

## **DISCUSSION REPORT**

### **Modification Proposals to the Gas Transmission Transportation Charging Methodology**

#### **NTS GCD 05R:**

#### **Options for an SO Commodity Charge for NTS Storage Facilities**

**21 May 2008 (Published 26/09/08)**

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## Executive Summary

Gas Charging Discussion Document NTS GCD05 set out for discussion options for revising the Gas Transmission Transportation Charging Methodology (the “Charging Methodology”) in respect of the application of an SO Commodity Charge at NTS storage facilities. This discussion report NTS GCD05R summarises the responses received to the discussion document and is produced by National Grid in its’ role as Gas Transporter Licence holder in respect of the NTS (“National Grid”). National Grid recommends a way forward in line with the view expressed by the respondents to the discussion document.

This discussion report has been placed on National Grid’s industry information website:

<http://www.nationalgrid.com/uk/Gas/Charges/>

### The Discussion Paper NTS GCD05

The discussion paper NTS GCD05 took forward the development work and Industry discussion that have taken place as part of UNC Modification Proposal 0120V and Pricing Consultation Paper NTS GCM03 that were raised by National Grid. Following Ofgem’s rejection of UNC Mod Proposal 0120 and a number of Industry concerns expressed as part of the consultation of NTS GCM03, it was decided to issue discussion paper NTS GCD05 prior to the raising of any further firm proposals.

Discussion paper NTS GCD05:

1. provided the background to previous charging developments for NTS Storage Points,
2. described the principles of the methodology first proposed in NTS GCM03,
3. summarised the issues and concerns of the proposals in NTS GCM03 expressed by Industry parties and Ofgem,
4. reconsidered the role of storage and costs that could be attributed directly to storage,
5. invited further views on the strengths and weaknesses of the different options, to allow a further proposal to be developed and put forward.

In issuing the discussion paper NTS GCD05, National Grid believed that, in principle, Users at NTS storage facilities should not necessarily be excluded from attracting an SO Commodity Charge, however, any proposed charge should reflect the specific costs relating to storage and that the costs of implementation of a charge, which could be of low materiality, should be fully explored.

NTS GCD05 sought views in the following areas:

- whether storage should continue to avoid an SO commodity charge.
- which SO costs should be included within an SO Storage Commodity Charge
  - Shrinkage: Own Use Gas (OUG) =Compression
  - Shrinkage: Un-accounted for Gas (UAG)
  - SO Internal Costs
  - Operating Margins
  - Constrained LNG (CLNG)
  - Deemed Interruption.
  - Outcome of Incentive Schemes
  - Under or over-recovery from previous year ('K')
- whether the charge should apply to physical or commercial flows.
- what would be the estimated systems costs to Users and the industry if a charge were based on physical or commercial flows.
- whether it would be unduly discriminatory to have a different commodity charge for storage Users.
- whether there are any other possible approaches or issues that have not been discussed in the discussion document but warrant further consideration.

### Summary of Responses

National Grid received 13 responses to its consultation on NTS GCD 05; one was in support of introducing an NTS SO commodity charge at storage facilities, one gave qualified support and eleven were not in support. None of the responses were marked as confidential, and copies of the responses have been posted on the Gas Charging section of the National Grid information website.

<http://www.nationalgrid.com/uk/Gas/Charges/consultations/CurrentPapers/>

### Conclusions

The respondents raised a number of issues and detailed answers are given within Section 6. There was little support for the introduction of an SO commodity charge for storage facilities at this time. The introduction of a charge on storage flows may well have a detrimental effect on competition and security of supply. In addition there is still uncertainty regarding exit reform. It is for these reasons in addition to the relatively low revenue associated, at present, with such a charge that National Grid intends to delay further consideration of such a charge. Further consideration would be appropriate should there be a material change in the behaviour of existing or new storage facilities.

Way Forward

National Grid proposes to defer further consideration of an SO commodity charge for NTS storage facilities until exit reform is clear and there is materially different behaviour by existing or new storage facilities. This is consistent with National Grid's Licence objectives and the views expressed within the industry.

National Grid will continue to keep the Charging Methodology under review in compliance with its transportation Licence in respect of the NTS and in light of any further changes within the storage area.

## 1 Introduction

- 1.1 Gas Charging Discussion document NTS GCD05 set out for discussion options for revising the Gas Transmission Transportation Charging Methodology (the “Charging Methodology”) in respect of the application of an SO Commodity Charge at NTS storage facilities.
- 1.2 NTS GCD05 sought views in the following areas:
  - whether storage should continue to avoid an SO commodity charge.
  - which SO costs should be included within an SO Storage Commodity Charge
    - Shrinkage: Own Use Gas (OUG) =Compression
    - Shrinkage: Un-accounted for Gas (UAG)
    - SO Internal Costs
    - Operating Margins
    - Constrained LNG (CLNG)
    - Deemed Interruption.
    - Outcome of Incentive Schemes
    - Under or over-recovery from previous year (‘K’)
  - whether the charge should apply to physical or commercial flows.
  - what would be the estimated systems costs to Users and the industry if a charge were based on physical or commercial flows.
  - whether it would be unduly discriminatory to have a different commodity charge for storage Users.
  - whether there are any other possible approaches or issues that have not been discussed in the discussion document but warrant further consideration.

## 2 Background

### Current Arrangements

- 2.1 The present standard NTS SO commodity charge rate is set so as to recover the SO Maximum Allowed Revenue (MAR), after allowing for the expected income from the St Fergus compression charge and optional commodity. The SO MAR is determined by the SO allowed costs, taking account of the outcome of the SO incentive performance, and any carry over of under/over-recovery (“K”) from the previous financial year.
- 2.2 The SO commodity rate is determined by dividing the forecast of SO MAR, after allowing for the expected income from the St Fergus compression charge and optional commodity by a forecast of system throughput, and is expressed in p/kWh.
- 2.3 At present, at NTS storage facilities Users only incur NTS SO commodity charges in respect of Storage Own Use Gas (i.e. gas that is deemed to leave the NTS at the storage point for purposes such as “boil-off”). For all other storage injection flows and withdrawals, no NTS commodity charge is incurred.

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## The Role of Storage

- 2.4 In considering the introduction of an SO Storage Commodity charge it is of value to consider the role of storage and why such a charge has not existed to date.
- 2.5 Storage sites provide a means of balancing supply and demand on an annual basis. Storage sites are unique in that the gas that exits the NTS at these sites, other than storage own use gas, will always re-enter the NTS before flowing on to end consumers. As such, storage has been considered to be part of the wider system and has avoided charges that have been placed on Users of the system at system points that physically flow gas into and out of the system.
- 2.6 This was reflected in commodity charges being levied only on exit from the system prior to charging proposal PC73 and then equally at entry to and exit from the system as a consequence of PC73. Whilst the intention was to apply the SO commodity charge to storage sites (from PC70) debate over a 'cost reflective rate' has continued.
- 2.7 SO costs (other than compressor fuel and incentive performance costs) are largely fixed and non-locational and are associated with the provision of the system operator functionality. As a consequence, these costs have historically been recovered from the end of the supply chain (i.e. flows to end-consumers) and not from parties within the supply chain.
- 2.8 The recent publication<sup>1</sup> 'UK Gas Transmission System benefits from Gas Storage' by Waters Wye Associates has highlighted the potential benefits of storage.

## Charging History

- 2.9 In 2002, Transco raised a Pricing Consultation Paper PC73 ("Structure of the SO Commodity Charge") that was subsequently not vetoed by Ofgem. PC73 provided for the SO Commodity Charge to be levied on all entry and exit flows, including storage, from October 2003. However, the associated "enabling" Network Code modifications (532, 545, 547)<sup>2</sup> were all vetoed by Ofgem<sup>3</sup> on the basis that Users at storage sites should not be expected to incur the full SO Commodity Charge since gas flows already attract the SO Commodity Charge on both entering and exiting the system.

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<sup>1</sup> A copy of the publication 'UK Gas Transmission System benefits from Gas Storage' by Waters Wye Associates can be found on the National Grid website in the Gas Charging section under the 6<sup>th</sup> November 2007 TCMF meeting at <http://www.nationalgrid.com/uk/Gas/Charges/TCMF/2007meetings/>

<sup>2</sup> "Application of SO Commodity Charges to all NTS Loads", "Application of SO Commodity Charges to Storage Facilities", "Reconciled SO Commodity Charges at Storage Facilities"

<sup>3</sup> In Ofgem's decision letter No. 0532

- 2.10 In its decision letter to Modification 0532, Ofgem suggested that “storage users should not bear an unreasonable share of the overheads associated with the operation of Transco’s system through the SO commodity charge merely as a consequence of storing their gas.” Hence, Ofgem suggested that they would wish to see a cost-reflective charge developed that sought to recover the costs associated with physical flows onto the NTS from storage and out of the NTS into storage. They stated in their decision letter that “...in principle, storage flows should not be excluded from the application of the SO Commodity Charge ..” and that “...consideration could be given to applying a discounted SO Commodity Charge to storage users so as to minimise the potential for double charging.”
- 2.11 In October 2006, National Grid raised Pricing Consultation Paper NTS GCM03<sup>4</sup> (“Introduction of an SO Commodity Charge for NTS Storage Facilities”) that proposed the introduction of an SO commodity rate to be applied to all NTS storage input and output gas flow allocations (the “Storage SO Commodity Rate”) at a lower rate than currently applicable for all entry and exit gas flow allocations (the “Standard SO Commodity Rate”). The rate had been derived by excluding relevant SO costs in respect of compressor gas and Operating Margins that are included in the Standard Commodity Rate but are not driven by the operation and ongoing support of NTS storage facilities and would hence minimise the potential for double charging.

## **Licence and UNC Frameworks and EU regulation**

- 2.12 In order to introduce the proposed charge to UNC, National Grid also raised a Modification Proposal (0120 – “Introduction of an SO Commodity Charge for NTS Storage Exit Flows”). As the UNC presently provides for an SO commodity charge in respect of all NTS system entry flows, a change to the UNC was deemed necessary in respect of NTS storage exit flows only. Ofgem rejected the Modification Proposal on the basis that it may not be cost-reflective in that the proposed charge would apply to commercial flows, rather than physical flows, a view that was shared by many respondents.
- 2.13 As with GCM03, any further proposal to introduce an SO Storage Commodity charge would need to be reflected in the Uniform Network Code (UNC). Such changes would need to be progressed under separate governance processes to any charging methodology proposals.

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<sup>4</sup> The details of proposal NTS GCM03 are included in Appendix A to the discussion paper GCD05 and are not repeated here.



- 2.14 A number of parties have questioned the legitimacy of proposing different SO commodity charge rates at different classes of NTS exit points, and make reference to EU gas regulation 1775/2005 and an explanatory note issued by DGTREN which states that tariffs for identical services offered by individual TSO's should be identical. A counter view has also been offered based on legal advice that where classes of NTS Users are not materially comparable, different treatment can be appropriate. It could be considered that the service provided to Users is transportation from entry point to exit point with the precise route in between being immaterial. Users are not receiving a different service if gas travels via storage. Alternatively it could be considered that the service being provided is 'the service to flow gas at storage sites' which is not the same service as flowing from entry terminal to exit point.

### 3 Issues

#### SO Costs

3.1 In formulating an SO Storage Commodity Charge, the costs components that make up the standard SO Commodity charge need to be considered. In reaching a view as to whether each component should be included or excluded, the question “Does the use of NTS Storage facilities increase SO costs” needs to be answered. The table below summarises the arguments put forward for inclusion or exclusion of each cost within a storage charge.

SO Cost Component	Arguments for Inclusion	Arguments for Exclusion
Shrinkage: Own Use Gas (OUG) =Compression	It could be argued that storage injection & withdrawal could either increase or decrease compression requirements depending on whether in summer or winter, and location of storage facility (i.e. close to entry point or at extremity of system).	When considering the flow of gas through the system from an entry point to a storage point and then on from that storage point to an exit point it can be seen that a similar route is taken when compared to the storage facility not operating. From this it can be deduced that no additional compression is utilised when taking into account gas flowing in and out of storage compared to flowing straight through the system. The inclusion of OUG in a storage charge would therefore lead to double counting of the costs for Users of storage facilities. National Grid analysis has not shown compressor fuel usage to be strongly correlated with either storage withdrawals or with storage injection. <sup>5</sup>
Shrinkage: Un-accounted for Gas (UAG)	UAG is largely driven by meter error. A share of the metering inaccuracies may have arisen from metering at storage facilities.	Where single metering is installed, some parties have suggested there may be a degree of “netting off” of metering uncertainty. It can also be seen that by taking into account the quantity of gas held in store and the volumes of gas injected and withdrawn at a site, there could not be a persistent meter error otherwise storage stocks would either unaccountably increase or decrease. <sup>6</sup>
SO Internal Costs	The administration of storage sites is comparable to other NTS supply points/CSEPs.	The majority of System Operator costs are fixed and would not increase with either an increase in storage facility numbers or utilisation.
Operating Margins & Constrained LNG (CLNG)	Were storage facilities to inject gas at times of high system demand and system stress then it could be argued that storage facilities were benefiting from these services.	Storage withdrawal and injection is necessary to provide operating margins and constrained LNG. Storage does not receive a benefit from these services which are anticipated to be used at times of high system demand to support the system and therefore storage Users should not pay towards them.

<sup>5</sup> See Appendices B1 and B2

<sup>6</sup> See Appendix B3

Deemed Interruption	These costs are linked to the exit charges that interruptible supply points would otherwise pay.	Acknowledged that NTS Exit Reform will replace this term and associated foregone revenue. This is the cost of having an interruptible service. At times of high demand (when interruption may be necessary) storage represents entry rather than exit and therefore doesn't benefit from the service.
Outcome of Incentive Schemes	It could be argued that each component of the incentive scheme should be considered to be included/excluded on an individual basis. <sup>7</sup> .	
Under or over-recovery from previous year ('K')	NG NTS has proposed a single combined 'K' mechanism for both proposed SO Storage & SO standard commodity charge. Counter view that any new storage commodity charge should contain its own 'K' mechanism. <sup>8</sup> .	

- 3.2 Based on the arguments in the table above, if there were to be an SO commodity charge for storage, the charge might include only internal costs and a proportion (related to the internal costs) of the incentive and k mechanisms. Following the arguments in the table above, shrinkage (OUG) and (UAG), operating margins and CLNG, and deemed interruption could be excluded.

## Cost Allocation

- 3.3 Following consideration of those SO costs to be included in a proposed SO commodity charge, there are a number of options to be considered in respect of deciding upon an appropriate allocation of each cost to the storage commodity charge. In order to ensure cost-reflectivity, it is necessary to understand those factors that drive the costs, and where no single or clear cost-driver exists, consideration needs to be given for a suitable proxy.
- 3.4 On the understanding that the objective of this charging development work is to derive a single flat throughput based charge, then a balance needs to be struck between achieving cost-reflectivity and avoiding unnecessary complexity. For example, if maximising cost-reflectivity is the sole intention, then this could be achieved by deriving an SO storage charge comprising a commodity based component, a capacity based component and a fixed component. Clearly with this approach there would be concern that the complexity and administrative costs resulting from such an approach would be disproportionate to the total revenue generated.

<sup>7</sup> If storage commodity is expressed as a percentage of the standard SO commodity then this will automatically be included but only in relation to those costs included in the composition of the storage commodity rate. See section 5 below.

<sup>8</sup> As footnote 3

- 3.5 National Grid initially proposed that the portion of relevant costs to be attributed to the proposed charge would be apportioned based on throughput, as it was felt that allocating costs on the basis of cost drivers other than throughput would be inconsistent if the resulting charge was based on throughput i.e. a commodity charge.
- 3.6 This approach would avoid complexity and achieve a discounted SO commodity charge rate (i.e. between the range of zero and the standard SO commodity rate), however, clearly other options exist that have been presented and discussed at Industry meetings.
- 3.7 Given that a charge made up of cost components attributed to the number of meters, meter size, peak capacity or throughput might be too complex and costly to administer and to maintain consistency with the existing SO commodity charge a simple commodity based charge reflecting the components applicable to storage may be the most efficient approach, however, views on alternatives and their implementation are welcome.

#### **4 Application of an SO Storage Commodity Charge**

- 4.1 An area that has attracted significant discussion and comment is the most appropriate method of applying the proposed charge. On the basis that the invoiced amount per User is derived by multiplying the proposed commodity rate by the “chargeable quantity”, then consideration needs to be given to the definition of “chargeable quantity”. Within NTS GCM03, it was proposed that the “chargeable quantity” would be the User’s Daily Allocated Quantity (known as UDQOs for offtakes and UDQIs for inputs), as this would be consistent with billing arrangements at all other system points, and in accordance with one of the principles of the UNC. The UNC defined terms of UDQOs and UDQIs are used for calculating transportation charges and energy balancing charges, and in the case of bi-directional offtakes are allocated by the CSEP operator against each User’s input and output accounting meter, rather than taking a net position. Any proposal to derive a commodity charge based on a net position would introduce a significant inconsistency in the charging arrangements, both between different types of bi-directional offtakes and between how energy balancing charges and transportation charges are generated.
- 4.2 Many Industry parties expressed concern regarding whether the use of contractual allocated quantities was sufficiently cost-reflective, particular in those scenarios where counter nominations in both directions take place within-day. Both Ofgem and Industry parties have argued that it would be more cost-reflective to apply the proposed charge to physical flows.
- 4.3 Introduction of a charge applied to physical flows rather than commercial flows will involve considerable IS cost. If the costs of the required IS changes were mapped onto storage charges this in itself could considerably increase the potential charge.
- 4.4 Some of the costs attributed to storage, and therefore allocated to a SO storage commodity charge, may be related to physical flows or commercial flows. The charge could then be levied on either physical or commercial flows. The decision on whether to levy the charge on physical or commercial flows should therefore take into account the proportion of costs driven by physical and commercial flows.

- 4.5 Although this discussion paper has set out a number of options for deriving a chargeable amount per User, the precise contractual arrangements would be detailed and introduced via a UNC Modification Proposal. However, because it is felt the principles of both the charging methodology and the application of the proposed charge should be considered in the same context, views on both these aspects would be welcomed as part of User's responses to this Pricing Discussion Paper.

### **How should the charge be formulated?**

- 4.6 The components of SO costs which are considered to be relevant to NTS storage could be used directly to produce an SO commodity charge for storage. The precise level of costs for the relevant components may be difficult to forecast (particularly incentive performance and k).
- 4.7 The simplest, and hence most transparent, approach would be to use the SO costs that are relevant to storage and express these SO costs as a percentage of the total SO costs (those relating to the standard flows and those relating to both standard and storage flows). This percentage could be used when setting both the standard and storage charge and would facilitate charge setting based on actual costs which would reflect a proportion of k and incentive performance equitably. K and the incentive costs would be included in the storage charge but only in relation to their effects on the costs deemed applicable to storage. This removes the requirements to forecast costs within the period to which the charges apply whilst enabling SO revenue recovery to be as close as possible to the outturn allowed revenue.

## **5 Level and impact of the Charge**

- 5.1 An estimate of the level of the charge has been made using the approach outlined in 4.6 above.
- 5.2 Based on current estimates of SO costs and annual storage throughput flows for 2008/9, and if a charge based mainly on internal costs applied to commercial flows, the new Storage SO Commodity Rate would be set at 0.0031 p/kWh, and would generate SO revenue of £2.5m for this formula year.
- In order to maintain collectable SO commodity revenue in line with target SO revenue, this would require a lowering of the Standard SO Commodity Rate from 0.0121 p/kWh<sup>9</sup> to 0.0120 p/kWh.
- 5.3 It is anticipated that the St. Fergus compression charge and the NTS Optional Commodity rate would be unaffected by the introduction of an SO Storage Commodity Charge as these charges are set independently of the SO Commodity Charge.

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<sup>9</sup> Effective from 1<sup>st</sup> April 2008

## 6 Summary of Responses

National Grid NTS received 13 responses to its consultation on NTS GCD 05; one respondent expressed support, one gave qualified support and eleven were not in support of introducing an SO commodity charge at storage facilities. The respondent that expressed support stated that further consideration of such a charge should be delayed until the wider NTS exit arrangements are clear. The respondent that offered qualified support expressed concerns about 'the delivered benefit of this proposed charge and its impact on development and use of gas storage. None of the responses were marked as confidential, and copies of the responses have been posted on the Gas Charging section of the National Grid information website.

<http://www.nationalgrid.com/uk/Gas/Charges/consultations/CurrentPapers/>

### Support for the Proposal

Respondent	View	Note
Association of Electricity Producers (AEP)	Support	Consideration of charge should be delayed until the wider NTS exit arrangements are clear
BP Gas Marketing (BP)	Not in support	
BG Gas Services (BG)	Not in support	
Centrica Energy (CE)	Not in support	
EDF Energy (EDFe)	Not in support	
EDF Trading (EDFt)	Not in support	
E.ON UK plc (EON)	Not in support	
Gas Storage Operators Group (GSOG) – representing: Canatxx Centrica Storage Limited EdF Trading Gas Storage Limited Gateway Storage Company	Not in support	

GDF Storage HGSL Ineos Enterprises National Grid LNG Storage Portland Gas Ltd SSE Hornsea Limited Star Energy Group Statoil (UK) Limited Warwick Energy Wingas Storage UK Ltd  (4 respondents above have also provide additional responses)		
RWE npower (RWE)	Not in support	
Scottish Power (SP)	Qualified support	
Scottish and Southern Energy (SSE)	Not in support	
Star Energy Group plc(SE)	Not in support	
Statoil (UK) limited (STUK)	Not in support	

## Detailed Responses

Responses by discussion question:

### Q1. Should storage continue to avoid an SO commodity charge?

One respondent (AEP) continues to believe that charges should be levied at storage offtakes. One respondent (SP) stated qualified support for the introduction of a charge. Eleven respondents (BP, BG, CE, EDFe, EDft, EON, GSOG, RWE, SSE, SE, and STUK) do not support the introduction of a charge at storage offtakes.

BP stated ‘... we do not believe there is presently a convincing case that one [an SO commodity charge] be applied in a way which would result in net benefit for industry and consumers.’

BG stated ‘Given the small amount of money that an SO Storage Commodity Charge would raise, it is not clear that it would be efficient to levy such a charge.’

CE stated that ‘...without full consideration of the benefits of storage outlined above, storage flows should continue to avoid an SO commodity charge.’

EDFe questioned whether the benefits of more cost reflective charges would outweigh the potentially negative impacts on smaller players and thus on competition as a whole.

EON commented 'Given the potential for significant unintended consequences (for instance, the impact on fast-churn storage) we do not consider that levying a SO commodity charge on storage would produce any measurable benefits.'

GSOG commented 'we fail to understand the economic rationale for considering a charge designed to recover such insignificant revenues.'

SP stated 'We believe that this proposal represents the most appropriate solution to date in terms of valuing the costs associated with the commodity flows to storage, but we have concerns about the delivered benefit of this proposed charge and its impact on development and use of gas storage.'

SSE stated 'The possible introduction of an SO Storage Commodity Charge would likely devalue storage and potentially make new investment in development uneconomic.'

SE stated 'those Storage Users which multi – cycle will incur excessive charges and as a result may limit cycling activities. Such an outcome would not be beneficial to the UK Gas Market.'

STUK pointed out that 'This (an SO commodity charge on storage) could lead to insufficient storage for future requirements of the UK and could prove detrimental to the security of supply and the economic and efficient operation of the System as a whole.'

#### National Grid's view

Given the lack of support for such a charge at the present time, as expressed by the respondents to GCD05, National Grid does not plan to raise a UNC Modification to implement at this time, however, this would not preclude such a Modification being raised by a User.

This is consistent with all the views expressed since the respondent that supports such a charge suggests that 'any further consideration of the application of an SO commodity charge to storage offtakes is delayed until such time as the wider NTS exit arrangements are clear to enable consistency of approach.

Another respondent that showed qualified support stated several concerns and recommended that 'we should also do similar analysis on a regular basis to see how the costs associated with storage flows change over time' in order to 'determine when it may be more appropriate to implement a charge in future.'

#### **Q2.Which SO costs should be included within an SO Storage Commodity Charge?**

AEP states the charge 'should be calculated on the same basis as at other offtakes, we do not accept many of the arguments for excluding certain elements of SO costs specifically for storage offtakes as similar arguments could apply to other offtakes that are similarly located or are also interruptible.'

BP states 'that any proposed SO commodity charge for storage should reflect only the specific costs relating to additional SO cost elements incurred for using the storage facility . It is important that a double counting effect does not occur.'



CE states 'From our perspective none of the SO costs listed should be included within an SO Storage Commodity Charge. The arguments for exclusion in section 2.1 of the discussion document outweigh the arguments for inclusion in all cases, but especially in the case of compression.'

EDFe made the following comment 'It appears appropriate that any Storage SO Commodity Charge should only include internal costs and a proportion of the incentive and K. However it remains unclear as to how storage's share of overhead costs will be calculated.'

EDFt stated 'the costs it proposes as being applicable to storage sites are not appropriate, except perhaps Internal Costs' and 'internal costs are fixed and not related to throughput and therefore should not be recovered via a commodity charge'.

The GSOG states that inclusion of the suggested cost elements in a potential Storage commodity charge would conflict with the Licence Objectives. 'The charge would not properly reflect costs as costs are fixed and it would not facilitate competition for the following reasons;

-those users which multi-cycle storage would be overcharged; and

-small users would be adversely impacted which will only serve to undermine competition.'

RWE states 'We do not believe an SO Commodity Charge should apply at storage facilities. However, to the extent one did it would seem appropriate only to include National Grid's internal costs, as all other elements of SO costs do not appear to be driven by storage flows.'

SSE believes the only relevant costs are the internal costs and a proportion (related to the internal costs) of the incentive and k mechanisms as suggested in the discussion paper.

### National Grid's view

National Grid has detailed the pros and cons of inclusion versus exclusion of various costs within the discussion paper. There are several views expressed by the respondents however, the majority of those that specifically replied to this question agreed with the National Grid suggestion that only SO internal costs and a proportion of the incentive and k mechanism might be considered in setting a charge. While National Grid has identified that setting a charge based on SO internal costs might be appropriate, a commodity charge based on all SO internal costs, taking into account all charges paid by Users, may not necessarily lead to a material improvement in cost reflectivity.

### **Q3.Should the charge apply to physical or commercial flows?**

Five respondents (AEP,CE, EDFe, GSOG and SSE) thought any potential charge should apply to physical flows, one respondent (RWE) thought any potential charge should be based on commercial flows. Some respondents whilst not specifically supporting commercial or physical commented on the potential high costs associated with charging on physical flows. Specific comments are listed below.

EDFe stated 'It is also unclear whether the SO Storage Charge should be applied to physical or commercial flows. However it would appear logical that if costs were closely allocated to throughput then charges should be applied on a physical basis.'

GSOG 'does not believe that the weight of argument and clear direction provided by the industry and Ofgem in relation to Modification Proposal 0120V and previous Modification Proposals 0532, 0545, 0547 can be ignored and any further consideration of the application of a charge to commercial flows should be rebuffed.'

SSE stated 'If such a charge were to be applied, it would be considered appropriate for the charge to focus on physical (net) flows rather than commercial (gross) flows. This would determine the true nature of activity on the system. A cost based on commercial nominations/flows would not be cost reflective.'

RWE stated 'If a charge were to be applied to recover a share of National Grid's internal costs it would seem appropriate to levy such a charge on commercial flows. This is because it is simpler to levy a charge on commercial flows and also because the majority of internal costs are fixed and would not increase with either an increase or decrease in storage facility numbers or utilisation.'

Two respondents (BG, EON) commented on the practical difficulties and potential high costs associated with charging on physical flows.

One respondent (STUK) commented 'Any proposal to apply charges based on commercial flows would lead to over recovery by the NTS and cannot be seen to promote the efficient operation of the pipeline system'

#### National Grid's view

One respondent stated a preference for physical flows on the basis of consistency with other SO charges, however, National Grid would like to confirm that the SO commodity charge is levied on commercial and not physical flows. National Grid is concerned that there may be potentially higher costs associated with a charge levied on physical flows and lack of consistency with its current charging regime where charges are levied on commercial flows.

Applying charges based on commercial flow will not in itself lead to over recovery by the NTS since any potential charge applied on this basis would be derived on the same basis i.e. the rate to be applied to commercial flows would be determined by dividing the revenue to be recovered from this charge by the expected commercial storage flows and similarly if the rate is to be applied to physical flows the divisor would be the expected physical storage flows.

National Grid continues to believe that if there was support for a charge based in the main on internal costs it would be consistent for the charge to be levied on commercial flows which are the driver behind these costs. It would only be appropriate to consider levying a charge on physical flows if the costs to be recovered were driven by physical flows.

**Q4.If a charge were based on physical or commercial flows what are the estimated systems costs to Users and the industry? Please give details for the two possibilities?**

CE comments 'The major part of the cost for ourselves would be in managing the introduction of a new charging code rather than whether it is based on physical or commercial flows. We do not understand why the IS costs to National Grid of a charge based on physical flows, which must already be metered, would be considerably higher than if the charge were based on commercial flows.'

GSOG states 'The costs associated with introducing a charge based on commercial flows are likely to be minimal as the charges would be based on the users individual allocations. Also with regard to charging on physical flows 'We would expect that the development costs associated with the IS work to be between £55k-£65k on average per storage facility. Other one-off costs might include contractual changes, process changes and staff training which we would estimate to costs between £10k-£15k on average per storage facility. Finally, in terms of day to day activities we would expect ongoing maintenance charges to be between £10k to £20k per annum per storage facility. These activities would include system support, resolution of reconciliation errors and dealing with customer queries etc...GSOG estimate that total set-up costs would be between £65k-£85K per storage facility with additional ongoing costs of £10k to £20k per annum per storage facility.'

RWE responded 'We assume that introducing an SO Commodity charge at storage facilities, whether on physical or commercial flows, would necessitate the creation of another invoice charge code. Incorporating such a charge into our gas management validation and settlement systems is expected to cost in the region of £10 - 25k, depending on the nature of the change.

If such a charge were to be based on physical flows then transporters and storage operators are likely to incur costs in developing a methodology and an automated process for apportioning actual flows based on commercial storage nominations. To the extent we as a storage user needed to record our allocated share of that days actual flow such that we can pay a charge based on this, we would expect costs to be incurred in excess of those quoted above. At this stage however, it is difficult to approximate what these might be.'

**National Grid's view**

Based on responses, there would be increased industry costs associated with the introduction of any new charge. No benefits have been identified and hence these net increased costs would flow through to end consumers. When this was considered in 2006 an estimate of IS costs likely to be incurred by National Grid was around £225,000 if undertaken at the same time as other system changes (Gemini release 4). This was based on a charge on commercial flows since existing charges are levied on this basis at present. To charge on physical flows would necessitate additional system changes for National Grid. Costs to National Grid for a new charge levied on physical flows would be significantly higher due to the added complexity of adding a new charging base. A conservative estimate would be around £0.5m. If a new charge was to be introduced on either basis an up to date estimate would be required and would reflect recent changes in cost apportionment (i.e. 'user pays') and would be significantly higher if not undertaken at the same time as other system changes.

**Q5. Would it be unduly discriminatory to have a different commodity charge for storage Users?**

CE stated 'We believe that storage users are already discriminated against because they do not receive any recognition for the benefits they provide to the operation of the network. Introduction of a storage commodity charge would increase the discrimination against them. A user should not suffer double charging for delivering a unit of gas to an end customer that has been transported through a storage site. It would be a further increase to the discrimination for such a charge to be based on commercial flows.'

GSOG does not believe that a charge should be applied. GSOG details in its response the answers to three questions as included below.

i. Do storage users exhibit different characteristics to other users?

GSOG believes that storage users can be classified differently from other users for reasons we established earlier in this response. Unlike other offtakes, storage facilities are not "final use" offtakes as they provide parking services for the gas molecules injected into them by the relevant users. Storage is used by users to meet supply and demand variations and ultimately to mitigate against imbalance risk. Other NTS system points differ from storage points insofar as they either input or take gas out of the system. This is also true of bidirectional interconnectors which do not redeliver molecules which have previously passed through them and in any case can behave in a uni-directional manner if the operators/users so desire.

ii. Is the cost of providing services to storage users the same as the cost of providing services to other user?

GSOG has gone to some lengths in this response to show that the SO costs attributable to storage users are different to those attributable to other users. In fact, GSOG believes that the only cost which may be applicable is that associated with providing administrative services (Internal Costs). That being said GSOG does not believe that this cost should be recovered from storage users and categorically should not be recovered via a commodity based charge.

iii. Would the application of a variable commodity charge be harmful to competition?

GSOG does not believe that the application of a charge which properly reflects the cost of the service provision would be harmful to competition.'

RWE states 'Not if such a charge truly reflected the costs imposed on the system by storage users. Similarly it would not be unduly discriminatory if no commodity charge were applied to storage users providing this was justifiable, which we believe it is.'

SSE states 'SSE does not consider a different commodity charge for storage users to be unduly discriminatory. This is based on legal advice that where classes of NTS Users are not materially comparable, different treatment can be appropriate. SSE considers that the service being provided is 'the service to flow gas at storage sites' which is not the same service as flowing from entry terminal to exit point.'

### National Grid's view

National Grid is obliged by its Licence not to unduly discriminate between Users. Specific Licence objectives to; reflect the costs incurred by the licensee in its transportation business, properly take account of developments in the transportation business and facilitate effective competition between gas shippers and between gas suppliers are also taken into account when proposing charging methodology changes.

National Grid does not believe that setting a charge that reflects the costs incurred by storage operators would be unduly discriminatory since the service offered to Storage Users can be considered as a different service to that provided in flowing from entry point to exit point as all gas that enters a storage site, other than storage own use gas which does attract the standard SO commodity charge, re-enters the NTS.

### **Q6.Are there any other possible approaches or issues that have not been discussed in the discussion document but warrant further consideration?**

CE comments 'We are concerned at the possibility of attributing costs of system changes to the new storage charge which would increase this charge disproportionately.'

SSE replied 'Once a cost has been agreed the level of revenue recovered will not meet that forecast due to uncertainty regarding storage cycling throughput. It is SSE's opinion that this will require some form of k factor for the storage SO commodity charge with a consequential impact on the main separate K factor commodity charge. As combining to a single K factor will lose the cost reflectivity that this entire consultation is striving to achieve. However, these proposals will add further complexity and uncertainty to subsequent annual charges.'

### National Grid's view

National Grid does not directly attribute the cost of system changes to a particular charge, however, it might not be considered either economic or efficient for a new charge that reallocates a small amount of revenue to incur significant implementation costs if no net cost saving were expected to occur.

K is defined within the Licence as the total over/under recovery and is defined for the TO and SO price controls. At present k is not specific to any one charge and in the case of the k resulting from the TO control is attributed evenly to entry and exit whether it has resulted from either entry or exit charges. For the SO control it will impact on the level of the standard SO commodity charge. Consideration is being given to potentially using a specific k factor for charge setting purposes whilst not necessitating a specific Licence change.

### **Other Comments**

BG stated in its reply ' .... We are not convinced that the current arrangements do not already meet NG's Licence Objectives or the requirements of gas regulation 1775/2005. For these reasons we do not support the implementation of a separate storage charge'

EDFe stated 'It would appear that the reallocation of costs could have a significant impact on competition for a marginal benefit in terms of cost reflectivity, and that the cost of implementation would greatly outweigh any perceived benefits. It would appear that this issue should be put on hold for the immediate future.'

EDFT stated 'If such a charge was introduced the EDFT believes that it would discriminate against multi-cycle facility users and for this reason would conflict with the Licence Charging objectives. In addition we firmly believe that any attempt to introduce a charge which will recoup a de minimis level of revenue would not be in the interest of the industry and consumers.'

SSE commented that 'SSE does not consider the implementation of a SO commodity charge to be an effective and efficient use of the industry resources'

SE commented 'The introduction of a charge will have a detrimental impact on Storage Users who multi-cycle storage gas.' Also 'An additional charge will add further complexity and administrative costs for the industry which will ultimately be borne by customers.'

### National Grid's view

National Grid is mindful of its Licence obligations, to reflect the costs incurred by the licensee in its transportation business, properly take account of developments in the transportation business and facilitate effective competition between gas shippers and between gas suppliers, in proposing charging methodology changes.

The introduction of a charge on storage flows may well have a detrimental effect on competition and security of supply. See Appendix C for an impact analysis. In addition there is still uncertainty regarding exit reform. It is for these reasons in addition to the relatively low revenue associated at present with such a charge that National Grid proposes to postpone further consideration of such a charge. Further consideration would be appropriate should there be a material change in the behaviour of existing or new storage users.

## **7 Way Forward**

- 7.1 National Grid proposes to defer further consideration of an SO commodity charge for NTS storage facilities until exit reform is clear and there is materially different behaviour by existing or new storage facilities. This is consistent with National Grid's Licence objectives and the views expressed within the industry.
- 7.2 National Grid will continue to keep the Charging Methodology under review in compliance with its transportation Licence in respect of the NTS and in light of any further changes within the storage area.

## Appendix A: Licence Relevant Objectives and EU Gas Regulations

The National Grid Gas plc Gas Transporter Licence in respect of the NTS requires that proposed changes to the Charging Methodology shall achieve the relevant methodology objectives.

Where transportation prices are not established through an auction, prices calculated in accordance with the methodology should:

- 1) Reflect the costs incurred by the licensee in its transportation business;
- 2) So far as is consistent with (1) properly take account of developments in the transportation business;
- 3) So far as is consistent with (1) and (2) facilitate effective competition between gas shippers and between gas suppliers.

Where prices are established by means of auctions, either

- 4) No reserve price is applied or
- 5) Reserve prices are calculated at a level that promotes efficiency, avoids undue preference in the supply of transportation services and promotes competition between gas shippers and between gas suppliers.

National Grid is obliged to keep the NTS Charging Methodology under review at all times for the purposes of ensuring that it achieves the relevant objectives.

National Grid also has an obligation to use all reasonable endeavours to ensure that obligated Entry Capacity is offered for sale in at least one clearing auction providing that this does not contravene wider Licence obligations including methodology objective (5) listed above.

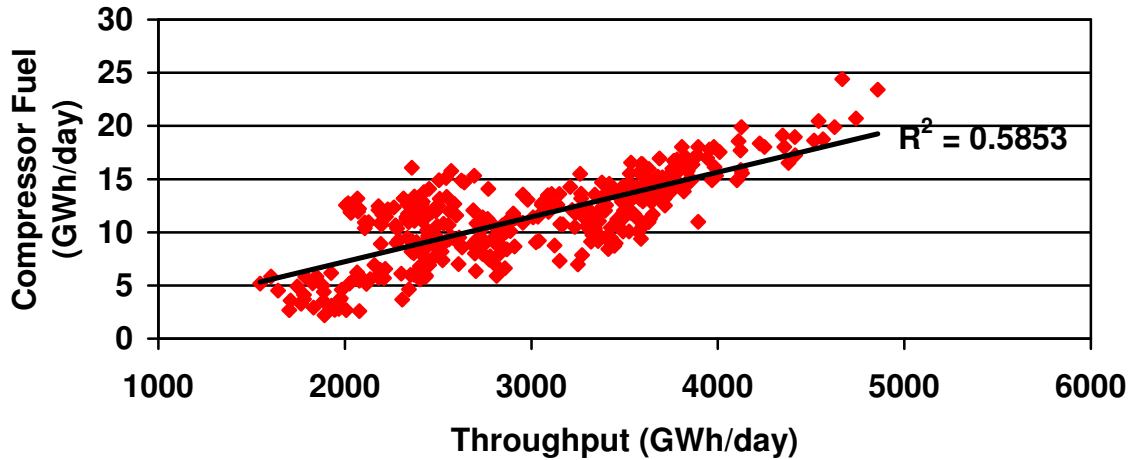
EC Regulation 1775/2005 on conditions for access to the natural gas transmission networks (binding from 1 July 2006) is summarised as follows; the principles for network access tariffs or the methodologies used to calculate them shall:

- Be transparent
- Take into account the need for system integrity and its improvement
- Reflect actual costs incurred for an efficient and structurally comparable network operator
- Be applied in a non-discriminatory manner
- Facilitate efficient gas trade and competition
- Avoid cross-subsidies between network Users
- Provide incentives for investment and maintaining or creating interoperability for transmission networks
- Not restrict market liquidity
- Not distort trade across borders of different transmission systems.

## Appendix B1 - Relationship between compression and throughput

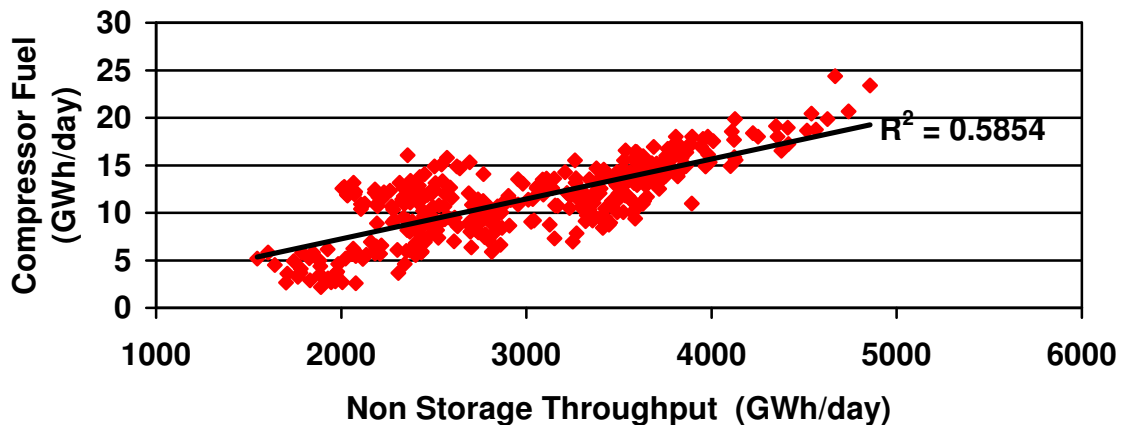
### OUG (Compression excl.SF) v Throughput

(April 2006 - March 2007)



### OUG (Compression excl.SF) v Throughput (excl. storage)

(April 2006 - March 2007)



The above graphs show a clear relationship between throughput and compressor fuel. Storage throughput makes little difference to the relationship.



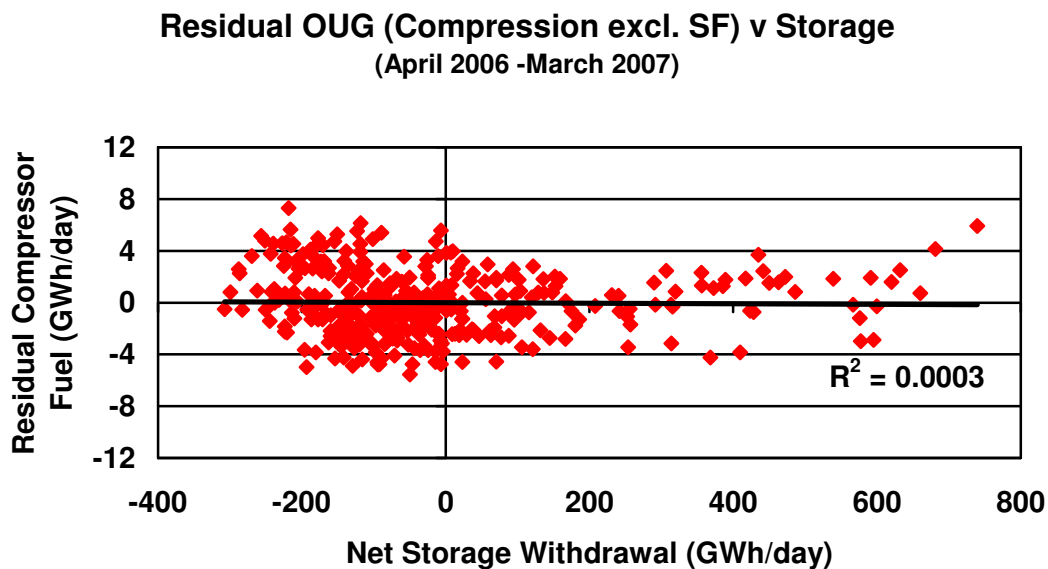
## Appendix B2 - Relationship between compression and storage

The impact of throughput can be removed by fitting a linear model and looking at the residuals.

-If compressor fuel increased with storage withdrawal we would expect to see a **positive** relationship.

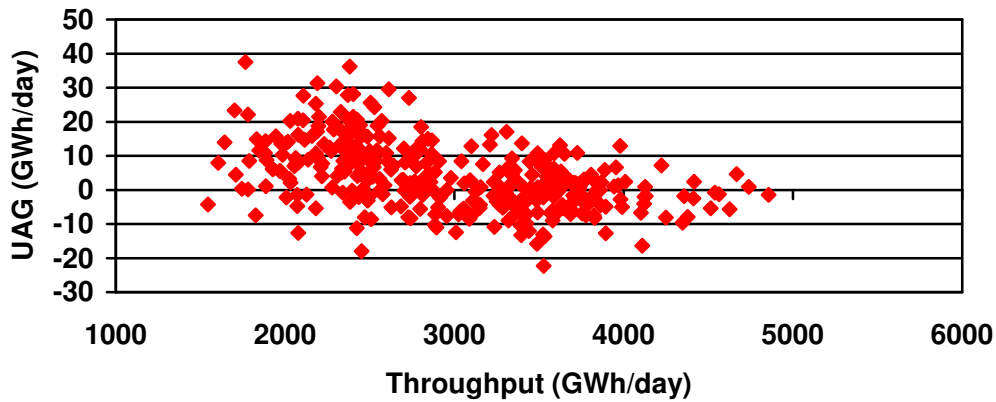
-If compressor fuel decreased with storage withdrawal we would expect to see a **negative** relationship.

-If compressor fuel was not linked to storage withdrawal we would expect to see **no** relationship.

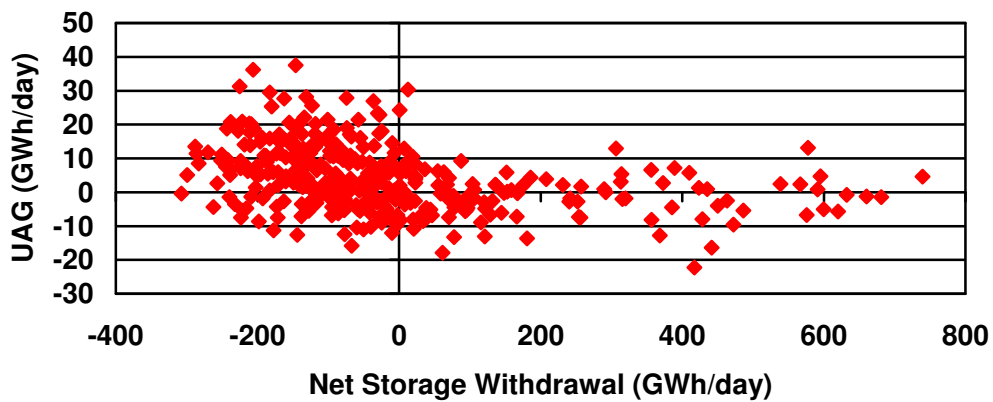


The graph above shows an almost negligible  $R^2$  value and therefore there is no relationship between compressor fuel usage and net storage withdrawal.

## Appendix B3 - Relationship between UAG and throughput



### UAG v Storage Throughput (April 2006 - March 2007)

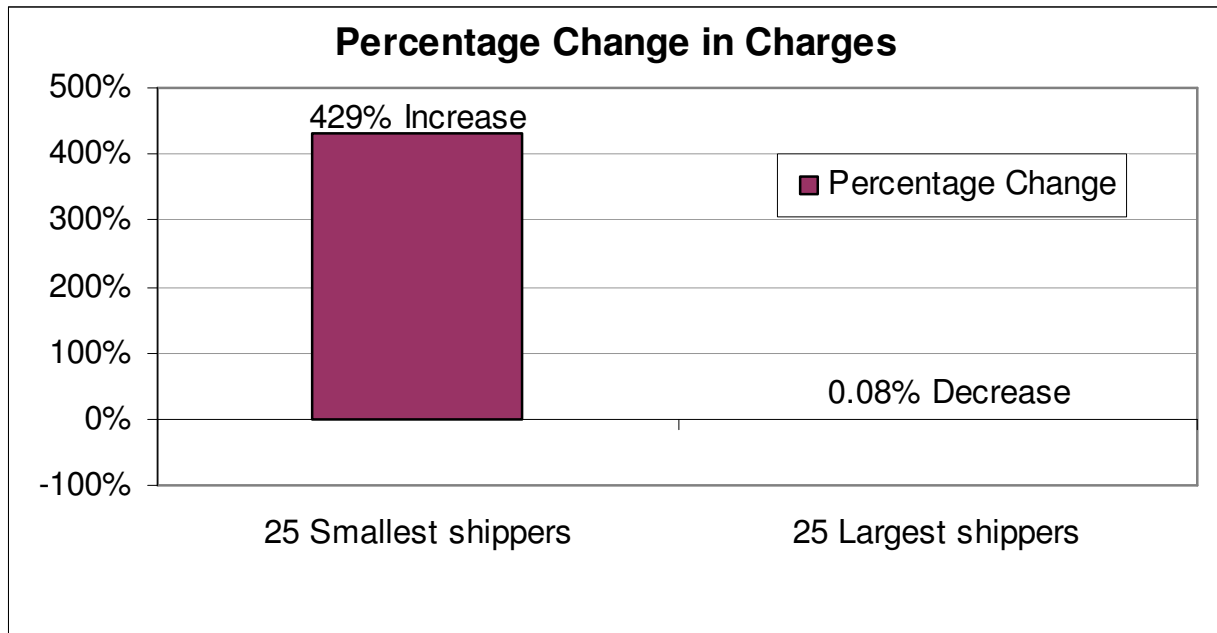


The graphs above show that there is no positive relationship between UAG and throughput or storage flows.

## Appendix C – Impact Analysis of Potential Commodity Charge on Shippers

Analysis undertaken using data on both entry and exit flows from 1 April 2006 – 31 March 2007. This analysis was presented at the Gas TCMF held on 5 February 2008. The graph below shows the impact on large and small shippers with the following NTS SO commodity charging rates.

	Current Methodology	Proposed Methodology
Non-storage flows	0.0121p/kWh	0.0120p/kWh
Storage flows	No charge	0.0031p/kWh



Smaller shippers would see an increase in charges whilst larger shippers would see decreases.