17391)$$

$$\boldsymbol{EQEn \ = 5,217 \ kWh}$$

When considering Route E1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx \ = \ Min \ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx \ = \ Min \ (45217{,}40000{,}56667{,}55000)$$

$$IEQEx \ = 40{,}000 \ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 50,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx \ = \ Min \ (IEQEx, AQEx)$$

$$EQEx \ = \ Min \ (40000{,}50000)$$

$$\boldsymbol{EQEx \ = \ 40,000 \ kWh}$$

When considering Route E1, in accordance with BR62 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ \ = \ Min(A_{en,}A_{ex})$$

$$UECPNTCQ \ = \ Min(56667{,}55000)$$

$$\boldsymbol{UECPNTCQ \ = \ 55,000 \ kWh}$$

When considering Route E2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn \ = \ Max\big(\ 0 \ , (\ Min \ (CAPEn, CAPEx, AEn, AEx) - ECEn \ ) \big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn \ = \ Max\big(\ 0 \ , (\ Min \ (84783{,}75000{,}113333{,}110000) - 65217 \ ) \big)$$

$$IEQEn \ = 9{,}783 \ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50.000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 32,609 kWh. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn \ = \ Min \ (IEQEn, AQEn)$$

$$EQEn \ = \ Min \ (9783{,}32609)$$

$$\boldsymbol{EQEn \ = 9,783 \ kWh}$$

When considering Route E2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx \ = \ Min \ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx \ = \ Min \ (84783{,}75000{,}113333{,}110000)$$

$$IEQEx \ = \ 75{,}000 \ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 60,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx \ = \ Min \ (IEQEx, AQEx)$$

$$EQEx \ = \ Min \ (75000{,}60000)$$

$$\boldsymbol{EQEx \ = \ 60,000 \ kWh}$$

When considering Route E2, in accordance with BR62 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ \ = \ Min(A_{en,}A_{ex})$$

$$UECPNTCQ \ = \ Min(113333{,}110000)$$

$$\boldsymbol{UECPNTCQ \ = \ 110000,000 \ kWh}$$

Appendix 2 - Routes between 18km and 28km

No content provided.

Appendix 3 – Comparison Table for Modifications 0728/A/B/C/D (Urgent)

		0728	0728A	0728B	0728C	0728D
		v1.0 (6/3/2020)	v1.0 (4/6/2020)	v1.0 (4/6/2020)	v1.0 (4/3/2020)	v1.0 (4/3/2020)
Charge Group	Element	National Grid	South Hook Gas Company	Vitol SA Geneva	RWE	ENI Trading & Shipping
Transmission Services Conditional Discount	Charge which the discount is applied to	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price
	DCSL Distance (km)	18	18	28	18	5 (standard 90% discount)
	Initial Eligible Quantity (Entry)	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity
	Initial Eligible Quantity (Exit)	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation
Non-Transmission Services Conditional Discount	Charge which the discount is applied to	N/A	General Non-Transmission Services Charge	N/A	N/A	General Non-Transmission Services Charge
	Discount (%)	N/A	80	N/A	N/A	94
	Eligible Quantity	N/A	Lower of Entry Allocation, Exit Allocation	N/A	N/A	Lower of Entry Allocation, Exit Allocation

Variation in treatment of element from UNC Modification Proposal 0728

Modification 0728B (Urgent)

Appendix 1 – Analysis

Introduction

1. The following analysis has been completed by Vitol in support of Modification 0728B[39]. It is intended to provide additional information regarding analysis and figures quoted in the Modification text.

2. Due to the commercially sensitive nature of NTS Optional Commodity Charge (NTS OCC), National Grid provided data on an aggregate level to allow for analysis to be conducted. Therefore, all data corresponding to the existing NTS OCC and any subsequent charges arising from the analysis will be presented at an aggregated level.

3. Where relevant, the analysis uses the Modification 0678 V3.1 CWD Transmission Services - Sensitivity Model[40]. This is an illustrative model and should always be considered as such. It provides support to Modification 0678A and is a sensitivity tool to demonstrate the way in which charges under Modification 0678A would be calculated, and as a result the same consideration should be taken when reviewing this Optional Charge analysis.

4. This analysis is structured in the following way:

   (a) Description of the assumptions that have been made in order to carry out a consistent method of analysis

   (b) Some non-Modification specific analysis related to actions raised in Review Modification 0670R Workgroup.

   (c) Analysis of optional charge proposed, which consists of:

      i. an assessment of the number of routes applicable

      ii. the potential under recovery of transmission services the specified charges could generate

      iii. the indicative impact this could have on reference and reserve prices for the relevant Reference Price Methodology (RPM) and the same approach on non-transmission charges.

Assumptions

5. In order to carry out the analysis on the prevailing NTS OCC and the proposal raised in 0728B in a consistent manner, the following assumptions or limitations have been made:

   (a) Users and routes based on NTS OCC historical flows and revenues from October 2017 to September 2018 (Gas Year 2017/18), replicating Gas Year format of the sensitivity tool.

   (b) Assessment is undertaken at NTS OCC route level basis, not shipper level.

   (c) Assessment is undertaken against Modification 0678A as a base case.

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[39] https://www.gasgovernance.co.uk/livemods

[40] https://www.gasgovernance.co.uk/index.php/0678/Models

(d) No behavioural changes are assumed. All NTS OCC routes and flows used during Gas Year 2017/18 are considered to use any new optional charge proposed, on the condition the charge is less than the prevailing firm RPM entry and exit prices.

(e) No consideration is given between Users of the proposed optional charges and Users that hold Existing Contracts. Where reference prices are referred to, these are prices from the Sensitivity Model, set to the parameters defined in Modification 0678A and calculated based on Gas Year 2020/21, with any over or under recovery recycled until the initial Revenue Recovery Charge (RRC) is set at zero.

(f) For the purpose of this assessment, the Forecasted Contracted Capacity (FCC) as defined in the FCC Methodology Statement[41] is considered to be 100% accurate.

(g) For the purpose of calculating adjustments within the sensitivity model, perfect foresight of applicable quantities for the optional charge is assumed in order to give indicative reserve price increases to account for optional charge under recovery.

(h) Any further modification specific sensitivity analysis or assumptions are stated where necessary

Comparison of Prevailing and Alternative Products

6. Rates were first calculated by the Sensitivity Tool using parameters defined by Modification 0678A for the gas year Oct-2020 – Sep-2021. On this baseline, several scenarios were then run.

7. First, we assessed the impact if all Users of the current NTS Optional Commodity Charge (NTS OCC) bypassed the NTS entirely. While this scenario is not supported by the likelihood of bypass analysis carried out it gives us a useful set of data to validate against.

Table 1: Socialisation under the prevailing NTS OCC

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0

8. The 24.4% quoted in the Modification text relates to the total contribution loss of those sites currently using the prevailing NTS OCC, i.e. the total of their contribution under the NTS OCC and the difference between their NTS OCC contributions and the figures they would be paying if no such product existed.

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

9. This Modification sets a distance cap at 28km based on the likelihood of bypass analysis detailed below. The Maximum Discount applied to be applied to Transmission charges will be 90% at 0km. We do not propose to discount General Non-Transmission charges.

Table 2: Comparison of socialisation

	Prevailing OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation (as % of MAR)	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation (as % of MAR)	7.7%
Total Socialisation (as % of MAR)	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%-
BLANK	BLANK
Longest Route Considered	244.0km

	Vitol Discount Proposal
Conditional Discount Contribution	£29,932,749.22
Potential TS Socialisation	£59,230,544.91
TS Socialisation (as % of MAR)	7.8%
Non-TS Socialisation	£0.00
Non-TS Socialisation (as % of MAR)	0.0%
Total Socialisation (as % of MAR)	6.1%
Routes Considered	22
Max Effective TS Discount	90.0%
Max Effective Non-TS Discount	0.0%
Longest Route Considered	27.2km

10. Based on this Modification, a distance cut-off at 28km, the routes which fall within the distance are as follows:

Table 3 Entry to Exit Points with a distance below 28km

Entry Point	Exit Point	Straight-Line Distance (km)	Calculated Discount
Bacton IP	Bacton (BBL)	0.0	90%
Bacton IP	Bacton (Great Yarmouth)	0.0	90%
Bacton IP	Bacton (IUK)	0.0	90%
Bacton UKCS	Bacton (BBL)	0.0	90%
Bacton UKCS	Bacton (Great Yarmouth)	0.0	90%

Bacton UKCS	Bacton (IUK)	0.0	90%
Barrow	Barrow (Black Start)	0.0	90%
Barrow	Roosecote Power Station (Barrow)	0.0	90%
Burton Point	Burton Point (Connahs Quay)	0.0	90%
Hatfield Moor (onshore)	Hatfield Power Station	0.0	90%
Isle of Grain	Grain Power Station	0.0	90%
Moffat (Irish Interconnector)	Moffat (Irish Interconnector)	0.0	90%
St Fergus	Apache (Sage Black Start)	0.0	90%
St Fergus	St. Fergus (Peterhead)	0.0	90%
St Fergus	St. Fergus (Shell Blackstart)	0.0	90%
St Fergus	St_Fergus_Segal	0.0	90%
Teesside	Air_Products (Teesside)	0.0	90%
Teesside	Brine Field (Teesside) Power Station	0.0	90%
Teesside	Phillips Petroleum, Teesside	0.0	90%
Teesside	Seal Sands TGPP	0.0	90%
Teesside	Teesside Hydrogen	0.0	90%
Teesside	Teesside (BASF, aka BASF Teesside)	0.0	90%
Milford Haven	Upper Neeston (Milford Haven Refinery)	0.2	88%
Burton Point	Deeside	0.4	88%
Milford Haven	Pembroke Power Station	0.8	86%
Isle of Grain	Medway (aka Isle of Grain Power Station, NOT Grain Power)	1.0	84%
Burton Point	Harwarden (Shotton, aka Shotton Paper)	1.3	83%
Teesside	Billingham ICI (Terra Billingham)	4.4	68%
Teesside	Enron Billingham	4.4	68%
Teesside	Zeneca (ICI Avecia, aka 'Zenica')	4.4	68%
Isle of Grain	Middle Stoke (Damhead Creek, aka Kingsnorth Power Station)	4.5	67%

Burton Point	Shotwick (Bridgewater Paper)	4.9	58%
Hatfield Moor (onshore)	Eastoft (Keadby Blackstart)	6.7	58%
Hatfield Moor (onshore)	Eastoft (Keadby)	6.7	58%
Hatfield Moor (onshore)	KEADBY_2 PS	10.2	46%
Isle of Grain	Stanford Le Hope (Coryton)	13.6	36%
Hatfield Moor (onshore)	West Burton Power Station	17.7	26%
Easington	Stallingborough	17.7	26%
Burton Point	Shellstar (aka Kemira, not Kemira CHP)	18.2	25%
Hatfield Moor (onshore)	Blyborough (Brigg)	18.7	24%
Hatfield Moor (onshore)	Blyborough (Cottam)	18.7	24%
Hatfield Moor (onshore)	Goole (Guardian Glass)	21.7	19%
Isle of Grain	Barking (Horndon)	21.7	19%
Easington	Rosehill (Saltend Power Station)	23.1	17%
Isle of Grain	Tilbury Power Station	23.1	17%
Murrow	Sutton Bridge Power Station	23.2	16%
Burton Point	Weston Point (Castner Kelner, aka ICI Runcorn)	24.0	15%
Burton Point	Weston Point (Rocksavage)	24.0	15%
Easington	Saltend BPHP (BP Saltend HP)	25.3	13%
Easington	Thornton Curtis (Killingholme)	26.6	12%
Hatfield Moor (onshore)	Drax	26.8	11%
Easington	Thornton Curtis (Humber Refinery, aka Immingham)	27.2	11%

11. Of these, twenty two routes are considered in this analysis. The other routes which fall within this distance limitation have a zero figure in either Entry Firm FCC, Exit Firm FCC, MNEPOR or current Throughput which will mean the route is not considered in the analysis as no discount would be applicable.

12. The Cross-subsidy figures for considered routes which fall within the distance splits below are as follows:

Table 4 Cumulative impact of socialisation based on distance

(a) Transmission Services

Distance	Cross Subsidy	% MAR	Cumulative	% MAR
<= 1km	£52,426,065.96	6.93%	£52,426,065.96	6.93%
1km - 10km	£2,844,212.75	0.38%	£55,270,278.71	7.31%
10km - 20km	£1,079,615.59	0.14%	£56,349,894.30	7.45%
20km – 28km	£2,900,512.35	0.38%	£59,250,406.65	7.83%

13. The presence of Existing Contracts at Entry, or traded capacity are both Entry and Exit is not considered in this analysis. These volumes can be used to enable discounts at the opposing end of the route they relate to, but will not be considered for Discount themselves, as detailed in the Modification text. As a result, the figures quoted are "worst case". Over time, the expiry of Existing Contracts and changes to booking and trading behaviours is expected to bring the figures closer to expectation.

14. The impact of each of these scenarios could potentially have on the Postage Stamp rates calculated under Modification 0678A is detailed below. In terms of Transmission Charges a figure has been provided which refers to an equivalent Revenue Recovery Charge.

	0678A RRC	0678A Forecast Non-Transmission Services Commodity Rate	Proposal Transmission Services Entry RRC Rate	Proposal Transmission Services Exit RRC Rate
Rate	0	0.0138	0.00314	0.00138

15. To appreciate the impact on customers, the following table sets out how the RRC rates and incremental Non-Transmission Services charges translate into costs for a typical domestic customer with an annual consumption of 12,000 KWh[42] and a capacity requirement of 107 KWh/d. Based on BEIS published statistical data sets, average gas bills for a domestic customer of this size was £550 p.a.in 2019.

	NTS Exit Capacity	NTS Entry Capacity	Non-Transmission Total	Forecast RRC Exit	Forecast RRC Entry	Total Exit Only	Total Entry and Exit
Annual Cost	£6.87	£16.09	£3.31	£0.54	£1.22	£0.54	£1.76

[42] Figure from Ofgem https://www.ofgem.gov.uk/system/files/docs/2020/03/bills_prices_profits_-_march_2020.pdf

Likelihood of Bypass

16. In assessing the routes which posed a genuine threat of bypass we have used a set of data published by the Council of European Energy Regulators.[43]

17. From this report, we have taken the formula below as the option presented which “defines better the costs at both ends of the graph, so for small diameters and large diameters”:

Pipeline Construction Cost (€/km) = 642.985 D² (") + 2,464.295 D (") + 398,135.326

Where D is the pipe diameter in inches.

18. To calculate the pipe diameter for a range of routes we have used the General Flow Equation as below:

$$D = \left(\frac{10^4}{7.574} * \frac{Q\sqrt{K}}{E}\right)^{0.4} * \left(\frac{Ps}{Ts}\right)^{0.4} * \left(\frac{S * L * Z * T}{P1^2 - P2^2}\right)^{0.2}$$

Where:

D is the pipe diameter in mm (to be converted to inches)

Q is the Flow in mscmd, we have used the current MNEPOR as at 31/01/2020

K is the Friction Factor

E is the Efficiency of the pipe (assumed to be 1.0 for a new, perfectly efficient pipe)

P_s is Standard Pressure

T_s is Pipe Average Temperature

S is the Specific Gravity of Gas

L is the Length of Pipe taken from the Distance Matrix as described below

Z is the Compressibility of Gas

T is Temperature

P_1 is the Inlet Pressure

P_2 is the Outlet Pressure

All constants are taken from the current UNC TPD Section Y 2.5.2 - The Expansion Constant, effective to 30 September 2020. This section is used currently in reference to the Long Run Marginal Costs and will be removed from the UNC as part of the implementation of Modification 0678A.

19. This calculation uses two sets of distances. As part of Modification 0678 a Pipeline Distance Matrix was produced, providing point to point distances for all Entry and Exit Points using the NTS. The prevailing NTS Optional Commodity Charge uses a Matrix of Straight-line Distances created for any Entry and Exit Point currently opting to use the NTS OCC product. The use of Straight-line Distance is proposed in Modification 0728B but these distances are not currently available for all sites. In this calculation, we have used the minimum of the distances currently available for each route.

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[43] https://www.ceer.eu/1767

20. For each potential route a pipe diameter in mm was calculated based on the General Flow Equation, the constants held in Section Y prior to implementation of Modification 0678A, the MNEPOR and the Distance as described above.

21. Each calculated diameter has been scaled up to the next available standard pipe diameter as the minimum size of pipe required to supply the Exit Point at the Maximum Daily Offtake Rate.

22. These diameters have been converted from millimetres to inches by dividing by 25.4.

23. This Diameter has been fed in to the CEER equation to produce a cost in EUR for each route.

24. The EUR cost has been divided by 1.1748 to give a cost in GBP based on the currency conversion rate[44] at the time this analysis was produced in January 2020.

25. Separate to this, based on the timescales cited in the PARCA process, approximate construction timescales were calculated for each route based on the distance and the pipe size. The minimum time scale quoted, 12 months, has been attributed to a 0km distance for the smallest standard pipe diameter, 50mm. The longest time scale quoted, 90 months, has been attributed to a 50km section of the largest standard diameter of pipe, 1220mm. Timescales for distances and pipe sizes between these extremes have been scaled accordingly.

26. A construction timescale figure, in whole months, has been calculated for each route.

27. Based on the MNEPOR, Entry & Exit Reserve Prices and construction timescale, a cost of using the NTS during the period the User is constructing their hypothetical bypass pipeline has been calculated.

28. The Pipeline Construction Costs and Interim NTS Usage Costs have been combined to give a figure for the route. Assuming a simple ten-year repayment period this figure has been divided by 10 to give an annual cost.

29. Using the MNEPOR and Entry & Exit Reserve Prices, an Annual NTS Cost has been calculated.

30. The ratio of these two figures defines the likelihood of a User choosing to bypass the NTS.

31. The highest ratio recorded was approximately 10:1, suggesting that the User with the highest likelihood of bypass, over ten years, would achieve a 90% reduction in transmission costs.

32. It is assumed that a ratio below 1:1 would never consider bypass as the repayment term would exceed 10 years.

33. Even above this ratio a User would have to consider the high levels of upfront capital cost, the long-term commitment to operational costs associated with the asset and the loss of access to the NTS increasing the uncertainty around supply security.

34. In addition to this, the longer the distance, the increased level of uncertainty when constructing a pipeline. The increased possibility of delays and additional costs cannot be accounted for but mean a route becomes less attractive as risk levels increase.

35. A subset of likely routes, once identified, was used to generate an Average Cost Driver linked to Surface Features and Special Construction requirements as detailed in Section 3.5 of the CEER report.

36. Using grid references, each route was measured and using aerial photographs, significant surface features were identified and the cost factors detailed in “Table 3-2” were applied for the appropriate proportion of the distance.

37. An average factor for these routes, weighted by distance, was generated and fed back into the calculation to ensure the most reflective set of construction costs possible was produced.

[44] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/855436/exrates-monthly-0120.csv/preview

38. It is important to highlight that while the CEER document provides a significant level of detail, as per section 3.9 - "Factors for associated costs", it does not account for costs associated with any land purchases to enable the pipeline to be constructed.

Derivation of the Discount Curve

38. The likelihood of bypass, calculated using the CEER pipeline cost equation, provides us with a maximum discount level of 90%. It also suggests the shape of the discount provided, an inverse exponential curve.

39. Given that a 10% discount is available to all Users via the interruptible capacity option, a cut-off is proposed where the curve meets a 10% discount. Users can achieve a greater discount via an alternative method, so the product becomes irrelevant below 10%.

40. Based on Maximum Discount, an adjustment is made to the starting point of the curve

41. A constant, 1.6094, is fed into the equation to ensure that the Discount Curve meets the 10% lower threshold at the distance cap.

42. The likelihood of bypass analysis also suggests that it is more likely for Users within 27.2km to consider bypass, while Users beyond that point would be less likely to consider bypass. It should be recognised that the design of the product is generic in its nature and application and may not consider every possible specific scenario and can only assume that a new pipeline is necessary for each potential combination.

43. Based on this analysis a distance cap of 28km is proposed, being the longest distance likely to consider bypass, rounded up to the nearest whole kilometre.

Reassessment of the Distance Cap

44. As part of National Grids periodic review, National Grid may look to assess the level of socialisation generated by the product and how variations in the Distance Cap may affect levels of socialisation based on the latest Charging and FCC data.

45. National Grid will monitor the cross subsidy generated by the Distance Cap, this assessment requires the following inputs:

   i) confirmation of the Maximum Discount. Expected to remain as 90% in line with the Likelihood of Bypass analysis

   ii) confirmation of the Minimum Discount. Expected to remain 10% in line with the Interruptible Discount

   iii) updated Maximum Allowed Revenue figure

   iv) updates to the Entry & Exit FCC values based on latest calculated figure

   v) updates to the Entry & Exit Reserve Prices for the Gas Year ahead

   vi) the latest Optional Capacity Charges

   vii) the Optional Capacity Charge associated Distance Matrix

46. From the updated Entry & Exit FCCs and the updated Optional Capacity Charge Throughput, an updated Forecasted Eligible Quantity is created.

47. Based on a set range of distances, 5km increments from 5km to 75km, an estimated monetary Socialisation figure is calculated.

48. A graph and trendline can be plotted based on the data calculated

49. From these figures the current Socialisation can be calculated

50. Based on a change in the cross subsidy figure a request for a formal review may be triggered and, alongside industry input, the product will be reassessed for future viability.

Eligible Quantity Calculations

51. The Eligible Quantity Calculations for application of the Transmission Services Discount and the Non-Transmission Services Discount are detailed in the Business Rules. Below are a number of examples stepping through possible scenarios using the Business Rules.

Example 1 - Simple

Entry Point A

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route A1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ ))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (105000{,}100000{,}90000{,}95000) - 0\ ))$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh and so, in accordance with BR35, the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (90000{,}105000)$$

$$\boldsymbol{EQEn = 90{,}000\ kWh}$$

When considering Route A1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000{,}100000)$$

$$\boldsymbol{EQEx = 90{,}000\,kWh}$$

When considering Route A1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90{,}000\,kWh}$$

Example 2 – Existing Contract at Entry

Entry Point C

Date Booked	Source	Type	kWh
01/04/2017	Auction	Existing	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/04/2017	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route C1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(105000{,}100000{,}90000{,}95000) - 105000\,)\big)$$

$$IEQEn = 0\,kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(0{,}0)$$

$$\boldsymbol{EQEn = 0\,kWh}$$

When considering Route C1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000{,}100000)$$

$$\boldsymbol{EQEx = 90,000\ kWh}$$

When considering Route C1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90,000\ kWh}$$

Example 3 – Traded Capacity at Entry

Entry Point B

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route B1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(105000{,}100000{,}90000{,}95000) - 0\,)\big)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(90{,}000{,}0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route B1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\ (90000{,}100000)$$

$$\boldsymbol{EQEx = 90,000\ kWh}$$

When considering Route B1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90,000\ kWh}$$

Example 4 – Multiple Exit Points

Entry Point D

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	45,000
		Exit Flow	40,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	55,000
		Exit Flow	45,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities (CAP_{En}) and Flows (A_{En})based on the ratio of Exit Capacities and Flows, i.e.

BR37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point D to Exit Point 1

Type	kWh
CAP_{En1}	47,250
AQ_{En1}	47,250
A_{En1}	42,353

Entry Point D to Exit Point 2

Type	kWh
CAP_{En2}	57,750
AQ_{En2}	57,750
A_{En2}	47,647

When considering Route D1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(0 , (Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ )\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(0 , (Min\ (47250,45000,42353,40000) - 0\ )\big)$$

$$IEQEn = 40{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 47,250. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (40000,47250)$$

$$\boldsymbol{EQEn = 40,000\ kWh}$$

When considering Route D1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (47250,45000,42353,40000)$$

$$IEQEx = 40{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 45,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\,(40000{,}45000)$$

$$\boldsymbol{EQEx = 40{,}000\ kWh}$$

When considering Route D1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}40000)$$

$$\boldsymbol{UECPNTCQ = 40{,}000\ kWh}$$

When considering Route D2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(57750{,}55000{,}47647{,}45000) - 0\,)\big)$$

$$IEQEn = 45{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 57,750. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(45000{,}57750)$$

$$\boldsymbol{EQEn = 45{,}000\ kWh}$$

When considering Route D2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(57750{,}55000{,}47647{,}45000)$$

$$IEQEx = 45{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 55,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(45000{,}55000)$$

$$\boldsymbol{EQEx = 45{,}000\ kWh}$$

When considering Route D2, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}45000)$$

$$\boldsymbol{UECPNTCQ = 45{,}000\ kWh}$$

Example 5 – Complex

Entry Point E

Date Booked	Source	Type	kWh
01/04/2017	Existing	Firm	100,000
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	50,000
01/07/2020	Trade	Firm	-20,000
		Entry Flow	170,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	20,000
01/07/2020	Trade	Firm	-10,000
		Exit Flow	55,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	60,000
01/04/2020	Auction	Interruptible	30,000
01/07/2020	Trade	Firm	15,000
		Exit Flow	110,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities and Flows based on the ratio of Exit Capacities (CAP_{Ex}) and Flows (A_{Ex}).

BR37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.2 $ECPEn1 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx1$ & EC$En2 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx2$

BR37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point E to Exit Point 1

Type	kWh
CAP_{En1}	45,217
EC_{En1}	34,783
AQ_{En1}	17,391
A_{En1}	56,667

Entry Point E to Exit Point 2

Type	kWh
CAP_{En2}	84,783
EC_{En2}	65,217
AQ_{En2}	32,609
A_{En2}	113,333

When considering Route E1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn \;=\; Max\big(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn \;=\; Max\big(\,0\,,(\,Min\,(45217{,}40000{,}56667{,}55000) - 34783\,)\big)$$

$$IEQEn \;= 5{,}217\; kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 17,391. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn \;=\; Min\,(IEQEn, AQEn)$$

$$EQEn \;=\; Min\,(5217{,}17391)$$

$$\boldsymbol{EQEn \;= 5,217\; kWh}$$

When considering Route E1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx \;=\; Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx \;=\; Min\,(45217{,}40000{,}56667{,}55000)$$

$$IEQEx \;= 40{,}000\; kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 50,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx \;=\; Min\,(IEQEx, AQEx)$$

$$EQEx \;=\; Min\,(40000{,}50000)$$

$$\boldsymbol{EQEx \;=\; 40,000\; kWh}$$

When considering Route E1, in accordance with BR62 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(56667{,}55000)$$

$$\boldsymbol{UECPNTCQ = 55{,}000\ kWh}$$

When considering Route E2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ ))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (84783{,}75000{,}113333{,}110000) - 65217\ ))$$

$$IEQEn = 9{,}783\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50.000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 32,609 kWh. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (9783{,}32609)$$

$$\boldsymbol{EQEn = 9{,}783\ kWh}$$

When considering Route E2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (84783{,}75000{,}113333{,}110000)$$

$$IEQEx = 75{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 60,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\ (75000{,}60000)$$

$$\boldsymbol{EQEx = 60{,}000\ kWh}$$

When considering Route E2, in accordance with BR62 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(113333{,}110000)$$

$$\boldsymbol{UECPNTCQ = 110000{,}000\ kWh}$$

Appendix 2 - Routes between 18km and 28km

1. Table 3 in Appendix 1 shows a large number of Exit Points (14) located between 18km and 28km from their nearest Entry Points.
2. Figure 1 in Section 3 of this Modification shows a clear cut-off at 28km beyond which the probability of bypass falls away significantly. In fact, a number of Exit Points located between 18km and 28km from the nearest Entry Points have a higher probability of bypass than those located a distance less than 18km.
3. An examination of these, shows that a number of these Exit Points are less than 18km from other Exit Points which, in turn, are less that 18km from the nearest Entry Point, as shown below:

Table 6 Distances between Exit Points (18-28km) to Exit Points (18km)

Exit Points >18km<28km	**Exit Points <18km**	**Straight line distance between Exit Points**
Shellstar	Shotton Paper (1.3km)	12 km
Brigg	Keadby (6.7km)	17 km
Cottam	West Burton (17.7km)	7 km
Guardian Glass	Keadby (10.2km)	16 km
Saltend	South Humber Bank (17.7km)	16 km (or 10 km to Immingham)
Tilbury	Coryton (13.6km)	11 km
Immingham	South Humber Bank (17.7km)	7 km

4. Table 6 shows that given the concentration of Exit Points which are located between 18km and 28km from an Entry Point, there is a possibility that bypass pipelines could be constructed, or pipelines which are already constructed to be "re-lifed" to connect to Exit Points which are located less than 18km from an Entry Point, if a distance cap of 18km were to be established for the purposes of obtaining Conditional Discounts.
5. Alternatively, these Exit Points and others set out in Table 3 in Appendix 1 could consider establishing a new connection to the NTS, via a bypass pipeline, which would result in a distance of below 18km between the new Exit Point and the nearest Entry Point, were such a distance cap to be established.

Appendix 3 – Comparison Table for Modifications 0728/A/B/C/D (Urgent)

		0728	0728A	0728B	0728C	0728D
		v1.0 (6/3/2020)	v1.0 (4/6/2020)	v1.0 (4/6/2020)	v1.0 (4/3/2020)	v1.0 (4/3/2020)
Charge Group	**Element**	**National Grid**	**South Hook Gas Company**	**Vitol SA Geneva**	**RWE**	**ENI Trading & Shipping**
Transmission Services Conditional Discount	**Charge which the discount is applied to**	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price
	DCSL Distance (km)	18	18	28	18	5 (standard 90% discount)
	Initial Eligible Quantity (Entry)	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity
	Initial Eligible Quantity (Exit)	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation
Non-Transmission Services Conditional Discount	**Charge which the discount is applied to**	N/A	General Non-Transmission Services Charge	N/A	N/A	General Non-Transmission Services Charge
	Discount (%)	N/A	80	N/A	N/A	94
	Eligible Quantity	N/A	Lower of Entry Allocation, Exit Allocation	N/A	N/A	Lower of Entry Allocation, Exit Allocation

Variation in treatment of element from UNC Modification Proposal 0728

Modification 0728C (Urgent)

Appendix 1 - Analysis

No content provided.

Appendix 2 - Routes between 18km and 28km

No content provided.

Appendix 3 – Comparison Table for Modifications 0728/A/B/C/D (Urgent)

		0728	0728A	0728B	0728C	0728D
		v1.0 (6/3/2020)	v1.0 (4/6/2020)	v1.0 (4/6/2020)	v1.0 (4/3/2020)	v1.0 (4/3/2020)
Charge Group	**Element**	**National Grid**	**South Hook Gas Company**	**Vitol SA Geneva**	**RWE**	**ENI Trading & Shipping**
Transmission Services Conditional Discount	**Charge which the discount is applied to**	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price
	DCSL Distance (km)	18	18	28	18	5 (standard 90% discount)
	Initial Eligible Quantity (Entry)	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity
	Initial Eligible Quantity (Exit)	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation
Non-Transmission Services Conditional Discount	**Charge which the discount is applied to**	N/A	General Non-Transmission Services Charge	N/A	N/A	General Non-Transmission Services Charge
	Discount (%)	N/A	80	N/A	N/A	94
	Eligible Quantity	N/A	Lower of Entry Allocation, Exit Allocation	N/A	N/A	Lower of Entry Allocation, Exit Allocation

Variation in treatment of element from UNC Modification Proposal 0728

Modification 0728D (Urgent)

Appendix 1 – Analysis

Introduction

1. The following analysis has been completed by the Proposer in support of Modification 0728D. It is intended to provide additional information regarding analysis and figures quoted in the Modification text.

2. Due to the commercially sensitive nature of NTS Optional Commodity Charge (NTS OCC), National Grid provided data on an aggregate level to allow for analysis to be conducted. Therefore, all data corresponding to the existing NTS OCC and any subsequent charges arising from the analysis will be presented at an aggregated level.

3. Where relevant, the analysis uses the Modification 0678 V3.1 CWD Transmission Services - Sensitivity Model[45]. This is an illustrative model and should always be considered as such. It provides support to Modification 0678A and is a sensitivity tool to demonstrate the way in which charges under Modification 0678A would be calculated, and as a result the same consideration should be taken when reviewing this Optional Charge analysis.

4. This analysis is structured in the following way:

   (a) Description of the assumptions that have been made in order to carry out a consistent method of analysis

   (b) Comparison of the prevailing OCC product with the Conditional Product set out in this Proposal.

   (c) Analysis of optional charge proposed, which consists of:

      i. an assessment of the number of routes applicable

      ii. the potential under recovery of transmission services and non-transmission services revenues the specified charges could generate

      iii. the indicative impact this could have on reference and reserve prices for the relevant Reference Price Methodology (RPM) and the same approach on non-transmission charges.

Assumptions

5. In order to carry out the analysis on the prevailing NTS OCC and this proposal in a consistent manner, the following assumptions or limitations have been made:

   (a) Users and routes based on NTS OCC historical flows and revenues from October 2017 to September 2018 (Gas Year 2017/18), replicating Gas Year format of the sensitivity tool.

   (b) Assessment is undertaken at NTS OCC route level basis, not shipper level.

   (c) Assessment is undertaken against Modification 0678A as a base case.

   (d) No behavioural changes are assumed. All NTS OCC routes and flows used during Gas Year 2017/18 are considered to use any new optional charge proposed, on the condition the charge is less than the prevailing firm RPM entry and exit prices.

[45] https://www.gasgovernance.co.uk/index.php/0678/Models

(e) No consideration is given between Users of the proposed optional charges and Users that hold Existing Contracts. Where reference prices are referred to, these are prices from the Sensitivity Model, set to the parameters defined in 0678A and calculated based on Gas Year 2020/21, with any over or under recovery recycled until the initial Revenue Recovery Charge (RRC) is set at zero.

(f) For the purpose of this assessment, the Forecasted Contracted Capacity (FCC) as defined in the FCC Methodology Statement[46] is considered to be 100% accurate.

(g) For the purpose of calculating adjustments within the sensitivity model, perfect foresight of applicable quantities for the optional charge is assumed in order to give indicative reserve price increases to account for optional charge under recovery.

(h) Any further modification specific sensitivity analysis or assumptions are stated where necessary

Comparison of Prevailing and Alternative Products

6. Rates were first calculated by the Sensitivity Tool using parameters defined by Modification 0678A for the gas year Oct-2020 – Sep-2021. On this baseline, several scenarios were then run.

7. First, we assessed the impact if all Users of the current NTS Optional Commodity Charge (NTS OCC) bypassed the NTS entirely. While this scenario is not supported by the likelihood of bypass analysis carried out it gives us a useful set of data to validate against.

	Prevailing NTS OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation as % of MAR	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation as % of MAR	7.7%
Total Socialisation as % of MAR	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
Longest Route Considered	244.0

8. The 24.4% quoted in the Modification text relates to the total contribution loss of those sites currently using the prevailing NTS OCC, i.e. the total of their contribution under the NTS OCC and the difference between their NTS OCC contributions and the figures they would be paying if no such product existed.

9. This Modification sets a distance cap at 5km based on the likelihood of bypass analysis detailed below. The Maximum Discount applied to be applied to Transmission charges will be 90% for all qualifying routes. In addition, a discount of 94% is applied to Non-Transmission Services Commodity Charges is applied to flows along the eligible routes.

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

	Prevailing OCC
OCC Contribution	£28,695,987.33
Potential TO Socialisation	£97,559,664.09
TO Socialisation (as % of MAR)	12.9%
SO Socialisation	£57,983,030.86
SO Socialisation (as % of MAR)	7.7%
Total Socialisation (as % of MAR)	24.4%
Routes Considered	37
Max Effective Rate Discount	99.3%
BLANK	BLANK
Longest Route Considered	244.0km

	Eni Discounts Proposal
Conditional Discounts Contribution	£ 6,334,063.36
Potential TS Socialisation	£57,006,570.28
TS Socialisation (as % of MAR)	7.5%
Non-TS Socialisation	£20,606,991.69
Non-TS Socialisation (as % of MAR)	9.7%
Total Socialisation (as % of MAR)	8.0%
Routes Considered	15
Max Effective TS Discount	90.0%
Max Effective Non-TS Discount	94.0%
Longest Route Considered	4.5km

10. Based on this Modification, a distance cut-off at 5km, the routes which fall within the distance are as follows:

Entry Point	Exit Point	Straight-Line Distance (km)
Bacton IP	Bacton (BBL)	0.0
Bacton IP	Bacton (Great Yarmouth)	0.0
Bacton IP	Bacton (IUK)	0.0
Bacton UKCS	Bacton (BBL)	0.0
Bacton UKCS	Bacton (Great Yarmouth)	0.0
Bacton UKCS	Bacton (IUK)	0.0
Barrow	Barrow (Black Start)	0.0
Barrow	Roosecote Power Station (Barrow)	0.0
Burton Point	Burton Point (Connahs Quay)	0.0
Hatfield Moor (onshore)	Hatfield Power Station	0.0

Isle of Grain	Grain Power Station	0.0
Moffat (Irish Interconnector)	Moffat (Irish Interconnector)	0.0
St Fergus	Apache (Sage Black Start)	0.0
St Fergus	St. Fergus (Peterhead)	0.0
St Fergus	St. Fergus (Shell Blackstart)	0.0
St Fergus	St_Fergus_Segal	0.0
Teesside	Air_Products (Teesside)	0.0
Teesside	Brine Field (Teesside) Power Station	0.0
Teesside	Phillips Petroleum, Teesside	0.0
Teesside	Seal Sands TGPP	0.0
Teesside	Teesside Hydrogen	0.0
Teesside	Teesside (BASF, aka BASF Teesside)	0.0
Milford Haven	Upper Neeston (Milford Haven Refinery)	0.2
Burton Point	Deeside	0.4
Milford Haven	Pembroke Power Station	0.8
Isle of Grain	Medway (aka Isle of Grain Power Station, NOT Grain Power)	1.0
Burton Point	Harwarden (Shotton, aka Shotton Paper)	1.3
Teesside	Billingham ICI (Terra Billingham)	4.4
Teesside	Enron Billingham	4.4
Teesside	Zeneca (ICI Avecia, aka 'Zenica')	4.4
Isle of Grain	Middle Stoke (Damhead Creek, aka Kingsnorth Power Station)	4.5
Burton Point	Shotwick (Bridgewater Paper)	4.9

11. Of these, fifteen routes are considered in this analysis. The other routes which fall within this distance limitation have a zero figure in either Entry Firm FCC, Exit Firm FCC, MNEPOR or current Throughput which will mean the route is not considered in the analysis as no discount would be applicable.

12. The Cross-subsidy figures for considered routes which fall within the distance splits below are as follows:

(a) Transmission Services

Distance	Cross Subsidy	% MAR	Cumulative	% MAR
<= 1km	£53,217,902.05	7.04%	£53,217,902.05	7.04%
1km - 5km	£3,788,668.23	0.50%	£57,006,570.28	7.54%

(b) Non-Transmission Services

Distance	Cross Subsidy	% MAR	Cumulative	% MAR
<= 1km	£19,237,446.84	9.05%	£19,237,446.84	9.05%
1km - 5km	£1,369,544.85	0.64%	£20,606,991.69	9.7%

13. The presence of Existing Contracts at Entry, or traded capacity are both Entry and Exit is not considered in this analysis. These volumes can be used to enable discounts at the opposing end of the route they relate to, but will not be considered for Discount themselves, as detailed in the Modification text. As a result, the figures quoted are "worst case". Over time, the expiry of Existing Contracts and changes to booking and trading behaviours is expected to bring the figures closer to expectation.

14. The impact of each of these scenarios could potentially have on the Postage Stamp and Non-Transmission Commodity rates calculated under this Modification 0728D is detailed below. In terms of Transmission Charges a figure has been provided which refers to an equivalent Revenue Recovery Charge.

	0678A RRC	0678A Forecast Non-Transmission Services Commodity Rate	Proposal Transmission Services Entry RRC Rate	Proposal Transmission Services Exit RRC Rate	Proposal Incremental Non-Transmission Services Commodity Rate
Rate	0	0.0138	0.00303	0.00133	0.0014

15. To appreciate the impact on customers, the following table sets out how the RRC rates and incremental Non-Transmission Services charges translate into costs for a typical domestic customer with an annual consumption of 12,000 KWh[47] and a capacity requirement of 107 KWh/d. Based on BEIS published statistical data sets, average gas bills for a domestic customer of this size was £550 p.a.in 2019.

[47] Figure from Ofgem https://www.ofgem.gov.uk/system/files/docs/2020/03/bills_prices_profits_-_march_2020.pdf

	NTS Exit Capacity	NTS Entry Capacity	Non-Transmission Total	Forecast RRC Exit	Forecast RRC Entry	Forecast Incremental Non-Transmission Services	Total Exit Only	Total Entry and Exit
Annual Cost	£6.87	£16.09	£3.31	£0.52	£1.18	£0.34	£0.69	£2.04

Likelihood of Bypass

16. In assessing the routes which posed a genuine threat of bypass we have used a set of data published by the Council of European Energy Regulators.[48]

17. From this report, we have taken the formula below as the option presented which “defines better the costs at both ends of the graph, so for small diameters and large diameters”:

Pipeline Construction Cost (€/km) = 642.985 D² ('') + 2,464.295 D ('') + 398,135.326

Where D is the pipe diameter in inches.

18. To calculate the pipe diameter for a range of routes we have used the General Flow Equation as below:

$$D = \left(\frac{10^4}{7.574} * \frac{Q\sqrt{K}}{E}\right)^{0.4} * \left(\frac{Ps}{Ts}\right)^{0.4} * \left(\frac{S * L * Z * T}{P1^2 - P2^2}\right)^{0.2}$$

Where:

D is the pipe diameter in mm (to be converted to inches)

Q is the Flow in mscmd, we have used the current MNEPOR as at 31/01/2020

K is the Friction Factor

E is the Efficiency of the pipe (assumed to be 1.0 for a new, perfectly efficient pipe)

P_s is Standard Pressure

T_s is Pipe Average Temperature

S is the Specific Gravity of Gas

L is the Length of Pipe taken from the Distance Matrix as described below

Z is the Compressibility of Gas

T is Temperature

P_1 is the Inlet Pressure

P_2 is the Outlet Pressure

[48] https://www.ceer.eu/1767

All constants are taken from the UNC TPD Section Y 2.5.2 - The Expansion Constant effective to 30 September 2020. This section references to the Long Run Marginal Costs and is removed from the UNC as part of the implementation of Modification 0678A.

19. This calculation uses two sets of distances. As part of Modification 0678 a Pipeline Distance Matrix was produced, providing point to point distances for all Entry and Exit Points using the NTS. The prevailing NTS Optional Commodity Charge uses a Matrix of Straight-line Distances created for any Entry and Exit Point currently opting to use the NTS OCC product. The use of Straight-line Distance is proposed in Modification 0728D but these distances are not currently available for all sites. In this calculation, we have used the minimum of the distances currently available for each route.

20. For each potential route a pipe diameter in mm was calculated based on the General Flow Equation, the constants held in Section Y prior to implementation of Modification 0678A, the MNEPOR and the Distance as described above.

21. Each calculated diameter has been scaled up to the next available standard pipe diameter as the minimum size of pipe required to supply the Exit Point at the Maximum Daily Offtake Rate.

22. These diameters have been converted from millimetres to inches by dividing by 25.4.

23. This Diameter has been fed in to the CEER equation to produce a cost in EUR for each route.

24. The EUR cost has been divided by 1.1748 to give a cost in GBP based on the currency conversion rate[49] at the time this analysis was produced in January 2020.

25. Separate to this, based on the timescales cited in the PARCA process, approximate construction timescales were calculated for each route based on the distance and the pipe size. The minimum time scale quoted, 12 months, has been attributed to a 0km distance for the smallest standard pipe diameter, 50mm. The longest time scale quoted, 90 months, has been attributed to a 50km section of the largest standard diameter of pipe, 1220mm. Timescales for distances and pipe sizes between these extremes have been scaled accordingly.

26. A construction timescale figure, in whole months, has been calculated for each route.

27. Based on the MNEPOR, Entry & Exit Reserve Prices and construction timescale, a cost of using the NTS during the period the User is constructing their hypothetical bypass pipeline has been calculated.

28. The Pipeline Construction Costs and Interim NTS Usage Costs have been combined to give a figure for the route. Assuming a simple ten-year repayment period this figure has been divided by 10 to give an annual cost.

29. Using the MNEPOR and Entry & Exit Reserve Prices, an Annual NTS Cost has been calculated.

30. The ratio of these two figures defines the likelihood of a User choosing to bypass the NTS.

31. The highest ratio recorded was approximately 10:1, suggesting that the User with the highest likelihood of bypass, over ten years, would achieve a 90% reduction in transmission costs.

32. The 90% reduction in transmission costs is applied to all routes equal to, or less that 5km as the probability of bypass diminishes significantly beyond this distance due to development costs which are not applied in this simplistic and hypothetical calculation e.g. geological and urban impediments. A standard discount reflects the high probability that offtakes will share development costs in the construction of multi-offtake pipeline developments

[49] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/855436/exrates-monthly-0120.csv/preview

33. A subset of likely routes, once identified, was used to generate an Average Cost Driver linked to Surface Features and Special Construction requirements as detailed in Section 3.5 of the CEER.

34. Using grid references, each route was measured and using aerial photographs, significant surface features were identified and the cost factors detailed in “Table 3-2” were applied for the appropriate proportion of the distance.

35. An average factor for these routes, weighted by distance, was generated and fed back into the calculation to ensure the most reflective set of construction costs possible was produced.

36. It is important to highlight that while the CEER document provides a significant level of detail, as per section 3.9 - “Factors for associated costs”, it does not account for costs associated with any land purchases to enable the pipeline to be constructed.

Reassessment of the Distance Cap

38. As part of National Grids periodic review, National Grid may look to assess the level of socialisation generated by the product and how variations in the Distance Cap may affect levels of socialisation based on the latest Charging and FCC data.

39. National Grid will monitor the cross subsidy generated by the Distance Cap, this assessment requires the following inputs:

    i) confirmation of the Maximum Discount. Expected to remain as 90% in line with the Likelihood of Bypass analysis
    ii) updated Maximum Allowed Revenue figure
    iii) updates to the Entry & Exit FCC values based on latest calculated figure
    iv) updates to the Entry & Exit Reserve Prices for the Gas Year ahead
    v) the latest Optional Capacity Charges
    vi) the Optional Capacity Charge associated Distance Matrix

40. From the updated Entry & Exit FCCs and the updated Optional Capacity Charge Throughput, an updated Forecasted Eligible Quantity is created.

41. Based on a distance of 5km an estimated monetary Socialisation figure is calculated.

42. A graph and trendline can be plotted based on the data calculated

43. From these figures the current Socialisation can be calculated

44. Based on a change in the cross subsidy figure a request for a formal review may be triggered and, alongside industry input, the product will be reassessed for future viability.

Eligible Quantity Calculations

45. The Eligible Quantity Calculations for application of the Transmission Services Discount and the Non-Transmission Services Discount are detailed in the Business Rules. Below are a number of examples stepping through possible scenarios using the Business Rules.

Example 1 - Simple

Entry Point A

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	105,000

		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route A1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(0, (Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(0, (Min\,(105000{,}100000{,}90000{,}95000) - 0\,)\big)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh and so, in accordance with BR35, the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(90000{,}105000)$$

$$\boldsymbol{EQEn = 90{,}000\ kWh}$$

When considering Route A1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(90000{,}100000)$$

$$\boldsymbol{EQEx = 90{,}000\ kWh}$$

When considering Route A1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90{,}000\ kWh}$$

Example 2 – Existing Contract at Entry

Entry Point C

Date Booked	Source	Type	kWh
01/04/2017	Auction	Existing	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/04/2017	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route C1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ )\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\ 0\ ,(\ Min\ (105000{,}100000{,}90000{,}95000) - 105000\ )\big)$$

$$IEQEn = 0\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (0{,}0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route C1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (105000{,}100000{,}90000{,}95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\ (90000{,}100000)$$

$$\boldsymbol{EQEx = 90{,}000\ kWh}$$

When considering Route C1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}95000)$$

$$\boldsymbol{UECPNTCQ = 90{,}000\ kWh}$$

Example 3 – Traded Capacity at Entry

Entry Point B

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	100,000
		Exit Flow	95,000

When considering Route B1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ )\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\ 0\ ,(\ Min\ (105000{,}100000{,}90000{,}95000) - 0\ )\big)$$

$$IEQEn = 90{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 0 kWh and so, in accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (90{,}000{,}0)$$

$$\boldsymbol{EQEn = 0\ kWh}$$

When considering Route B1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\ (105000,100000,90000,95000)$$

$$IEQEx = 90{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 100,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\ (IEQEx, AQEx)$$

$$EQEx = Min\ (90000,100000)$$

$$\boldsymbol{EQEx = 90,000\ kWh}$$

When considering Route B1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000,95000)$$

$$\boldsymbol{UECPNTCQ = 90,000\ kWh}$$

Example 4 – Multiple Exit Points

Entry Point D

Date Booked	Source	Type	kWh
01/01/2020	Trade	Firm	105,000
		Entry Flow	90,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	45,000
		Exit Flow	40,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	55,000

Exit Flow	45,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities (CAP_{En}) and Flows (A_{En})based on the ratio of Exit Capacities and Flows, i.e.

BR37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point D to Exit Point 1

Type	kWh
CAP_{En1}	47,250
AQ_{En1}	47,250
A_{En1}	42,353

Entry Point D to Exit Point 2

Type	kWh
CAP_{En2}	57,750
AQ_{En2}	57,750
A_{En2}	47,647

When considering Route D1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(\,0\,,(\,Min\,(47250{,}45000{,}42353{,}40000) - 0\,))$$

$$IEQEn = 40{,}000\,kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 47,250. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(40000{,}47250)$$

$$\boldsymbol{EQEn = 40,000\,kWh}$$

When considering Route D1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(47250{,}45000{,}42353{,}40000)$$

$$IEQEx = 40{,}000\,kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 45,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(40000{,}45000)$$

$$\boldsymbol{EQEx = 40,000\ kWh}$$

When considering Route D1, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}40000)$$

$$\boldsymbol{UECPNTCQ = 40,000\ kWh}$$

When considering Route D2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\,0\,,(\,Min\,(57750{,}55000{,}47647{,}45000) - 0\,)\big)$$

$$IEQEn = 45{,}000\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 105,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 57,750. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(45000{,}57750)$$

$$\boldsymbol{EQEn = 45,000\ kWh}$$

When considering Route D2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(57750{,}55000{,}47647{,}45000)$$

$$IEQEx = 45{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 55,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(45000{,}55000)$$

$$\boldsymbol{EQEx = 45,000\ kWh}$$

When considering Route D2, in accordance with BR61 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(90000{,}45000)$$

$$\boldsymbol{UECPNTCQ = 45{,}000\ kWh}$$

Example 5 – Complex

Entry Point E

Date Booked	Source	Type	kWh
01/04/2017	Existing	Firm	100,000
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	50,000
01/07/2020	Trade	Firm	-20,000
		Entry Flow	170,000

Exit Point 1

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	50,000
01/04/2020	Auction	Interruptible	20,000
01/07/2020	Trade	Firm	-10,000
		Exit Flow	55,000

Exit Point 2

Date Booked	Source	Type	kWh
01/01/2020	Auction	Firm	60,000
01/04/2020	Auction	Interruptible	30,000
01/07/2020	Trade	Firm	15,000
		Exit Flow	110,000

In accordance with BR37, where a User nominates two routes, to different Exit Points, but originating from the same Entry Point, we apportion the Entry Capacities and Flows based on the ratio of Exit Capacities (CAP_{Ex}) and Flows (A_{Ex}).

BR37.1 $CAPEn1 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $CAPEn2 = \frac{CAPEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.2 $ECPEn1 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx1$ & $ECEn2 = \frac{ECEn}{CAPEx1 + CAPEx2} * ECEx2$

BR37.4 $AQEn1 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx1$ & $AQEn2 = \frac{AQEn}{CAPEx1 + CAPEx2} * CAPEx2$

BR37.3 $AEn1 = \frac{AEn}{AEx1 + AEx2} * AEx1$ & $AEn2 = \frac{AEn}{AEx1 + AEx2} * AEx2$

Entry Point E to Exit Point 1

Type	kWh
CAP_{En1}	45,217
EC_{En1}	34,783
AQ_{En1}	17,391
A_{En1}	56,667

Entry Point E to Exit Point 2

Type	kWh
CAP_{En2}	84,783
EC_{En2}	65,217
AQ_{En2}	32,609
A_{En2}	113,333

When considering Route E1, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (CAPEn, CAPEx, AEn, AEx) - ECEn\ ))$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max(\ 0\ ,(\ Min\ (45217{,}40000{,}56667{,}55000) - 34783\ ))$$

$$IEQEn = 5{,}217\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50,000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 17,391. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\ (IEQEn, AQEn)$$

$$EQEn = Min\ (5217{,}17391)$$

$$\boldsymbol{EQEn = 5,217\ kWh}$$

When considering Route E1, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\ (CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(45217{,}40000{,}56667{,}55000)$$

$$IEQEx = 40{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 50,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(40000{,}50000)$$

$$\boldsymbol{EQEx = 40,000\ kWh}$$

When considering Route E1, in accordance with BR62 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(56667{,}55000)$$

$$\boldsymbol{UECPNTCQ = 55,000\ kWh}$$

When considering Route E2, in accordance with BR35.1 we calculate the Initial Entry EQ as follows:

$$IEQEn = Max\big(\,0\,, (\,Min\,(CAPEn, CAPEx, AEn, AEx) - ECEn\,)\big)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEn = Max\big(\,0\,, (\,Min\,(84783{,}75000{,}113333{,}110000) - 65217\,)\big)$$

$$IEQEn = 9{,}783\ kWh$$

The AQ_{En} in this scenario, as defined in BR35.2 is 50.000 kWh (Firm Entitlement excluding Existing Contracts) once apportioned in-line with 37.4 the AQEn for the route is 32,609 kWh. In accordance with BR35 the EQ_{En} is calculated as below:

$$EQEn = Min\,(IEQEn, AQEn)$$

$$EQEn = Min\,(9783{,}32609)$$

$$\boldsymbol{EQEn = 9,783\ kWh}$$

When considering Route E2, in accordance with BR36.1 we calculate the Initial Exit EQ as follows:

$$IEQEx = Min\,(CAPEn, CAPEx, AEn, AEx)$$

Substituting in the figures quoted the equation is as follows:

$$IEQEx = Min\,(84783{,}75000{,}113333{,}110000)$$

$$IEQEx = 75{,}000\ kWh$$

The AQ_{Ex} in this scenario, as defined in BR36.2 is 60,000 kWh and so, in accordance with BR36 the EQ_{Ex} is calculated as below:

$$EQEx = Min\,(IEQEx, AQEx)$$

$$EQEx = Min\,(75000{,}60000)$$

$$\boldsymbol{EQEx = 60,000\,kWh}$$

When considering Route E2, in accordance with BR62 we calculate the User Eligible Conditional Product Non-Transmission Quantity (UECPNTCQ) as follows:

$$UECPNTCQ = Min(A_{en,}A_{ex})$$

$$UECPNTCQ = Min(113333{,}110000)$$

$$\boldsymbol{UECPNTCQ = 110000,000\,kWh}$$

Appendix 2 - Routes between 18km and 28km

No content provided.

Appendix 3 – Comparison Table for Modifications 0728/A/B/C/D (Urgent)

		0728	0728A	0728B	0728C	0728D
		v1.0 (6/3/2020)	v1.0 (4/6/2020)	v1.0 (4/6/2020)	v1.0 (4/3/2020)	v1.0 (4/3/2020)
Charge Group	**Element**	**National Grid**	**South Hook Gas Company**	**Vitol SA Geneva**	**RWE**	**ENI Trading & Shipping**
Transmission Services Conditional Discount	**Charge which the discount is applied to**	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price	Entry Capacity Reserve Price and Exit Capacity Reserve Price
	DCSL Distance (km)	18	18	28	18	5 (standard 90% discount)
	Initial Eligible Quantity (Entry)	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity) *less* any Existing Contract Capacity	(Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation) *less* any Existing Contract Capacity
	Initial Eligible Quantity (Exit)	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation	Lower of Entry Capacity, Exit Capacity	Lower of Entry Capacity, Exit Capacity, Entry Allocation, Exit Allocation
Non-Transmission Services Conditional Discount	**Charge which the discount is applied to**	N/A	General Non-Transmission Services Charge	N/A	N/A	General Non-Transmission Services Charge
	Discount (%)	N/A	80	N/A	N/A	94
	Eligible Quantity	N/A	Lower of Entry Allocation, Exit Allocation	N/A	N/A	Lower of Entry Allocation, Exit Allocation

Variation in treatment of element from UNC Modification Proposal 0728