














UNC Modification	At what stage is this document in the process?
<h1>UNC 0727 (Urgent):</h1> <h2>Increasing the Storage Transmission Capacity Charge Discount to 80%</h2>	<div>01 Modification</div> <div>02 Workgroup Report</div> <div>03 Draft Modification Report</div> <div>04 Final Modification Report</div>
<p>Purpose of Modification:</p> <p>The revised NTS Charging Methodology (in place from 01 October 2020) includes a discount for capacity purchased at storage sites of 50%. This Modification seeks to include a higher discount rate of 80% for such capacity, to be introduced on 01 October 2020 or as soon as possible thereafter.</p>	
	<p>The Proposer recommends that this modification should be:</p> <ul style="list-style-type: none"> treated as urgent and should proceed as such under a timetable agreed with the Authority
	<p>High Impact:</p> <p>All parties that pay NTS Transportation Charges and/or have a connection to the NTS, and National Grid NTS.</p>
	<p>Medium Impact:</p> <p>N/A</p>
	<p>Low Impact:</p> <p>N/A</p>

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Timetable			
The Proposer recommends the following timetable:			
Modification sent to Ofgem	05 June 2020		colin.williams@nationalgrid.com
Ofgem decision on Urgency	10 June 2020		01926 655916 or 07785 451776
Modification issued for consultation	11 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		
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1 Summary

What

The revised NTS Charging Methodology (the 'revised Methodology') which takes effect from 01 October 2020 includes a 50% discount to be applied to storage related NTS (Entry & Exit) Capacity. This proposal seeks to increase the discount to 80%.

Why

The revised Methodology aligns the overall GB transmission Charging Methodology to the new charging structures compliant with the EU Tariff Code and introduces a discount of 50% to apply for capacity booked at storage site. The Proposer believes that the discount should be increased to 80% to prevent significant commercial impact for Storage Users which would ultimately have an adverse impact on security of price and supply for the GB market.

How

Changes are proposed to the Charging Methodology contained within UNC TPD Section Y to include a higher discount to Capacity prices of 80% to apply for storage capacity.

2 Governance

Justification for Urgency

This Modification should be treated as an Urgent Modification Proposal 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 advocated by this Modification is driven by an imminent date related issue, this being the introduction of the new NTS Charging Methodology 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 addressed urgently, it would result in a significant commercial impact for storage owners and Users and as detailed within Ofgem's 'UNC 0678 decision document (as underpinned by CEPA's (Centre of European Policy Analysis) analysis)¹, could ultimately have an adverse impact on security of price and supply for the GB market.

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 and supply of gas. Further, the Modification Proposal will enhance security of price and supply in the UK. This Modification Proposal will reduce the transportation costs, in particular Capacity Charges, incurred by the owners of gas Storage Facilities and/or the Users of the facilities.

¹ https://www.ofgem.gov.uk/system/files/docs/2019/12/cepa_unc678_analytical_support.pdf

Without this change there is a danger that Storage Facilities will close, or Operators will limit the availability of Storage Capacity as the commercial viability of maintaining current levels will be significantly undermined.

Requested Next Steps

This Modification should be treated as Urgent and should proceed as such under a timetable agreed with the Authority.

The topic of a higher level of storage discount as part of the Transportation Charging Methodology has been extensively discussed during the development of Modifications 0621 and 0678. Pre-Modification discussions have been held at NTSCMF in early 2020 on at least two occasions.

3 Why Change?

Within the EU Tariff Code, there are requirements (Article 9) to apply further discounts for storage capacity, where “*a discount of at least 50% should be applied to capacity-based transmission tariffs at Entry Points from and Exit Points to Storage Facilities.*” This minimum discount is specific to storage in order to reduce the impact of double charging and in recognition of the general contribution to system flexibility and security of supply of such infrastructure. The revised Methodology requires that the discount to apply for capacity at storage sites is set at the minimum level of 50%.

As part of the discussions relating initially to the development of UNC Modification Proposal 0621 (and its Alternatives) and, subsequently, to the development of UNC Modification Proposal 0678 (and its Alternatives), substantial evidence was provided that a discount level of 80% would be more appropriate to apply for storage capacity²³. As part of its ‘minded-to’ decision document, Ofgem agreed that there was merit in the arguments made as part of the UNC Modification Proposals 0678C/E/F such that a discount level greater than 50% should apply for Storage Facilities. In particular, Ofgem noted the benefits that gas storage can bring to the system in relation to price stability at times of relative system stress. Ofgem reinforced this position in its final decision⁴ on UNC 0678 and its Alternatives stating that it “*remained open to a storage discount of above 50%.*”

Additionally, the analysis presented by CEPA in their detailed report⁵ supporting Ofgem’s final decision, shows that the impact of the implementation of either UNC Modification Proposal 0678 (CWD (Capacity Weighted Distance) in their Figure 3.26 below) or 0678A (PS (Postage Stamp) in their Figure 3.26 below) will have a significant detrimental effect on the revenues of GB gas Storage Facilities and thereby their viability.

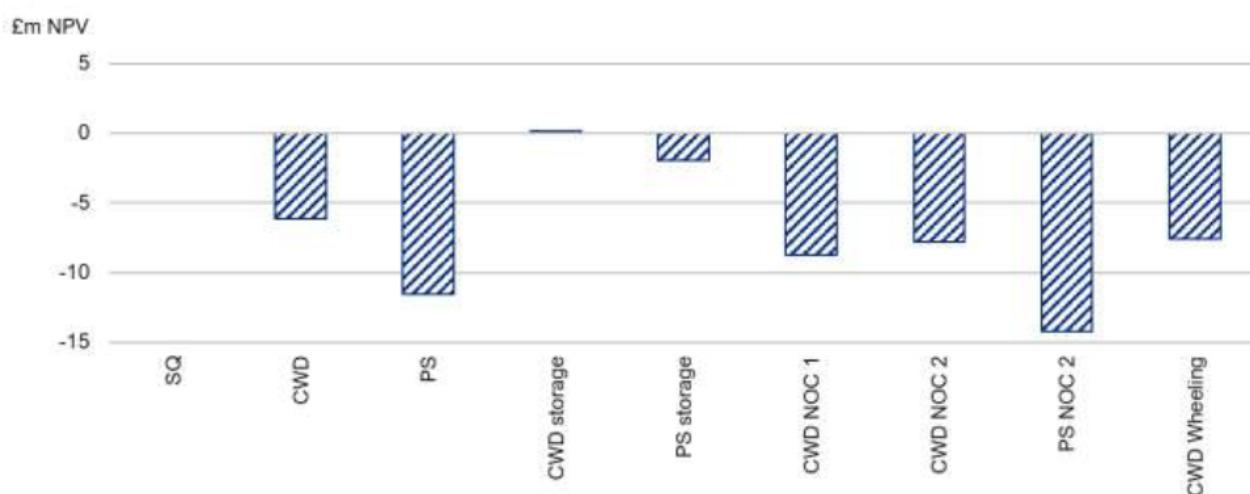
² <https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-02/WWA%20GSO%20NTS%20CapacityDiscountsReport270219finaldraftv0%205.pdf>

³ <https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-04/GCR%20Gas%20Storage%20Benefits%20Document%20%28provided%20by%20Alex%20Nield%2003April19%29.pdf>

⁴ https://www.ofgem.gov.uk/system/files/docs/2020/05/unc678_-_decision_0.pdf

⁵ https://www.ofgem.gov.uk/system/files/docs/2020/05/cepa_unc678_analytical_report.pdf

Figure 3.27: Direct impacts of changes to the tariff on revenues of collective GB gas storage facilities (no market price impacts included) (NPV, TD 2022-2031, discounted to £18/19)



The percentage change in revenues is presented in their Table 4.1 given below, which shows that under UNC Modification 0678A, total storage revenues would reduce by 62%.

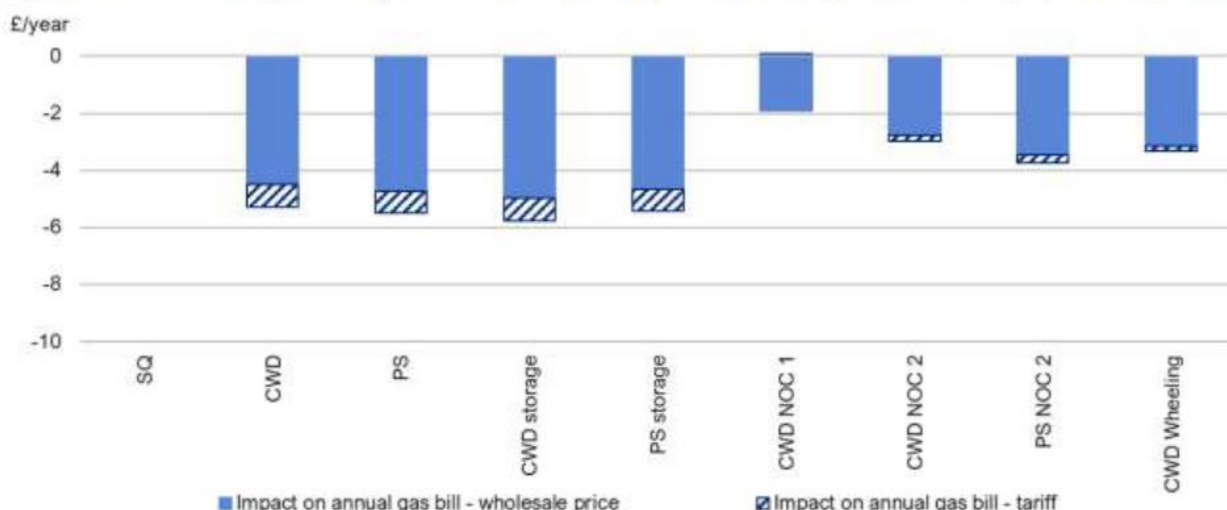
Table 4.1: Percentage change in total storage revenues as a result of changes to tariffs (TD, NPV, 2022-31)

Option	Percentage change in revenues of gas storage facilities as a direct result of changes to entry and exit tariffs
SQ	N/A
CWD	-33%
PS	-61%
CWD storage	1%
PS storage	-10%
CWD NOC 1	-46%
CWD NOC 2	-41%
PS NOC 2	-76%
CWD Wheeling	-40%

Both CEPA's Figure 3.27 and Table 4.1 show that if the discount level is increased to 80% the impact on facilities' revenues is reduced for the Reference Price Methodology (RPM) PS storage. In this scenario revenues are reduced by 10%. This should help to reduce the risk that the facilities would withdraw capacity due to the consequences of changing the Charging Methodology and therefore, avoid the adverse effects such withdrawals would have on wholesale gas prices and security of supply.

Sections 3.4.1 to 3.4.3 of the CEPA detailed report show the impact on consumer bills of the different charging models, considered when compared to the status quo ('SQ'). The analysis shows that increasing the discount level for Storage Users from 50% to 80% for the PS RPM has a negligible effect on consumer bills as shown in Figure 3.1.4 below, (Note: 'PS' bars relate to a 50% discount for storage capacity, whereas 'PS storage' bars include an 80% discount for storage capacity. For the purposes of this Modification, the additional bars can be ignored).

Figure 3.14: Estimated gas bill impact for median consumption domestic gas consumers (TD, 2030-31, £18/19)



The Proposer, therefore, suggests that an enduring storage discount value of 80% should apply, but recognises the EU Tariff Code requirements for the charging regime to be reviewed by Ofgem or National Grid as a whole, at least every 5 years.

4 Code Specific Matters

Reference Documents

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>

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 the 0678 suite of Modifications, 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

Specific Capacity Discount for Storage

It is proposed that, in respect of storage sites, (locations where the type of Entry Point/Offtake is designated as a 'storage site' in National Grid's Licence⁶ (Special Condition 5F Table 4B for Entry Points, and Special Condition 5G Table 8 for Exit Points)) the applicable Specific Capacity Discount applied to the Reserve Prices in respect of Firm and Interruptible/Off-peak Capacity for a given Gas Year will be equal to 80%. In accordance with Ofgem's UNC Modification 0678A final decision, the solution is limited to increasing the storage discount and does not propose any other additional changes. The Proposer believes that this removes any concerns with EU compliance.

In its May 2020 UNC Modification 0678A final decision, its December 2019 'minded-to' decision document and in its decision letter to reject Modification Proposal UNC0621 and its Alternatives, Ofgem recognised the deleterious impact on Storage Facilities' net revenues of moving away from the current Charging Methodology. Based on the analysis carried out by Baringa⁷, net revenues would likely decrease by between 3% and 31%, depending on whether the storage discount is set at 50% or 86%⁸.

Furthermore, Ofgem stated that any discount above 50% would need a clear justification. The derivation of the 80% is based on analysis carried out by Waters Wye Associates (WWA) as set out in its report to the Gas Storage Operators Group⁹ and adopted in Modification Proposals 0678 C/E/F, which the Proposer contends provides sufficient evidence to justify the proposed level of discount. Whilst the analysis undertaken in this paper was based on the CWD RPM, it should be noted that if the same methodology was applied to the PS RPM, as the capacity prices are the same for all Entry Points and all Exit Points, the discount will equate to 100%, due to the lack of any distance driver with the calculation of capacity prices. Further, given CWD is similar to PS, in that both methodologies are based on a principle of revenue allocation, rather than cost reflectivity, the derivation of an 80% discount using CWD is a valid approach. For clarity, the methodology used to derive the 80% discount level was based on the comparative cost of transporting gas directly from a particular set of Entry Points to particular Exit Points with the costs of transporting along the same routes, but via storage sites. Therefore, distance is a vital component to determining the appropriate level of discount required in this case.

Storage Benefits

In addition to providing a quantitative basis for establishing a discount of 80%, the report to the Gas Storage Operators Group (cited above) sets out numerous benefits of storage which reinforce the case for a discount, which when considered in aggregate, might reasonably result in a level greater than 80%. In summary, these benefits include:

- Storage flows are highly correlated to demand, or changes in demand. The main driver for this is that demand is the primary driver of price (again a very high correlation exists between these variables) and Users employ storage to capture the intrinsic value associated with market price spreads over various durations (commonly known as time shifting the value of gas). Both National Grid and customers benefit from this interaction between storage flows and demand/price as it provides assistance in balancing the network while dampening price volatility and delivering positive externalities, or societal benefits, by

⁶ <https://epr.ofgem.gov.uk/Content/Documents/National%20Grid%20Gas%20Plc%20-%20Special%20Conditions%20Consolidated%20-%20Current%20Version.pdf>

⁷ https://www.ofgem.gov.uk/system/files/docs/2019/01/ofgem_gas_charging_review_baringa_report_final.pdf

⁸ Note that an 86% storage discount was proposed in UNC 0621A/B/C/DJ/K

⁹ <https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-02/WWA%20GSO%20NTS%20CapacityDiscountsReport270219finaldraftv0%2005.pdf>

reducing price spreads across a range of time periods. These outcomes are consistent with the aim of providing price stability benefits, by dampening price spikes while reducing volatility more generally.

- Storage delivers transmission benefits in terms of avoided investment in additional capacity. The fact that it is embedded in the network, close to demand, and operates in harmony with changes in demand means that storage delivers significant cost savings to the NTS and ultimately customers.

Security of supply is enhanced by gas storage. The ability to store gas in these facilities provides cost effective and reliable insurance against supply disruptions, demand spikes and excess supply. The benefits will be three fold:

- delivering and accepting gas from and to the market in which it is located;
- dampening the price of gas by adding volume to the available supply and
- supporting the transportation system in periods of oversupply.

Additionally, within the 'minded-to' document, Ofgem notes

"that, in theory, gas storage facilities may bring price security of supply benefits to the system such as helping to dampen price spikes while reducing price volatility more generally. CEPA's analysis suggested that the change to tariff arrangements could introduce the potential for erosion of storage revenues which could affect closure decisions. We therefore consider that the inclusion of a storage discount of greater than 50% could help to better reflect this relevant objective" (Objective (e) Achievement of domestic security of supply standard). Para 6.20

Ofgem agree, in their 'minded-to decision' that there were merits in the arguments made to include an 80% discount for capacity at storage sites as part of the UNC Proposals 0678C/E/F:

"The Proposers of UNC678 C/E/F have submitted papers alongside their Modification proposals which are intended to support their justification of an 80% discount. In summary, they state the following:

- *Gas storage should be considered to be 'embedded within the network' rather than entry and exit which makes use of the network.*
- *Gas storage responds to changes in system demand, injecting from the system at periods of low demand and delivering gas to the system at times of high demand.*
- *Gas storage provides a similar service to NTS linepack⁴⁵ but delivers gas to satisfy local demand.*
- *Gas storage has already made a contribution to cost recovery when it enters the NTS and before it is injected into storage and subsequently makes a contribution to cost recovery when it exits the NTS after being withdrawn from storage.*
- *The security of supply benefits provided by gas storage facilities are undervalued by the market.*
- *Gas storage provides benefits to the system in respect of avoided investment in additional gas transmission capacity.*

We think there is some merit in the arguments made above in relation to a discount of greater than 50% for storage facilities. In particular, we note some of the benefits that gas storage can bring to the system in relation to price stability at times of relative system stress."

For the reasons outlined above, the Proposer suggests that an enduring storage discount value of 80% should apply but recognises the EU Tariff Code requirements for the charging regime to be reviewed, as a whole, at least every 5 years.

Consequences if Not Addressed

If this issue is not addressed urgently, it will result in a significant commercial impact for storage owners and Users and as detailed in Ofgem's 'minded to' decision document (as underpinned by CEPA's analysis), could ultimately have an adverse impact on physical and price security of supply for the GB market.

Impacts and Considerations

Within the 'minded-to' decision document, Ofgem noted that

"The reduction in the tariffs in the presence of an 80% storage discount (as proposed under UNC678C/E/F) can also be observed. Given the small proportion of cost recovery which is contributed by storage facility entry and exit bookings, CEPA find that the additional revenue recovery requirements resulting from an 80% discount only lead to a marginal change in the tariffs at other entry and exit points on the system." Para 5.39

Non-Transmission Services Charges

Under the current arrangements, storage sites are exempt from System Operator (SO) Commodity Charges. In the past, there have been discussions¹⁰ around whether storage sites should pay some form of SO Commodity Charge. Analysis done at the time concluded that large elements of the costs which contribute towards the SO Commodity Charge are not applicable to storage and that remains the case today. The discussions recognised the benefits which storage sites make to the UK gas system and concluded that given the low materiality of the charge and the potential large system implementation costs of introducing the charge, the status quo should prevail¹¹.

It is therefore proposed that the current arrangements should remain such that storage flows should continue to be excluded from Non-Transmission Services Charges.

Interaction with the Charging Methodology

For the avoidance of doubt, National Grid will forecast the extent of all Users elections to incur the Storage Discounted Reserve Price and non-application of Non-Transmission Charges for the forthcoming Gas Year. The net impact (of this forecast) on the aggregate amounts of Transmission Services and Non 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 Transmission Services) for the relevant Gas Year (except for the Gas Year commencing 1 October 2020) otherwise will be taken into account in the determination of Transmission Services Revenue Recovery Charges and General Non Transmission Services Charges for the relevant Gas Year.

6 Impacts & Other Considerations

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

No

¹⁰ NTS GCD 05 was one of a few initiatives to examine this issue <https://www.nationalgridgas.com/document/71836/download>

¹¹ <https://www.nationalgridgas.com/document/71831/download>

Consumer Impacts

There is likely to be an impact on different consumer groups, but 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.

As shown within Appendix A of the CEPA detailed analysis report (cited above), the impacts (particularly for the PS RPM) of increasing the discount rate for storage from 50% to 80% will have a minimal effect on end consumers.

Cross Code Impacts

None

EU Code Impacts

EU Tariff Code compliance is considered as part of this Modification Proposal, noting that the EU Tariff Code (Article 9) allows for "*a discount of **at least 50%** should be applied to capacity-based transmission tariffs at Entry Points from and Exit Points to Storage Facilities*".

Were the Transmission Services Revenue Recovery Charge to be used to account for the revenue which needs to be recovered in Gas Year 2020/21 as a result of this Modification, it is consistent with Arts 17 and 18 of the EU Tariff Code.

Central Systems Impacts

There may be very minor impacts on Gemini and UK Link invoicing systems, however, it is the understanding of the Proposer that appropriate measures were put in place in the anticipation of the potential implementation of UNC Modification Proposals UNC 0678C/E/F.

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.	Positive
b) Coordinated, efficient and economic operation of (i) the combined pipe-line system, and/ or (ii) the pipe-line system of one or more other relevant gas transporters.	Positive
c) Efficient discharge of the licensee's obligations.	None
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.	Positive
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:

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

Based on the analysis carried out by Storengy and WWA there is a clear relationship between the physical operation of Storage Facilities and the pipe-line system.¹² The strong, positive correlation between aggregate gas demand and storage withdrawals/injections means that National Grid, in its role as SO, benefits from gas storage, at no cost. The flexibility provided by gas storage provides direct support to National Grid in its role as system balancer through; contributing to linepack management and reduced activity and costs associated with National Grid's participation in the balancing market (On the Day

¹² WWA paper <https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-02/WWA%20GSOG%20NTS%20CapacityDiscountsReport270219finaldraftv0%205.pdf> and Storengy paper <https://gasgov-mst-files.s3.eu-west-1.amazonaws.com/s3fs-public/ggf/book/2019-03/GCR%20Gas%20Storage%20Benefits%20Document%20v1.3%20%28provided%20by%20Alex%20Nield%29.pdf>

Commodity Market) or any other contractual arrangements it may choose to enter into as part of its network balancing toolbox.

By setting that storage discount at the minimum permissible level of 50%, analysis performed by the Proposer and WWA indicates that the aggregate costs incurred by storage owners would be significant following the implementation of UNC Modification 0678A (£11,804,642), as shown in Table 1 below (also see Appendix 3, Table A1):

Table 1: Costs to storage of alternative discounts

Scenario	Entry Cap (firm) £/a	Exit Cap (Int) £/a	Total £/a
Modification 0678A (PS – 50% discount)	8,681,077	3,123,565	11,804,642
PS – 80% discount	3,529,223	1,298,105	4,827,328

These represent significant increases to the prevailing methodology and the impact of these cost increases will lead to reduced storage cycling as the variable costs incurred by storage owners will diminish opportunities for capturing value in shorter term spreads. In turn, system balancing costs will increase, as storage will less frequently make a positive contribution to the overall balance of the network and limit access to an essential balancing tool for shippers and National Grid as the balancer of last resort. The impact on storage profitability is highlighted in the Ofgem UNC 0621 letter and the accompanying Baringa analytical report, which states

“Although the largest share of costs of storage facilities relate to CAPEX and is therefore sunk, a reduction in net revenues of 20-30% or more would significantly impact the profitability of storage facilities. If operating costs are sufficiently low, storage facilities are likely to remain open but revenues may not be sufficiently high to justify any significant further investment, including refurbishment costs. Hence, under a number of alternative tariff methodologies, storage facilities may encounter challenges in continuing operations in the medium-to longer-run.”

In addition, Baringa understands that any changes to tariffs will be considered differently to shifts in market conditions and as a result will be “burdened” by the storage operator in terms of service offerings:

“The impact of changes in the tariff methodology would be seen as permanent and would therefore not be assessed in the same way.”

The level of discount should be consistent with the contribution to system flexibility (as recognised in the EU Tariff Code Art.9) and the Proposer believes that the application of the minimum permissible discount does not fulfil this requirement. The minimum, according to the EU Tariff Code simply avoids Storage Users being “double charged” for the use of the system, reflecting the “parking service” unique to storage located within a national network. On this basis, the Proposer contends that a discount of 80% not only better reflects the contribution made by Storage Facilities in relation to the efficient and economic operation of the pipe-line system, but it also preserves the ability for gas storage to provide an economic means for balancing the pipeline system.

The additional costs imposed on Storage Users through the application of the minimum discount, and in particular the related significant escalation in the cost of off-peak capacity, would result in undesirable market impacts, such as increased between day and within day price volatility. These market impacts conflict with this Relevant Objective a) by inflating the costs associated with balancing the system.

As can be seen in Table 1 above, setting the level of discount to 80% helps to reduce these cost increases. The total costs to Storage Users for 2020/21 would be £4,827,328 for the PS RPM representing a 59% saving against the corresponding tariffs with 50% discount.

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

Storage provides support to the entire network. Its proximity to demand and flow response to changes in aggregate demand levels ensures that overall system pressures are supported, benefiting the NTS and connected networks. In the absence of storage, marginal gas supplies would be more distant from demand which in turn may result in operational issues for DNs, in the absence of additional investment in the NTS.

d) Securing of effective competition between relevant shippers;

Where the charges levied on Storage Users better reflect the costs/benefits of storage flows on the system, it improves the overall cost reflectivity of charges and as such better facilitates competition through diminished cross-subsidisation.

e) Achievement of domestic security standards

Storage facilities provide price stability benefits by dampening price spikes and reducing price volatility as they respond to market price signals, which in turn are highly correlated with supply and demand. Based on CEPA's analysis that the revised charging methodology under UNC 0678A will likely erode storage revenues and affect closure decisions a discount of 80% would better reflect this relevant objective by limiting the erosion of the storage revenues.

Section Y (Charging Methodology) Modifications

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.	None

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 Proposer believes that the Modification better reflects the costs incurred by the licensee. In particular, in relation to gas storage, the application of an 80% discount better facilitates this objective. The requirement for a minimum 50% discount for storage related capacity in the EU Tariff Code insulates Storage Users from double charging and nothing more, however, given that Storage Facilities are embedded in the network, its application fails to appreciate the relative costs of delivering gas directly to offtakes compared to those incurred by routing gas via storage.

As set out in the WWA report to the Gas Storage Operators Group (see footnote 7) the fact that flows to and from offtakes located close to Storage Facilities are cheaper, in terms of transportation costs, than the cost of flowing gas to the same offtakes, but via storage (including a 50% discount), suggests that a 50% discount is not cost reflective. The application of an 80% discount ensures that the costs incurred under

these two flow scenarios are equivalent, and that the costs of transporting gas to and from storage are as cost reflective as the costs of transporting gas directly between non-storage Entry Points and non-storage Exit Points.

Further, the application of an 80% discount ensures that the benefits, or negative costs which are delivered by storage in terms of investment savings attributable to the transmission owner, are to some degree represented in the cost of using storage (see WWA and Storengy reports in footnote 7).

The fact that the benefits of embedded Entry Points located within DN networks receive discounted DN transportation costs, or even credits, as described in the WWA report, suggests that a discount which is set to singularly remove double charging is inconsistent with the approach taken in other pipeline networks. The additional level of discount provides a mechanism for recognising the benefits afforded by embedded Entry Points (and Exit Points) and is in line with the cost reflective charging methodologies approved and employed at the DN level.

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

Considering the lead time required for the development of such assets, assumptions on storage flows for the modelling of the impact of a discount of 80% on the Transmission Revenue Recovery Charges are robust for 5 years, at the very minimum.

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

The application of an 80% discount for Storage Users better achieves this objective. Firstly, as described in the Storengy and WWA reports (footnote 7) gas storage provides shippers with access to physical flexibility to manage any physical portfolio imbalances which occur for a variety of reasons. Gas storage is an essential tool for a large number of shippers which contract directly with storage operators, but also provides wider benefits to all shippers as a result of enhanced security of supply, market price stability and well-understood, significant positive externalities. These wider benefits dampen price volatility and reduce the likelihood of network constraints, gas deficit issues and cost escalation (see WWA and Storengy reports, footnote 7).

8 Implementation

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

Text Commentary (provided by the Proposer)

For 0678A

Amend the “Specific Point Discount” for “Storage Site Points” from “50%” to “80%” in 2.8.4(a) of Section Y (Charging Methodologies), Part A – NTS Charging Methodologies, A-1 NTS Transportation Charging Methodology

Text (provided by the Proposer)

For 0678A

Section Y, Part A, A-1

2.8.4 The “Specific Point Discount” is

(a) for Storage Site Points, 80%; and

(b) for LNG Importation Terminal Points, zero (0%)

10 Recommendations

Proposer’s Recommendation to the Authority

The Authority is asked to:

- Agree this Modification should be treated as Urgent and should proceed as such under a timetable agreed by the Authority.

11 Appendix 1: Summary Analysis

Comparison of impact of Storage Discount

This Modification sets the Storage Discount at 80%. Table A1 below compares the costs to storage of operating under a number of charging scenarios: UNC Modification 0678 (CWD with a 50% discount) v UNC Modification Proposal 0678A (PS with a 50% discount) and Modification Proposal 07XX (an 80% discount (CWD with an 80% discount and PS with an 80% discount)).

In order to calculate annual costs, storage volumes for each facility have been stated and an assumed cycling frequency, based on historical data has been computed (volumes oftaken and entered at the storage site compared to storage volume). For the purposes of calculating Exit costs, it is assumed that Users of storage acquire Off-Peak Exit Capacity.

Table A1: Comparison of Entry and Exit costs to storage

Entry	Storage Volume		NTS Bookings		0678 (CWD 50%)	0678A (PS 50%)	CWD 80%	PS 80%
	WGV	WGV	Cycling	Cycling	GY 20/21	GY 20/21	GY 20/21	GY 20/21
	mcm	GWh	Times	TWh	£/annum	£/annum	£/annum	£/annum
Stublach	400	4,400	4	17.6	2,534,400	3,766,400	1,020,800	1,531,200
Holford	160	1,760	4	7.0	1,013,760	1,506,560	408,320	612,480
Hill Top		374	1	0.4	53,482	80,036	21,318	32,538
Hornsea		2,623	2	5.2	687,331	1,122,815	278,080	456,472
Aldbrough (Garton)		2,100	2	4.2	533,397	898,796	214,199	365,398
Hatfield Moor	70	770	2	1.2	142,065	247,170	56,595	100,485
Humbley Grove (Barton Stacey)	300	3,300	2	5.0	866,250	1,059,300	351,450	430,650
TOTAL				40.6	5,830,685	8,681,077	2,350,762	3,529,223

Exit	Storage Volume		NTS Bookings		0678 (CWD 50%)	0678A (PS 50%)	CWD 80%	PS 80%
	WGV	WGV	Cycling	Cycling	GY 20/21	GY 20/21	GY 20/21	GY 20/21
	mcm	GWh	Times	TWh	£/annum	£/annum	£/annum	£/annum
Stublach	400	4,400	4	17.6	1,249,600	1,355,200	510,400	563,200
Holford	160	1,760	4	7.0	492,800	542,080	204,160	225,280
Hill Top		374	1	0.4	26,180	28,798	10,472	11,968
Hornsea		2,623	2	5.2	309,561	404,004	125,923	167,898
Aldbrough (Garton)		2,100	2	4.2	243,599	323,398	100,800	134,399
Hatfield Moor	70	770	2	1.2	68,145	88,935	27,720	36,960
Humbley Grove (Barton Stacey)	300	3,300	2	5.0	450,450	381,150	183,150	158,400
TOTAL				40.6	2,840,335	3,123,565	1,162,625	1,298,105

In total, for the PS RPM + 80% discount, the cost would be £4,827,328. Modification 0678A (PS) which includes a 50% Storage Discount would result in much higher costs (around 2.5 times), namely £11,804,642.

Based on National Grid's Sensitivity Model 0678 v3.1, the revenue recovered from storage related capacity as a result of an increase in the discount from 50% to 80%, represents under 1% of Maximum Allowed TO Revenue for Gas Year 2020/21 (note Allowed Revenue is £756m).