

**Representation - Draft Modification Report**

**UNC 0621; 0621A; 0621B; 0621C; 0621D; 0621E; 0621F; 0621H; 0621J; 0621K\*; 0621L**

**Amendments to Gas Transmission Charging Regime**

**\* Amendments to Gas Transmission Charging Regime and the treatment of Gas Storage**

**Responses invited by: 5pm on 22 June 2018**

**To: [enquiries@gasgovernance.co.uk](mailto:enquiries@gasgovernance.co.uk)**

<b>Representative:</b>	Jeff Chandler
<b>Organisation:</b>	SSE
<b>Date of Representation:</b>	22 June 2018
<b>Support or oppose implementation?</b>	0621B - Support  Oppose all other modifications.
<b>Expression of Preference:</b>	<i>If either 0621; 0621A; 0621B; 0621C; 0621D; 0621E; 0621F; 0621H; 0621J; 0621K or 0621L were to be implemented, which <u>ONE</u> modification would be your preference?</i>  0621B

**Standard Relevant Objective:**

- a) Only those mods with the NTS Optional Charge & 86 % discount for storage are efficient.
- c) All mods discharge licence
- d) Only 621B secures effective competition, all others are negative as enduring charges are not cost reflective which create distortions and are detrimental to efficiency and competition. These distortions have the potential to increase costs to customers by £200m/yr.
- g) All mods except 621B fail the cost allocation test as per Article 5.

Please refer to the rest of the consultation response for a more detailed explanation.

0621

- a) Negative
- c) Positive
- d) Negative
- g) Negative

0621A

- a) Positive
- c) Positive
- d) Negative
- g) Negative

0621B

- a) Positive
- c) Positive
- d) Positive
- g) Positive

0621C

- a) Positive
- c) Positive
- d) Negative
- g) Negative

0621D

- a) Negative
- c) Positive
- d) Negative
- g) Negative

0621E

- a) Negative
- c) Positive
- d) Negative
- g) Negative

0621F

- a) Negative
- c) Positive
- d) Negative
- g) Negative

0621H

- a) Negative
- c) Positive
- d) Negative
- g) Negative

0621J

- a) Positive
- c) Positive
- d) Negative
- g) Negative

0621K

- a) Positive
- c) Positive
- d) Negative
- g) Negative

0621L

- a) Negative
- c) Positive
- d) Negative
- g) Negative

**Charging Methodology  
Relevant Objective:**

- a) All mods except 621B are negative as enduring charges are not cost reflective.
- aa) All mods except 621B are negative as enduring charges are not cost reflective which creates distortion and is detrimental to efficiency and competition. These distortions have the potential to increase costs to customers by £200m/yr.
- b) All mods except 621J take account of developments. A postage stamp provides no locational connection signal.
- c) All mods except 621B are negative as enduring charges are not cost reflective which creates distortion and is detrimental to efficiency and competition. These distortions have the potential to increase costs to customers by £200m/yr.
- e) All mods except 621B fail the cost allocation test as per Article 5.

Please refer to the rest of the consultation response for a more detailed explanation.

0621

- a) Negative
- aa) Negative
- b) Positive
- c) Negative
- e) Negative

0621A

- a) Negative
- aa) Negative
- b) Positive
- c) Negative
- e) Negative

0621B

- a) Positive
- aa) Positive
- b) Positive
- c) Positive
- e) Positive

0621C

- a) Negative
- aa) Negative
- b) Positive
- c) Negative
- e) Negative

0621D

- a) Negative
- aa) Negative
- b) Positive
- c) Negative
- e) Negative

0621E

- a) Negative
- aa) Negative
- b) Positive
- c) Negative
- e) Negative

(continued overleaf)

<b>Charging Methodology Relevant Objective (continued):</b>	0621F <b>a)</b> Negative <b>aa)</b> Negative <b>b)</b> Positive <b>c)</b> Negative <b>e)</b> Negative
	0621H <b>a)</b> Negative <b>aa)</b> Negative <b>b)</b> Positive <b>c)</b> Negative <b>e)</b> Negative
	0621J <b>a)</b> Negative <b>aa)</b> Negative <b>b)</b> Negative <b>c)</b> Negative <b>e)</b> Negative
	0621K <b>a)</b> Negative <b>aa)</b> Negative <b>b)</b> Positive <b>c)</b> Negative <b>e)</b> Negative
	0621L <b>a)</b> Negative <b>aa)</b> Negative <b>b)</b> Positive <b>c)</b> Negative <b>e)</b> Negative

**Reason for support/opposition and preference: Please summarise (in one paragraph) the key reason(s)**

1. SSE provides analysis in this response that the proposed gas charging modifications other than 621B are likely to have a detrimental impact on both costs to customers of £200m/yr and security of supply.
2. SSE has taken advice from QC (privilege over which is not waived) and believes that 621B is preferable to all other mods because it avoids market distortion by keeping a commodity charge until the next review period. The TAR network code Regulation (Commission Regulation (EU) 2017/460 – ‘TAR NC’) allows for commodity charging at the discretion of the NRA. Moving to the full capacity charging regime in all other mods will result in increased wholesale costs to customers of £200m/yr through higher NBP gas price, higher Cap Mech Charges and storage curtailment, as well as reduced security of supply. In addition, the 621B mod is the only Capacity Weighted Distance (CWD) mod which passes the cost allocation assessment set by Article 5 TAR NC. Consequently the other mods may suffer from elements of cross subsidy and discrimination.

3. It is not unduly discriminatory to have dual charging regimes at IPs and non-IPs where elements of charges are applied as commodity and capacity charges respectively since the market conditions applicable at IPs and non-IPs will be different. It must generally be considered that divergent charging methodologies applied to IPs and non-IPs can be justified at least in the short to medium terms, since all CWD modifications have this dual revenue recovery regime in their transition period. If the position is compliant with EU law in the transition period, because it is capable of justification, we can see no reason why it would not be compliant in the enduring period, providing that the justification for maintaining that regime extends beyond the transitional period. We note in this regard that the 5 year review of charging arrangements, as specified in TAR Art 27.5, provides an opportunity to review the commodity recovery charge in 621B. In this sense, 621B simply provides for an extended transition period of 5 years, which is justifiable by reference to the market conditions likely to pertain at IPs and non-IPs (which will be different) and also because of the highly significant adverse effects on consumer prices and security of supply if a wholesale change to capacity charging is made more quickly.
4. That different market conditions at IPs and non-IPs will exist can be seen by reference to the evidence given in National Grid's statement [LINK](#) that there will be a future cross border capacity constraint at Bacton IP exit post October 2019 once BBL has reverse flow capability. Currently only the IUK has the ability to export from GB to the continent and the exit capacity of the NTS is equal to the IUK pipeline capacity. However, once BBL can export there will be more IP capacity at IUK and BBL than there is exit capacity at Bacton. Any capacity constraint at exit will not be alleviated by investment but will be determined by allocation to either IUK or BBL via bidding on the PRISMA auction platform for IP capacity. This bidding by the two IPs for the constrained Bacton IP exit capacity is expected to raise the capacity prices until the arbitrage opportunity between the different markets is closed. This constraint at Bacton exit is expected to drive different capacity booking and revenue recovery at Bacton IP compared to other non-IPs that are not constrained and therefore justifies the different treatment so as not to incur distortions on wholesale prices which increase costs to existing and future customers.
5. If Ofgem decides to progress with the current modification process for TAR NC implementation, SSE's proposal UNC621B best meets the relevant objectives and mitigates the distortions that impact competition and the increased consumer costs that the other alternatives would introduce.
6. The decision to set a hard deadline for the completion of the draft workgroup report has resulted in insufficient, incomplete analysis and modifications that are sub-optimal. Given the current situation, SSE is concerned that a sub-optimal modification may be chosen rather than an option which is best for the GB gas market and consumers. This may arise because there is no single proposal that includes all the features of the best options for GB. In this case we might be better to keep the existing cost reflective charging regime and make the minimum changes necessary to ensure compliance with the TAR NC. Minimum Change could include retaining the current LRMC methodology, application of capacity only revenue recovery charges at IPs and commodity elsewhere and interruptible discounts based on the probability of interruption. We urge Ofgem to consider how such a situation could be managed.

## 0621

7. Energy UK employed an economic consultant, Frontier Economics (FE), to comment on the merits of the Capacity Weighted Distance (CWD) methodology and revenue recovery mechanisms based on commodity or capacity depending on the Forecasted Contracted Capacity (FCC) values of obligated levels as in 621B or National Grid's (NG's) forecast levels in 621. Frontier Economics have advised Ofgem on Electricity charging issues including CUSC CMP264/5. The link to the report is included [LINK](#). The points that follow are summarised from the report.
8. All modifications appear worse than the status quo in terms of cost reflectivity and effective competition in the enduring period, because of
  - a. the shift away from cost reflective tariffs since it allocates historical costs based on capacity and distance and not on a marginal forward-looking cost based methodology.

- b. shift of cost recovery away from commodity to capacity, with the potential to create distortions.
  - c. not applying a significant discount to short term firm products or interruptible capacity increases the likelihood of capacity being inefficiently sterilised.
9. However, given the obligation to comply with TAR NC and the CWD methodology the SSE 621B mod which uses obligated capacity as the FCC, in the enduring period, is less likely to distort outcomes than all other CWD mods. This is explained below:
10. Network charges should reflect the forward looking marginal costs that users impose on the network through a change in their use to achieve an economic outcome. Economic theory suggests it is always relevant to set marginal cost related prices. However, if there is spare capacity the marginal cost may be low or zero. This suggests that a methodology that results in lower reference prices is more efficient than a methodology that results in higher reference prices.
11. 621 also moves cost recovery from commodity to a capacity basis. This may distort flows if some shippers (with supplies at higher cost entry points) no longer purchase entry capacity to supply gas or if very high capacity costs are passed through to the NBP prices.
12. Commodity charges are less distortive because they are equitable and fair and since they are passed through uniformly to customers, they do not affect competition in gas supply or Cap Mech Auctions. Whereas, 621 and other CWD mods, in the transition period apply a capacity uplift not on an additive basis as in the current LRMC model but on a “scaling” CWD basis to compound the error of distortion. In the enduring period the higher capacity charges arising from the use of a FCC based on a forecast from NG will result in much higher capacity charges and zero commodity charges.
13. Charges derived from the CWD methodology will only be stable and predictable if the FCC values are stable. FCC values based on Obligated capacity, as in the case of 621B, are published in advance in NG’s licence and change infrequently. Consequently, they will be more stable than values based on forecasts derived by NG, as in 621 and all other CWD modifications, using a methodology that is yet to be defined and exposed to annual change. More predictable and stable charges will facilitate competition because, all else being equal, greater cost certainty will lower risk and will result in lower cost of capital for Shippers which will reduce barriers to entry and facilitate competition.
14. All mods except 621B fail the cost allocation test established by Article 5 TAR NC. This is the only quantitative (numeric) test in the TAR code to assess against the risk of cross subsidy and non-discrimination. This non-compliance with the TAR code will require an explanation of how cross border trade is not hindered and how cross subsidy is avoided by Ofgem in any final decision.
15. There are no shorthaul arrangements beyond 2021. These are required to ensure efficient operation of the network and compensate for the lack of cost reflectivity of the CWD methodology. Only 621B and 621C provide for the certainty of a future shorthaul arrangement. It is, however, recognised that future modifications could be raised until 2021 to make required adjustments.
16. The TAR NC mandates a discount for storage charges of “at least 50 %”. 621 only gives a 50 % discount. Evidence has been presented that an 86% discount takes better account of the distances travelled by gas once withdrawn from storage to end customers and the value provided for network operation. See:  
  
[https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA\\_GSOGMod621Alternate\\_coretextv2.0.pdf](https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA_GSOGMod621Alternate_coretextv2.0.pdf)
17. 621 does not provide an appropriate discount for storage of 86% and, combined with the application of capacity based cost recovery charges in the enduring period, is likely to result in inefficient network operation through curtailment of storage asset usage affecting costs to customers and security of supply.

## **0621A**

18. Our comments as per 621 above apply, except that 0621A beneficially includes a discount to storage charges of 86 % as explained by:  
[https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA\\_GSOGMod621Aternate\\_coretextv2.0.pdf](https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA_GSOGMod621Aternate_coretextv2.0.pdf) This discount takes better account of the distances travelled by gas once withdrawn from storage to end customers and the value provided for network operation.

## 0621B

19. Modification 621B presents a pragmatic compromise whilst achieving compliance with the TAR code. The GB gas network will require a locational signal to provide economic investment at exit to replace up to 10 GW of coal generation assets. The slightly dampened locational price signal in capacity charges proposed in 621B (relative to 621) reduces the risk of distorting price within GB and distorting trade between GB and both Ireland/continental Europe and Norway (as a consequence of punitively high entry and exit charges at St Fergus and Moffat for example) whilst preserving a locational signal which might be factored into the next wave of CCGT investment.
20. Levying a commodity charge is the fairest means to manage revenue under-recovery in this context, as it is fairer on domestic customers and can be efficiently passed through to other market participants as an uplift in the gas price or as a marginal increase in the cost of electricity generation without affecting competition.
21. There are unintended consequences of the CWD methodology which affect the distribution of charges to NTS customers and to end consumers. For example, regardless of which FCC is chosen, the methodology does not demonstrate cost reflectivity for Exit points that are physically close to Entry points, i.e. Peterhead and St Fergus, Pembroke and Milford Haven. This lack of cost reflectivity is a concern given the material impact on customers.
22. The CWD methodology also generates high charges for exit and entry capacity in Scotland where there is spare capacity, but has relatively lower charges for exit in the South of England where there is relatively less spare capacity. Examples are given on pages 42 and 43 of the Draft Workgroup Report and the DN analysis submission <https://www.gasgovernance.co.uk/0621/Analysis>.

### *Promoting Efficiency and Economic principles associated with network charging*

23. There are a number of economic principles which are typically associated with the appropriate determination of network charges. These are largely focused on ensuring efficient market outcomes. First, it is typically argued that network charges should be cost reflective. This means that they should reflect the (forward looking) costs which users impose on the network through a change in their use. This is important to achieve an economically efficient outcome: if charges are cost reflective, users will internalise the network costs which they cause when making a decision about how to use the network. This, in turn, will ensure that overall value chain costs are optimised.
24. The fact that it is forward looking costs which should be reflected is important. If there is an historic cost which exists, but cannot be changed in any way going forward by different use of the network by shippers, there is no value in terms of economic efficiency in sending a signal to shippers about that cost. Cost reflectivity should therefore only relate to new costs which would be created in the future or existing costs which can be avoided in the future as a result of a particular change in use.
25. This argument points to network prices being set predominantly according to forward looking marginal costs, as these are the costs incurred or avoided by incremental use. It has been argued that marginal cost related signals may be less relevant for some networks than others. This is not supported by economic theory, which suggests it is always relevant to send marginal cost related prices.
26. However, it is important that marginal cost as a concept is interpreted correctly. First, when there is an excess capacity in some locations as a result of reduction in network use over time, then the marginal cost of use may be close to or at zero. Second, it is obviously important that network companies can recover their allowed revenue. It is also clear that efficient cost reflective charges,

as defined above, may not recover all costs which have been incurred. Therefore, additional charges are required to recover the full range of permissible costs.

27. It is typically argued that such charges should have as an objective creating minimal changes in behaviour relative to a set of efficient charges. This is because, as previously established, there is no efficiency related reason to target historic costs at a particular set of users. By definition, they cannot be “un-incurred” and so there is no point in targeting them at a certain set of users as to do so will change behaviour in a way which reduces efficiency.

#### *Basis for locational signals*

28. CWD is not a marginal cost based methodology. It is a way of allocating total costs locationally (in this sense it is an average cost approach). This is clear from the calculation steps involved: entry and exit points are given a weighting dependent on capacity and distance; and then *total allowed revenue* is recovered proportionately to these weights. There is no separate step of calculating cost reflective charges and then applying additional charges to recover total costs.
29. The fact that CWD is not based on marginal costs does not necessarily mean it is inappropriate. Empirically, CWD may have desirable properties in the correct conditions such as stability and predictability. However, the absence of a marginal cost basis means the chances of it deviating from a reasonable estimate of “stable” marginal costs is non-trivial. If it does so, economic theory suggests it will result in inefficient outcomes. The same can be said for a capacity based Postage Stamp model too, where there is not spare capacity everywhere. Therefore, the more revenue collection that is allocated to up front capacity charges, rather than residual commodity charges, the greater the risk of greater distortion. 621B avoids this and makes a pragmatic compromise that is the lesser of three evils, as it does not suffer from the deficiencies associated with either a full capacity CWD methodology or a non-locational capacity postage stamp methodology.
30. For example, if CWD happens to allocate significant cost to an entry point where there is spare capacity, this might increase the risk of cheap available gas at that entry point being priced out of the market, to the detriment of customers. If that entry point were a cross-border point, there is also a good case for saying that the application of CWD could risk distorting efficient inter-State trade (one of the criteria by which appropriate tariffs should be judged based on the TAR NC).

#### *Basis for revenue recovery*

#### Objectives in relation to cost recovery

31. First, it is important to understand the objective behind the definition of cost recovery charges.
32. In its Gas Transmission Charging Review documentation, referenced below, Ofgem states that “we do not believe that the current use of non-locational commodity charges, levied for the purposes of managing under- and over-recovery of transmission services revenue should be continued as we do not consider them to be cost reflective in the context of TAR NC as their derivation does not incorporate the required cost drivers”.
33. Ofgem states that the approach is “to move towards a more cost reflective tariff regime” and interprets TAR NC as meaning that “transmission tariffs should reflect costs incurred... including all historical network costs”. Ofgem appears to believe there can be a cost driver which links network use to these historical costs. This is counter to the principles of efficient economic charges described above.
34. It is interesting to compare this to statements Ofgem has made elsewhere. In particular, in their Targeted Charging Review (TCR) document in electricity, <https://www.ofgem.gov.uk/system/files/docs/2017/03/tcr-consultation-final-13-march-2017.pdf>
35. Ofgem states that: “Cost-reflectivity is less directly relevant for residual charges; however, it is important that residual charges do not unduly distort the signals provided by the forward-looking charges which are intended to be cost-reflective... residual charges do not relate to specific costs that any user imposes”.

36. In the TCR debate, Ofgem is similarly clear that cost reflectivity is not a valid objective when considering charges which recover residual revenue. Instead, Ofgem proposes three different principles for assessing approaches to residual charging: “*reducing distortions, fairness and proportionality and practicality considerations*”. In relation to electricity transmission charging, Ofgem has suggested that a capacity recovery charge be adopted, because this minimises the distortions arising from behind the meter generation and embedded versus transmission connected generation. A gas commodity charge arguably achieves these goals for residual revenue recovery, because there are no similar concerns relating to behind the meter gas production or storage.
37. Ofgem’s TCR position is closer to an approach which economic theory suggests should result in greater efficiency and hence improved overall, economic welfare for GB customers. There is clearly a risk that charging historic costs to users who then change their behaviour *increases* the overall cost of serving gas to meet GB demand.

Capacity or commodity

38. Ofgem’s position in relation to gas network charges is not entirely consistent with what economic theory might suggest. From an economic efficiency perspective, a key difference between capacity and commodity based prices is that capacity prices cannot be passed through to wholesale prices by shippers, and hence the likelihood of the charges resulting in changes in behaviour which result in inefficiency.
39. Consider the situation at entry points, and suppose shippers face an additional uniform commodity charge of £X/MWh at entry points which does not reflect forward looking costs but helps to recover allowed revenue, as would be the case if 621B were adopted. Each shipper will face the same charge of £X for each MWh of gas they move through the entry point. Therefore, when considering the price at which they would sell gas at the NBP, each shipper’s cost would be £X higher per MWh than it otherwise would be. Compared to the situation with no commodity charge at entry, NBP prices should be expected to be £X/MWh higher. In other words, the entry commodity charge has been 100% passed through to buyers at the NBP. As a result, there has been no change in the competitive position of any shipper, and there should be no change to the way in which gas is supplied to GB customers. **If the supply mix was efficient before the charge, it would be as efficient after the charge.**
40. Now contrast this with a capacity price with an incremental element of £Y per unit of contracted capacity to recover revenue. **Having purchased capacity for a year**, including this incremental element, the cost of capacity is a sunk cost to a shipper. They should use the capacity they have purchased whenever the price of gas at the NBP is greater than their cost (or opportunity cost) of gas. They cannot pass through the cost of £Y to wholesale gas prices.
41. Profit made selling when the NBP price is greater than their cost will help cover the cost of the capacity charge. If some shippers do not make enough profit (e.g. because they have higher cost supplies) they will cease to be able to afford the capacity charge and will not purchase capacity. This will effectively result in the exit of lower profit supplies from the GB supply mix. In other words, **because capacity charges cannot be passed straight through to the NBP price, they can change the supply merit order and the way in which demand is satisfied, and could reduce economic efficiency as a result.** It is also worth noting that a capacity charge increases risks to shippers compared to a commodity charge, because its recovery is outside their control. Arguably, they are not as well placed to manage this risk as customers, resulting in an increase in the cost of capital charged for its management.
42. Alternatively, if capacity is purchased on the day of use to reflect incremental need, higher capacity costs arising from the CWD model with a NG based FCC forecast will feed into the marginal cost of supply and the wholesale NBP price will increase.

**0621C**

43. Our comments are as for 621 above, except for the storage discount of 86 % as explained by: [https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA\\_GSOGMod621Aternate\\_coretextv2.0.pdf](https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA_GSOGMod621Aternate_coretextv2.0.pdf) This discount takes better account of the distances

travelled by gas once withdrawn from storage to end customers and the value provided for network operation.

44. This modification provides for an enduring shorthaul solution which is a positive step compared to 621. Unfortunately, due to time constraints no analysis of the proposed shorthaul charges has been shared with the workgroup and we are unable to comment on the detailed appropriateness of the charge.

#### **0621D**

45. As 621 above.
46. 621D seeks to remove the NTS Optional Charge on the grounds of legality but the NTS Optional Charge has been in place since 1998. However, due to the relative lack of cost reflectivity of the CWD model for entry and exit points that are close to each other, the NTS Optional Charge is required to reduce cross subsidisation and ensure efficient use of the network.
47. The NTS Optional Charge is an important aspect for maintaining efficient and economic operation of the pipeline system. Without a suitable NTS Optional Charge product allowing a reduction to Transmission and Non-Transmission charges, one can expect the increased use of private bypass pipelines. For example, a private pipeline of 400m could connect St Fergus to Peterhead. Once built, a private bypass pipeline would allow a shipper to avoid all future Transmission and Non-Transmission charges. The revenue then forgone by National Grid would have to be recovered across a smaller remaining customer base. This would increase costs to remaining NTS customers and result in a duplicate of pipeline infrastructure - hardly an efficient outcome.

#### **0621E**

48. As 621 above.
49. The year longer transition period and use of obligated capacity is welcome to facilitate predictability of gas exit capacity charges for the electricity capacity mechanism auctions.
50. The retention of commodity based revenue recovery charges at non-IP points (apart from storage), where capacity contracts were booked is also welcome as this respects the sanctity of existing contracts, and better reflects the important principle of regulatory certainty. This also provides some protection from the risk that NG's capacity forecast in the enduring period diverges from bookings.

#### **0621F**

51. As 621 above.
52. No overwhelming evidence has been provided for why IPs should have a discount.

#### **0621H**

53. As 621 above.
54. As no revenue recovery charges are proposed, this will widen the gap between legacy contacts and new bookings with higher capacity charges. This could be viewed as unduly discriminatory.

#### **0621J**

55. There is a risk that the postage stamp modification is non-compliant because it does not follow the CWD methodology set out in the TAR NC. Assessment against the counter-factual CWD will help determine whether this is the case.
56. Use of a Postage Stamp methodology at this time would be too extreme a departure from the current LRMC methodology, given the need for an element of locational signal at exit points in the

light of current PARCA requests and future replacement of up to 10 GW of coal powered generators.

57. A postage stamp capacity based methodology will not reflect costs either with its uniform charge, which applies irrespective of capacity constraints. This lack of cost reflectivity may result in inefficient investment because it signals connection where additional investment would be required, say London, and dis-incentivises connection where spare capacity exists, say in Scotland. Customers will incur these additional costs as NG recovers its investment.

## 0621K

58. As 621A above.
59. The storage discount of 86 % is explained by:  
[https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/MWA\\_GSOGMod621Aalternate\\_coretextv2.0.pdf](https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/MWA_GSOGMod621Aalternate_coretextv2.0.pdf). This discount takes better account of the distances travelled by gas once withdrawn from storage to end customers and the value provided for network operation.

## 0621L

60. As 621 above.

**Implementation:** *What lead-time do you wish to see prior to implementation and why? Please specify which Modification if you are highlighting any issues.*

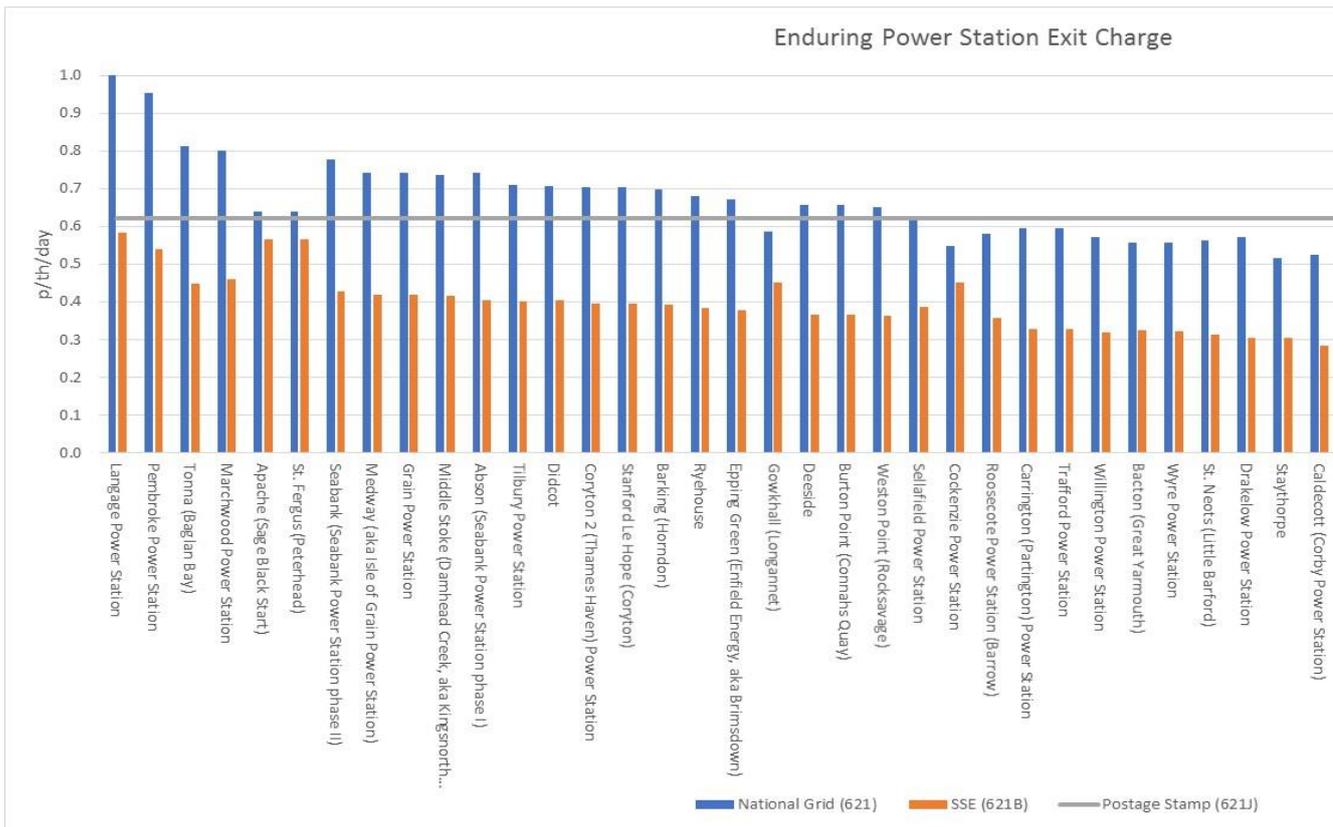
61. A “minded to” decision from Ofgem at the same time as the initial impact assessment consultation will be very important to allow industry to prepare for material changes to the charging regime. The next T-4 Cap Mech auction will be held in February 2019 and a “minded to” decision before this will aid predictability.

**Impacts and Costs:** *What analysis, development and ongoing costs would you face?*

62. The higher capacity charges in 621 and all other variants are less efficient than the 621B charges due to distortions that the higher capacity charges make to the wholesale gas NBP price and to electricity Capacity Mechanism bids. This is illustrated in the examples below.

### **Increased costs to customers, Capacity Mechanism**

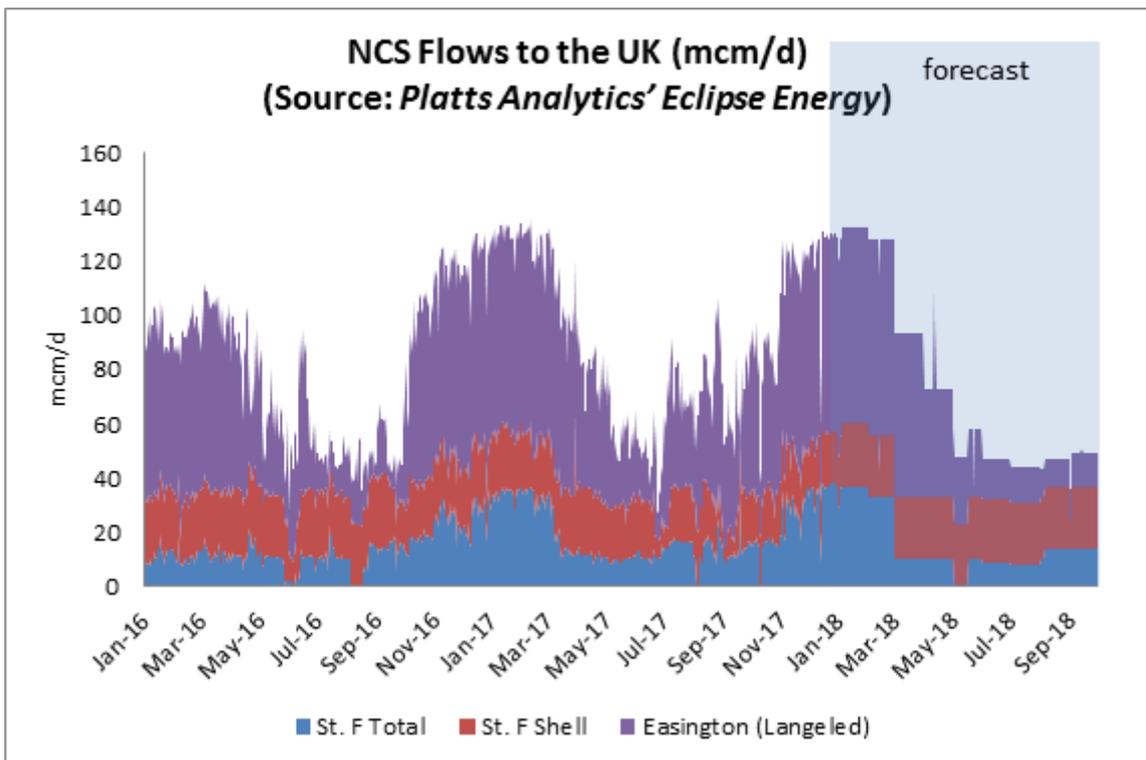
63. Risk of capacity substitution means that exit capacity for electricity generators may be purchased in advance. The increased capacity costs at exit will increase fixed costs that are bid into the electricity Capacity Mechanism Auction. Comparing 621 with 621B, in the enduring period, and using Pembroke as an example, would result in an increase in cost of 0.0325-0.00184 p/kwh/d which equates to £2.3 /kW based on 96 GWh/day. If this plant were marginal and set the clearing price in the Cap Mech auction then, all else being equal, the increase in cost across a typical 50 GW auction volume would be £115m/year charged to and paid by increases to customer bills.
64. There may be a fall in power prices of £0.25 MWh due to the reduction in gas TO commodity charges of 0.7 p/th. This could reduce power costs by £75 m/yr based on 300 TWh/yr resulting in a net **increase in costs to electricity customers of £40 m/yr.**
65. The chart below shows the enduring exit capacity charges for power stations that will feature in capacity mechanism bids. This is included to show that it is not only Pembroke that could have a distortional effect in setting clearing prices in the auction



66.

**Increased costs to customers, More expensive NBP price**

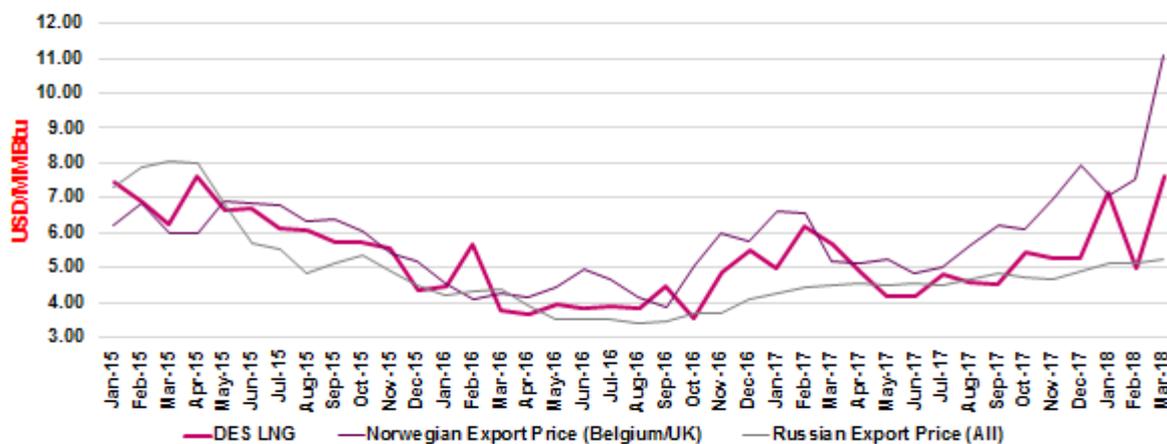
67. GB receives a material amount of gas from Norway and indigenous production through St Fergus, making it a key supply point and price setter for NBP price. St Fergus currently receives gas every day from the Norwegian Continental Shelf (NCS) as shown below



68.

69. Additionally, the chart below shows that Norway has been the marginal supplier in the last year with the highest price. It is therefore reasonable to expect any future costs associated with delivering gas from Norway to GB/EU to be passed through to the NBP price.

### NWE competitive price landscape: DES NWE LNG is not always the most expensive



Source: Eurostat

S&P Global  
Platts

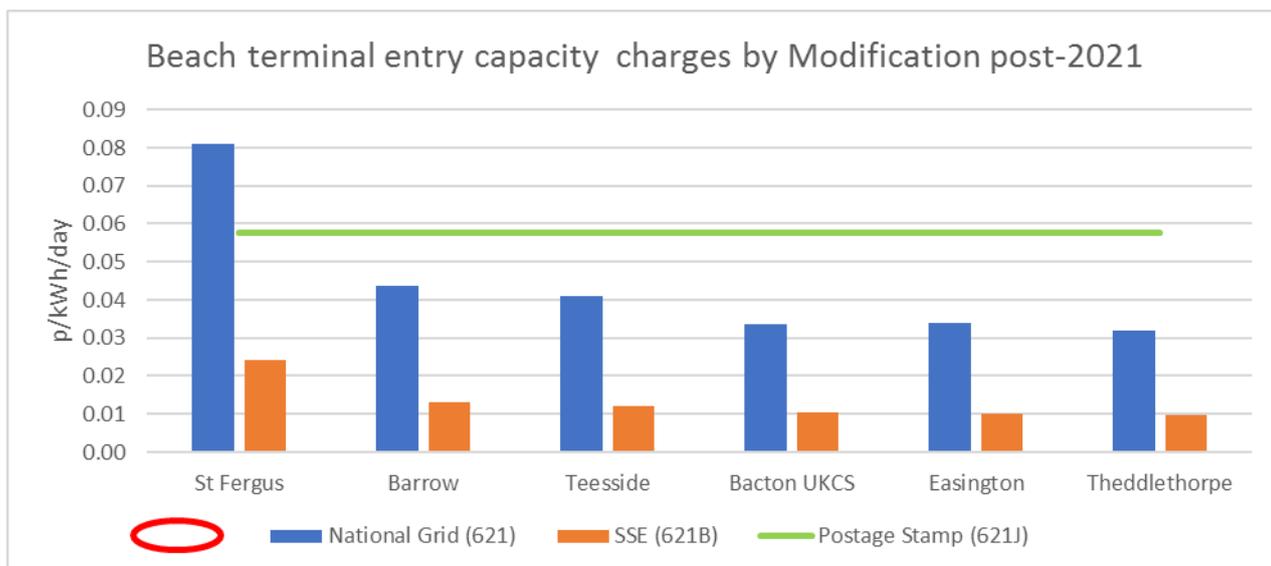
70.

71. In the future, if Norwegian flows into St Fergus are incremental and discretionary on the day, then all else being equal, one can expect the marginal capacity cost to feed into the cost of wholesale gas at the NBP.

72. The link from the ACER publication below, shows on page 57, figure 31 the cost of transiting gas around Europe.

[https://acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Publication/ACER%20Market%20Monitoring%20Report%202016%20-%20GAS.pdf](https://acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Market%20Monitoring%20Report%202016%20-%20GAS.pdf)

73. It shows that the cheapest option to flow gas from Norway to GB is direct and not via Europe. Therefore, if we are to continue to receive gas on any day from the NCS, any increase in entry capacity costs at St Fergus will directly feed through into GB gas price. The worked examples that follow take the charges from the models published by NG. The capacity costs are shown in the chart below, for 621B a commodity charge of 0.0384 p/kWh should also be added to achieve a total cost. However, St Fergus will have the most expensive entry capacity charge in a 621 Enduring capacity regime with charges of 0.0811 p/pkWh/day.



74.

75. The difference between 621 and 621B, in the enduring period, including commodity revenue recovery charge is:  $0.0811 - 0.0612 = 0.02$  p/kWh/d. If one assumes that this is applied to annual gas demand of 900 TWh due to incremental delivery from the NCS on a daily basis,

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/632523/Chapter\\_4.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/632523/Chapter_4.pdf)

then this creates a **cost increase of £179m/yr for customers** under 621 compared to 621B. The cost increase is even greater compared with the status quo LRM methodology where capacity can be purchased for zero price and only a commodity cost of 0.03 p/kWh incurred.

#### Increased costs to customers. More expensive DN capacity charge

76. In the enduring period, higher capacity charges for DNs in all 621 variants (with the exception of 621J) compared with 621B will increase charges to certain domestic and commercial customers. Although this will be offset to a degree by a reduction in flow based revenue recovery charges, the higher fixed costs will have a disproportionate effect on low use, low load factor vulnerable energy customers.
77. In addition, there is a large variation in DN charges compared with the current LRM methodology and between DN zones and customer groups with the proposed CWD methodology. This level of locational and segmental customer distortion could be considered unduly discriminatory. A link to the analysis undertaken by the GDNs on 14 May 2018 is provided here:

<https://www.gasgovernance.co.uk/index.php/0621/Analysis>.

#### Impact on Storage, Security of Supply

78. Even with an 86 % discount to storage capacity costs and exemption from non-transmission charges, exit transportation charges will increase for Hornsea and Aldbrough storage assets under 621, in the enduring period, compared with the status quo by a magnitude of 21 times (73 times with only a 50 % discount). Ultimately, the increased transportation charges will adversely affect profitability and viability of storage to the detriment of security of supply. SSE states in its annual reports that storage has been loss making for the last three years. For gas storage operators it is a question of how long assets can be maintained without the prospect of making economic returns. With the closure of Rough and the decline of UKCS production any further closure of GB storage will reduce competition in supply and adversely impact security of supply. Frontier Economics initially assessed as part of the EUK study that closure of storage equivalent to Hornsea and Aldbrough would **increase costs to customers by £40m/yr and system costs by £15m/yr**.

79. In the short term, use of on the day bookings of high cost capacity will result in incremental capacity costs being internalised in operational dispatch. This means that the gas price will have to rise higher or fall lower before storage operation can become economic. Higher volatility can be expected to lead to higher customer prices because of increased price risk and imbalance penalties for shippers and suppliers. This increased risk will increase the cost of capital for Shippers and will be detrimental for competition by raising barriers to entry.

#### Interconnector flow Impact

80. Analysis is required on the impact of costs to customers in the UK, particularly customers in Northern Ireland who will see large increases in cost arising from capacity increases at Moffat.

**Legal Text:** *Are you satisfied that the legal text will deliver the intent of the Solution? Please specify which Modification if you are highlighting any issues.*

In the case of Mod 621B in Section B 2.11.7 as provided below, we wish to ensure that it correctly reflects the intention of the modification. In cases where capacity is traded, whether that capacity is “historical” or “non-historical”, it will not be subject to any Revenue Recovery Charge. We understand that this is not the case with Modification 621 where Historical Storage Capacity will, when transferred to another User, be exposed to this charge. The following section of the Draft legal text highlights the area of concern:

“2.11.7 The Entry Transmission Services Revenue Recovery Charge payable by a User or National Grid NTS in respect of each Day will be determined for each Aggregate System Entry Point, excluding Storage Connection Points, as the User's Fully Adjusted Available NTS Entry Capacity, multiplied by the Applicable Daily Rate for such charge as determined in accordance with Section 3 of the NTS Transportation Charging Methodology and set out in the Transportation Statement”

**Modification Panel Members have requested that the following questions are addressed:** *Please specify which Modification your views relate to.*

*Do you believe there is specific issues that should be considered by Ofgem's Regulatory Impact Assessment?*

- a) Impact of costs to customers in the UK, particularly customers in Northern Ireland who will see large increases in cost arising from large capacity costs at Moffat.
  - b) Potential for negative impact on cross border trade, cross subsidy and discrimination given the failure to comply with the cost allocation assessment of Article 5 TAR NC for all mods except 621B.
  - c) Capacity distortions leading to increased NBP gas price due to higher St Fergus capacity costs, net of commodity, feeding into higher customer gas costs.
  - d) Capacity distortions leading to increased Cap Mech bids feeding into customer bills, only partially offset by lower gas TO exit commodity costs.
  - e) Closure of storage assets leading to reduced competition and security of supply and higher system balancing costs.
  - f) Undue discrimination due to locational charging distortion and segmental distortion at DNs.
81. Ofgem requested that the following questions be included as part of the consultation. Panel agreed to include these:
82. *The rationale in the report for having an interim period and using the obligated capacity as the Forecasted Contracted Capacity (FCC) is to avoid significant changes to charges and have a period to understand how booking behaviour changes. How does this compare to having two structural changes to charges (one at the start of the interim period and another at the enduring period)?*

- a. Obligated capacity is proposed as the FCC so that the values are published well in advance, transparent, are not open to manipulation and are stable so that stable charges will be established. Stable, predictable charges are best suited to furthering competition objectives as suppliers are then able to efficiently incorporate these into their tariffs with little risk premium to manage uncertainties, such that competition is then based on issues that are within the influence of the supplier.
- b. At the time of the proposals no methodology is available to understand how NG will forecast FCC values. It is therefore difficult to see how any proposal with a step change from the transition to enduring period can be implemented when this creates significant uncertainty in charges and may distort competition. It is also the case that no analysis has been carried out to consider the variation in charges that could arise from errors in forecasting FCC values, year on year variability and the impact this could have on revenue recovery charges and K and its cost reflectivity.
- c. It is also the case that booking behaviour will change due to the change in price of short term and interruptible / off-peak products at both entry and exit. It may be that bookings more closely match flows but there will be other factors to consider particularly at exit where the range of products is limited, and there is a risk of substitution leading to loss of baseline capacity.
- d. 621B avoids the issue of the second step change and future unpredictability of charges by having an enduring regime implemented in October 2019 with the FCC based on obligated capacity.

*83. What (if any) consequences do you see from 'interim contracts' being allocated at QSEC and AMSEC auctions in 2019 given the timings of these auctions in the UNC and possible date of Ofgem decision on UNC621? What options are there to deal with these consequences and what impact would these options have?*

- a. Shippers require certainty from Ofgem so that **before** the auction they know on what basis investment decisions in the QSEC auction will be taken. Our preference would be to treat the auctions in 2019 as interim contracts given that this was the precedent set in the 2018 QSEC auctions.

*84. Do you consider the proposals to be compliant with relevant legally binding decisions of the European Commission and/or the Agency for the Co-Operation of Energy Regulators?*

- a. All mods except 621B fail the cost allocation assessment as set by Article 5 TAR NC. This is the only quantitative or numeric test in the TAR code to assess against cross subsidy and non-discrimination. This non-compliance with the TAR code will require an explanation from Ofgem in its formal decision if any mod other than 621B is implemented of how cross border trade and cross subsidy are affected.
- b. An associated issue is that historical contracts will lose their exclusion from revenue recovery charges upon transfer to another party in the enduring period. This is an issue because legacy storage capacity bookings are transferred to customers for Storage sites. If customers have to pay the top up charges it will hasten the curtailment of storage assets because customers will have to pay a higher capacity cost reducing the value of the storage service. This amendment appeared very late in the development process for NG's 0621 proposal, such that there was limited time to discuss and address this via alternative proposals. An exemption from TPA arrangements and a modification will need to be raised to address this issue if 621 is implemented.

#### **621B Compliance with TAR code**

85. The proposer of 621B believes the modification is fully compliant with the Commission Regulation (EU) 2017/460, of 16 March 2017, establishing a network code on harmonised transmission tariff structures for gas. One area that may benefit from further clarification is the interplay between Article 4(3) and 4(4), which govern transmission and non-transmission services and tariffs.
86. The default position is that the transmission services revenue shall be recovered by capacity based tariffs but “as an exception” and subject to the approval of the national regulatory authority, a part of the transmission service may be recovered by (a) flow based charge; or (b) complementary revenue recovery charge (being identified as “commodity based transmission tariffs”) provided that they meet the requirements contained in Article 4(3)(b), summarised below:
- the complementary revenue recovery charge shall be:  
Levied for the purpose of managing revenue under recovery.  
Calculated on the basis of forecasted flows  
Applied to points other than IPs  
Applied after the NRA has made an assessment of cost -reflectivity and on cross -subsidisation between IPs and non-IPs.
87. To the extent that use of such commodity based transmission tariff is approved there is no time period for which this must apply – i.e. there is nothing that would prohibit long term use of a commodity based transmission tariff and make the 621 proposal more favourable/compliant with the Regulations;
88. There is a reference to the application of a commodity based transmission tariff being potentially permitted for a part of the transmission services. Whilst this is a matter of interpretation (“part” could mean the entire part for example) this suggests that a commodity based transmission tariff would be used together with a capacity based transmission tariff, as is the intention of 621B.

#### **Case for exception for GB (c.f. TAR NC, Article 4(3b))**

89. The “exception” for the GB gas market is important because without it customers will be exposed to the increased costs highlighted in this consultation response and to reduced levels of supply and decreased security of supply.
90. The GB gas transmission system is exceptional in the context of EU Member States in several ways. The most significant difference is that the system was designed and expanded to meet the peak entry requirements related to UKCS gas production. DUKES 2017 reports that gas production has fallen to “just over a third of peak recorded production”.
91. This context presents specific issues for structuring charges in a manner to recover historic costs in the least distortive manner. For this reason, it is logical to adopt an approach to setting transmission tariffs in GB that is exceptional when compared to other jurisdictions covered by the TAR NC. In particular, it is reasonable to consider the role of commodity charges as permitted by Article 4 (3)(b).

#### **Absence of undue Discrimination**

92. It is not unduly discriminatory to have dual revenue recovery regimes at IPs and non-IPs where revenue recovery charges are applied as commodity and capacity charges respectively in circumstances where market conditions will be different. Any differential treatment is justified. All CWD modifications have this dual revenue recovery regime in the transition period. If the view is universally taken that such an approach is compliant in the transition period, we can see no reason why it would not be compliant in the enduring period. We emphasise that the 5 year review of charging arrangements, as specified in TAR code, provides an opportunity to review the commodity recovery charge in 621B. So there is a *de facto* transition period of 5 years under 621B.
93. The different market conditions at IPs and non-IPs are demonstrated by NG’s statement [LINK](#) that there will be a future cross border capacity constraint at Bacton IP exit post October 2019 once

BBL has reverse flow capability. Currently only the IUK has the ability to export from GB to the continent and the exit capacity of the NTS is equal to the IUK pipeline capacity. However, once BBL can export there will be more IP capacity at IUK and BBL than there is exit capacity at Bacton. Any capacity constraint at exit will not be alleviated by investment but will be determined by allocation to either IUK or BBL via bidding on the PRISMA auction platform for IP capacity. This bidding by the two IPs for the constrained Bacton IP exit capacity is expected to raise the capacity prices until the arbitrage opportunity between the different markets is closed. This constraint at Bacton exit is expected to drive different capacity booking and revenue recovery at Bacton IP compared to other non-IPs that are not constrained and therefore justifies the different treatment so as not to incur distortions on wholesale prices which increase costs to customers.

94. SSE recognises that a capacity based NTS optional charge will need to be developed for IPs in all the 621 modification variants prior to 2021 so that they have the same opportunity as non-IPs. Insufficient time was available to do this in the workgroup. It is possible that the NTS optional charge developed as part of 653 could be raised in a later modification to remove discrimination concerns from the current modifications including 621B.

95. *In what way do you consider the reference price methodologies proposed (Capacity Weighted Distance (CWD), CWD using square root of distance and Postage Stamp) to be cost reflective and meet the criteria in Article 7 of TAR?*

96. We explore this issue by reference to the individual sub-paragraphs within Article 7 TAR NC.

**Article 7(a) – aims at enabling network users to reproduce the calculation of reference prices and their accurate forecast.**

- a) This is achieved to some extent by the models published by NG for each 621 variant. Albeit there are a number of uncertainties, including;
- b) The uptake of the newly defined network optional charge (NOC) and revenue from this, as this will impact upon the revenue to be recovered from other points.
- c) The ability to accurately forecast charges is directly linked to knowledge of the input parameters to the models. 621B which uses obligated capacity for the FCC meets this objective better than the other alternatives since the FCC values in the enduring period for those other proposals are not known, and there is uncertainty over how they will vary year on year.
- d) The treatment of capacity allocated in 2019 QSEC and AMSEC which is linked to the date Ofgem makes a determination on this suite of proposals also limits the ability of parties accurately to forecast charges.

**Article 7(b) intends the methodology to take into account the actual costs incurred for the provision of transmission services considering the complexity of the transmission network.**

- a) The CWD methodologies are cost allocation rather than cost reflective approaches. Economic theory suggests that cost reflectivity requires tariffs to reflect the forward-looking costs that users impose on a network through a change in their use. In a system with declining demand and spare capacity the incremental marginal costs are likely to be low or close to zero. Therefore, all options are less cost reflective than the current long run marginal cost approach, although 621B minimises the distortion.
- b) Lack of cost reflectivity will cause distortions in the use of capacity and impact inefficiently on gas wholesale costs, Cap Mech auctions and storage with negative impacts for competition and customers. Approaches which shift more revenue onto capacity charges will risk more distortions than approaches which do not. **Hence, 621 B is preferable.** Therefore, a CWD approach based on an FCC of obligated capacity and a commodity recovery charge will lower capacity charges which will be less distortive than a CWD approach based on a FCC of NG forecast capacity.

- c) All the 621 variants apart from 0621L exclude existing contract volume and revenue before the charges for other points are calculated. The revenue related to these contracts was fixed at the time of allocation and pursuant to Article 35 TAR NC is protected under EU law. However, if that price were not cost reflective at the time or is not cost reflective now then removing the revenue associated with these contracts will load additional revenue onto new contract purchases at entry, which will further distort the cost reflectivity of those charges with consequential impacts on competition and customers. Modification 621B largely avoids this distortion with its commodity revenue recovery in the enduring period.
- d) The square root of distance approach is an arbitrary approach that limits some of the extreme pricing effects. Increasing this trend leads to postage stamp charging.
- e) A capacity based postage stamp approach which applies the same charge at all points is not cost reflective and provides no locational signal. This is considered relevant at exit where PARCAs and the future replacement of 10 GW of coal generation do not provide certainty of spare capacity.

**Article 7(c) requires the methodology to aim at ensuring non-discrimination and prevent undue cross-subsidisation including by taking account of the cost allocation assessments in Article 5.**

Capacity cost allocation comparison index (%)  
2019/20 – Transition Period

Proposal	0621	0621A	0621B	0621C	0621D	0621E	0621F	0621J	0621H	0621K	0621L
Cost Allocation Result	14%	8%	8%	8%	-1%	14%	69%	-13%	14%	8%	10%

2021/22 – Enduring Period

Proposal	0621	0621A	0621B	0621C	0621D	0621E	0621F	0621J	0621H	0621K	0621L
Cost Allocation Result	37%	36%	8%	36%	22%	40%	97%	1%	37%	36%	29%

a.

The results of the cost allocation assessments undertaken by NG are summarised above. This information is taken from the preliminary ACER consultation issued at the same time as the consultation for 0621 by NG. All mods except 621B fail the cost allocation assessment under Article 5.

**Article 7(d) requires the methodology to aim at ensuring that significant volume risk related particularly to transports across an entry-exit system is not assigned to final customers within that entry-exit system.**

Modifications other than 621B which fail the cost allocation assessment are potentially more at risk of cross- subsidy and not complying with this article.

**Article 7e requires the methodology to aim to ensure that the resulting reference prices do not distort cross-border trade**

Modifications other than 621B which have higher capacity charges and fail the cost allocation assessment are more at risk of not complying with this article. Where the enduring CWD methodology in mods other than 621B happen to allocate significant cost to an entry point where there is spare capacity, this might increase the risk of cheap available gas at that entry point being priced out of the market, to the detriment of customers. If that entry point were a cross-border point, there is a higher probability that the application of CWD could risk distorting efficient inter-state trade (one of the criteria for tariffs set out in TAR NC).

97. *The proposals have different combinations of specific capacity discounts for storage sites and bilateral interconnection points. In what way do you consider the different combinations facilitate effective competition between gas shippers and gas suppliers?*

- a. Based on analysis carried out by Storengy and WWA [https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA\\_GSOGMod621Aternate\\_coretextv2.0.pdf](https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2017-12/WWA_GSOGMod621Aternate_coretextv2.0.pdf) there is a clear relationship between the physical operation of storage facilities and the pipe-line system. The strong, positive correlation between aggregate gas demand and storage withdrawals/injections means that NG, in its role as SO, benefits from gas storage, at no cost. The flexibility provided by gas storage provides direct support to NG 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 (OCM) or any other contractual arrangements it may choose to enter into as part of its network balancing toolbox.
- b. The level of discount should be consistent with the contribution to system flexibility (pursuant to the TAR NC) and SSE believes that the application of the minimum 50% discount does not fulfil this requirement. A discount of 50%, according to the TAR NC simply avoids storage users being "double charged" for the use of the system. On this basis, SSE contends that a discount of 86% not only better reflects the contribution made by storage facilities in relation to the efficient and economic operation of the pipe-line system, it is also more cost reflective. Cost reflective charges, as discussed in this consultation response, will better facilitate competition.
- c. Insufficient analysis has been provided to justify a similar discount for interconnectors.

**Are there any errors or omissions in this Modification Report that you think should be taken into account?** *Include details of any impacts/costs to your organisation that are directly related to this.*

98. There was insufficient time allowed to develop analysis for the completion of the Draft Workgroup Report (DWR). Analysis of revenue recovery by sector provided by NG at a separate workshop on 4 June 2018 and an update on 13 June has provided certain results that appear inconsistent and we are awaiting explanation. It is not clear why 621B recovers more allowed revenue than the other modifications when summing the component parts for entry Chart 4 and exit Chart 2. <https://www.gasgovernance.co.uk/sites/default/files/ggf/book/2018-06/Summary%20Analysis%20supporting%20UNC0621ABCDEFHJKL%20v0.2%20-%2011%20June%202018.pdf>.

The industry is therefore reliant on Ofgem's regulatory impact assessment to understand the impacts on competition and security of supply and consequences for customers. SSE has presented analysis in the DWR and this consultation response to identify significant concern about increased costs to customers in the region of £200m/yr from 621.

**Please provide below any additional analysis or information to support your representation**