ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

Interconnector (UK) Limited

Charging Methodology

related to the

IUK Access Agreement

and

IUK Access Code

~~**June 2015**~~ **[Date of approval]**

Proposed changes, for stakeholder consultation August 2017

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

1 Introduction

Article 15/5bis, § 15 of the Belgium Gas Act and Condition 10 of Interconnector (UK) Limited's ("IUK") GB interconnector licence requires IUK to prepare and submit for the respective National Regulatory Authority "NRA" approval, a Charging Methodology for access to the interconnector. Regulation (EU) 2017/460 ("TAR Code") also outlines rules on the application of a reference price methodology as well as the calculation of prices for standard capacity products. This document sets out the Charging ~~m~~Methodology that Interconnector (UK) Limited ("IUK") will apply to ~~charging for transportation~~ services provided under an IUK Access Agreement (the "IAA") and the IUK Access Code (the "IAC"). ~~These transportation services will change over time as follows –~~Capitalised terms not defined in this document have the meaning given in Appendix B to the IAA.

Any available capacity will be offered as products with standard durations in auctions on the PRISMA platform in accordance with Regulation (EU) 2017/459 ("CAM Code"). In addition, capacity may be made available by another Allocation Mechanism set out in the IAC. The IAA and IAC are NRA approved.

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

~~Up to and including Gas Day 31 October 2015: capacity will be made available on a day ahead basis through the implementation of new Congestion Management Procedures (CMP), as outlined in the amendment to Annex 1 of Regulation (EC) 715/2009. Such capacity will be created from oversubscription ("OS"), voluntary surrender of already contracted capacity, or through the application of long-term use-it-or-lose-it ("LTUIOLI") rules.~~

~~(a)~~ Until 1 October 2018 ~~T~~transportation services under the long term Standard Transportation Agreements ("STA") will continue to run in parallel with transportation services under the IAA.~~s.~~

~~(b) From Gas Day 1 November 2015 to Gas Day 30 September 2018: any available capacity for utilisation from 1 November 2015 onwards will be offered in auctions on the PRISMA platform in accordance with Regulation (EU) 984/2013 ("CAM Code"). In addition, capacity may be made available via a subscription process with the relevant NRA approval. Capacity for use between 1 November 2015 and 30 September 2018 will continue to be available from OS, voluntary surrender and LTUIOLI. Transportation services under the long term Standard Transportation Agreements ("STA") will continue to run in parallel with transportation services under the IAAs.~~

~~(c)~~ From Gas Day 1 October 2018 the only contract that governs IUK's ~~-~~transportation is the IAA (which also includes the IAC). ~~: transportation services related to long term capacity sold under the 2015 subscription process and any other sales will come into effect under the terms of the IAA and IAC. The STAs will have terminated and all available capacity will be subject to sales under the IAA and IAC. Capacity Products will be offered by IUK on the PRISMA platform subject to the terms of the IAA and IAC. In addition, capacity may be made available via a subscription process with the relevant NRA approval.~~

~~IUK received approval from Ofgem on 19 December 2014 for its Charging Methodology related to day ahead capacity made available through CMP. In January 2015, IUK held a consultation on the Charging Methodology to apply to long term capacity for use prior to October 2018 and capacity sold in the 2015 subscription process for capacity starting from 1 October 2018.~~

~~The summary of responses from all consultations is available on IUK's website[1]. This document sets out how all the charges that apply under an IAA will be derived for the periods referenced above.~~

Background

IUK provides gas transportation services directly under two contracts: the STA and the IAA. Parties can be signatories to either or both of these contracts, allowing them access to capacity in the IUK transportation system.

The STA is a long-term contract under which all technical capacity was sold following open seasons, until 30 September 2018 (Gas Day). A number of secondary market mechanisms are available to allow third parties to access this capacity which has been actively traded since 1998.

The IAA is a contract that enables Shippers to access and use the transportation system through booking both long term and short term entry and exit capacity dependent on availability. From 1 October 2018, all unsold technical capacity will be available to buy under the IAA.

To access IAA Capacity a prospective Shipper needs to be signed up to the IAA contract. The terms of that agreement as well as the IAC take effect between the IAA Shipper and IUK from that date.

~~[1] http://www.interconnector.com/about-us/what-we-have-to-say/consultations/~~

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

~~Following open seasons, the technical capacity of the Interconnector has been designed to meet the level of demand and all of IUK's capacity has been sold until the end of September 2018 under the standard form STAs between IUK and each shipper ("STA Shipper").~~

~~During the course of its operation, IUK has developed a number of mechanisms that make interruptible capacity available and enable parties who are not currently shippers to access capacity in the IUK system via the secondary market[2]. IUK capacity has been actively traded since 1998 and currently 14 parties have access to capacity in the Interconnector.~~

~~The STA is being amended to introduce the CMP requirements, including capacity surrender and LTUIOLI. Until 1 October 2018, any revenue from sales of capacity sold under the IAA and IAC made up of these types of capacity will be returned to the respective STA Shippers who released this capacity, with returns to such STA Shippers (and any Sub-Lessees under the STA) whose capacity was subject to LTUIOLI being capped at their relevant payment obligations for that capacity. A further STA amendment is being developed to facilitate CAM and BAL implementation within the IAA including allowing sales of longer term capacity.~~

~~To access IAA Capacity a prospective IAA Shipper signs an IUK Access Agreement and the terms of that agreement and the IUK Access Code have effect between IUK and the IAA Shipper from that date.~~ Any person can sign up for these transportation services subject to meeting the criteria set out in the IAA to become an IAA Shipper~~, including meeting the credit criteria set out in the IAA by no later than ten days before the capacity start date~~. ~~Existing STA Shippers will also need to sign up as an IAA Shipper if they wish to access transportation services under the IAA and IAC. The IAA transportation services will operate in parallel to the STA services until 1 October 2018.~~

1.1 Units

Charges and prices are expressed ~~and will be billed~~ as follows:

- Entry Capacity – pence per kWh per hour per capacity duration
- Exit Capacity – pence per kWh per hour per capacity duration
- Buy-back Prices – pence per kWh per hour per day
- Registration Fee and Monthly Administration Fee – Pounds sterling
- Imbalance Charges – Pounds sterling
- Commodity charges - pence per kWh
- ~~Fuel Gas Charges – Pounds sterling~~
- ~~Electricity Charges - Euros~~

IUK offers capacity in kWh/h and all capacity prices and related charges are calculated as pence per kWh/h per hour (p/(kWh/h)/h) and then aggregated to a per runtime basis for capacity products offered on PRISMA. Capacity prices and charges will be calculated using the relevant p/(kWh/h)/h and the hours in the billing period.~~All charges are rounded to 4 decimal places and~~ ~~invoiced~~ Invoiced amounts will be either in Pounds sterling to the nearest penny or Euros to the nearest cent.

~~[2] For further information on the ways in which an interested party can access capacity from existing shippers see the website www.interconnector.com~~

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

2 Capacity ~~Reserve~~ Prices

2.1 General Principles

Entry and Exit Capacity will be made available by IUK for sale under an IAA by means of an Allocation Mechanism (~~e.g.~~ PRISMA auctions or ~~subscription processes~~other Allocation Mechanisms approved by NRAs e.g a subscription process)~~subject to relevant NRA approval)~~. In any given ~~auction or subscription process~~Allocation Mechanism the same terms and conditions apply to all Shippers.

~~PIAA Capacity for use before 1 November 2015 will be advertised and sold on ISIS via an auction conducted on the day ahead of the intended day of use. This capacity will be sold in a pay-as-bid auction subject to a reserve price. IAA Capacity for use from 1 November 2015 will be sold via a subscription process subject to relevant NRA approval or via auction on PRISMA. Entry and Exit Capacity charges will be payable when capacity is purchased irrespective of whether or not the capacity is utilised.~~

Prices will be published on IUK's website (and other relevant platforms) in advance of the relevant Allocation Mechanism. A pricing publication timetable will be available on IUK's website.

All references to prices in this document relate to either the reserve price if the capacity is offered by means of an auction, or the capacity prices if offered by means of an other allocation mechanism. All related charges (shown in section 1.1) will be published in the Charging Statement.

~~2.1~~2.2 ~~Reserve p~~Price for Capacity for use during the period to 1 October 2018

Capacity for use for the period to 1 October 2018 relates to capacity surrendered by STA shippers or arising under congestion management procedures. This capacity is made available under the IAA and offered under the relevant PRISMA auction.

The ~~reserve~~ price for Entry and Exit Capacity that becomes available for use in this period will be set by IUK to ensure objective and non-discriminatory treatment across all shippers. STA Shippers have underwritten the investment and operational costs of the Interconnector by committing to ship or pay payments, based on cost related tariffs, for the 20 year term of the STA. Without these long term commitments the infrastructure would not have been built. ~~IAA Shippers who purchase IAA Capacity will be able to access Entry and Exit Capacity on an as required, day-ahead basis, without undertaking a long term commitment.~~

The ~~tariff~~ price paid by STA Shippers under the STA, is based on two elements: the construction cost of the Interconnector pipeline and its Bacton and Zeebrugge terminals, and the operating costs. The base value of the ~~reserve~~ price for IAA Capacity is calculated from the average cost of capacity for STA Shippers derived from IUK's Financial Statement for year ending 30th September 2013, as follows:

Stated values (page 17 of 2013 statement) -

- Tariff payments based on construction costs = £142,883,000
- Tariff payments to recover operating costs = £34,901,000
- Total Capacity (kWh/h) = 59,731,735 (equivalent to 45.5 bcm/yr)

Therefore, the average cost of capacity in the gas year 2012/2013 (p/(kWh/h)/~~day~~h)

= (£142,883,000 + £34,901,000)*100/(365*24*59,731,735) = 0.~~8154~~033977 p/(kWh/h)/~~day~~h

An escalation factor is used to calculate the total ~~reserve~~ price for IAA Capacity for subsequent years. This is similar to the way the STA tariff is escalated each Gas Year. For illustration, the ~~reserve~~ price for daily capacity for Gas Year 2014/15 is calculated as follows:

- Escalation Factor = ratio based upon the Producer Price Index (PPI) = PPIr/PPIo ~~(see Appendix 1 for PPI reference numbers).~~
- PPIr = the average value of the PPI for the twelve month period ending on 30 June immediately prior to the commencement of the Gas Year which ends on 30 September in year r in respect of which the price is calculated
- PPIo = average PPI for twelve months ending 30 June 2012 = 106.1083
- PPIr for 2014/15 = 108.6583
- Escalation to 2014/15 = 108.6583/106.1083 = 1.0240

TOTAL ~~RESERVE~~ PRICE FOR ~~OS~~ CAPACITY FOR GAS YEAR 2014/2015 (p/(kWh/h)/~~day~~h)
= 0.~~8154~~ .033977 * 1.0240
= 0.~~8350~~ .034794 p/(kWh/h)/day

The total price above will be split 50:50 into ~~daily~~ Entry Capacity ~~Reserve~~ Price (0.~~4175~~ 017397 p/(kWh/h)/~~day~~h) and ~~daily~~ Exit Capacity ~~Reserve~~ Price (0.~~4175~~ 017397 p/(kWh/h)/~~day~~h). If ~~longer term~~ capacity becomes available (principally through surrender or LTUIOLI) which is of longer durations e.g month, then the ~~reserve~~ price will be set in the relevant auction based on the capacity duration e.g. for monthly capacity it would be p/(kWh/h) per month.

This Section (2.2) of the charging methodology shall cease to have effect on gas day 1st October 2018.

~~2.2~~2.3 ~~Reserve~~ P~~p~~rice for Capacity for use from 1 October 2018 onwards

~~2.2.1~~2.3.1 General Principles

The ~~reserve~~ price~~s~~ for capacity sales for Entry and Exit Capacity for use from 1 October 2018 (including the price for firm capacity with a duration of one year) will be set by IUK to ensure objective and non-discriminatory treatment across all shippers taking part in ~~the~~ capacity sales.

The key factors determining the ~~reserve~~ prices are:

- Competitive forces and the prices of competing and complementary services;
- Operating costs for operating and maintaining the company and its assets;
- Capital expenditures required to maintain the service;
- Projected customer demand for IUK capacity and the forecast volume of both long term and short term sales under a range of market scenarios; and
- A risk premium reflecting the benefits of certainity regarding the level of the price, where such premium shall be no less than zero~~0~~;

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

An additional element governing IUK's finances will be a financial control under the Belgium Gas Act. This control will be governed by the Belgium NRA, CREG, and establishes a safeguard against excess profit.

IUK will set ~~reserve tariffs~~prices which are competitive and responsive to market forces. ~~The tariffs will not be mechanistically determined by a formula.~~The ~~reserve~~ prices will be attractive to shippers, and will reflect the value of the services. -

Whilst ensuring no undue discrimination, the price can differ for different Entry and Exit points, types of capacity, durations of time and capacity periods to reflect the different underlying market and cost conditions.

2.3.2 ~~2.3.1.1~~ Auctions on PRISMA

For any given auction, the price paid for Entry Capacity and Exit Capacity will be the reserve price plus any premium bid at the time of the allocation process. This means the price would be fixed at the time of allocation (but subject to future indexation) providing price certainty to IAA Shippers.

For ascending clock auctions held on PRISMA, the determination of the large price step shall seek to minimise as far as reasonably possible, the length of the auction process. The determination of the small price step shall seek to minimise, as far as reasonably possible, the level of unsold capacity where the auction closes at a price higher than the reserve price.

2.3.3 Price for capacity products with a duration less than one year

The same principles as outlined in 2.3.1 will be used to determine the level of the price multipliers for each Entry and Exit Capacity less than a year in duration relative to the annual price for firm capacity. This includes, but is not limited to, the multipliers for standard capacity products[3].

2.3.4 Principles for price structure of any ~~Subscription Process~~Allocation Mechanism

~~2.3~~ Various incentives ~~could~~may be included in ~~a subscription process for~~ an additional Allocation Mechanism (e.g. Subscription Process), subject to NRA approval, to encourage long term bookings.

~~2.3.1 Principles for price structure of 2015 Subscription Process (valid for any Subscription Process held before 1 November 2015)~~

~~The capacity offered in 2015 will be long term capacity booked well in advance of delivery. It is important for IUK to know in 2015 that some capacity has been booked post 2018, to allow for more efficient and effective capacity planning of IUK's future business model. To reflect this fact, various incentives were included in the 2015 subscription process to encourage long term booking.~~

~~The main principles for t~~The price structure of ~~the 2015~~any ~~subscription process~~Allocation Merchanism ~~are outlined below~~may include, but not be limited to, the following:

[3] Transmission system operators are required to offer standard capacity products as specified in Regulation (EU) No 2017/459 ("CAM Code"). These standard capacity products are yearly, quarterly, monthly, daily and within day capacity products.

- The price paid for Entry Capacity and Exit Capacity will be ~~the reserve price plus any premium bid at the time of the allocation process. This means the capacity price is~~ fixed at the time of allocation (but subject to future indexation) providing price certainty to IAA Shippers.

- A booking incentive on the ~~reserve~~ price ~~will be offered~~ for bookings for Annual Capacity Products that are longer in duration (~~ie~~.eg. booking incentive 10% for bookings of 5-7 Gas Years, 15% for bookings of 8-9 Gas Years and 20% for bookings of 10 Gas Years or longer).

- ~~IUK will also offer the option of booking Quarterly Capacity Products for shippers who book Annual Capacity Products for a Capacity Period of 5 successive Gas Years or more. Quarterly Capacity Products for two quarters or three quarters of entry and exit will be available in addition to the Annual Capacity Products. The 2 Quarter Capacity Product will be made available at a premium of 50% to the price of Annual Capacity Products corresponding to the same duration (i.e. the reserve price after any booking incentives are applied) and the 3 Quarter Capacity Product will be made available at a premium of 20%.~~

- A Capacity Transaction for a Firm Annual Capacity Product for 5 or more successive Gas Years benefits from a "lowest price guarantee" in that the Capacity Charge is the lower of: (i) the sum of the ~~reserve~~ price and the premium; and (ii) the lowest price for which such Firm Annual Capacity Product is allocated in a CAM auction via PRISMA ~~auction~~ for that Gas Year or if there is no allocation for that Gas Year, the lowest IUK ~~reserve~~ price for that Firm Annual Capacity Product for that Gas Year. ~~In addition, the IAA Shipper is protected from increases to such charge and from additional charges being imposed as provided in the form of Confirmation in paragraph 5 of Annex B-3 to Section B of the IAC.~~

2.4 Indexation

~~When calculating the~~ Eentry or Eexit capacity prices ~~charges~~ to apply in a future year for all capacity that is sold under any allocation mechanism, ~~, the reserve price element for an Annual Capacity Product~~ will be subject to annual indexation as provided for in ~~Section F paragraph 5.3 of~~ the IAC. ~~Any auction premium will remain fixed.~~

3 Buy-back Prices

Where IUK has sold Entry or Exit Capacity via an oversubscription mechanism, ~~I~~if, at any time, aggregate nominations exceed, or are predicted to exceed, the physical capability of the system, IUK will initiate the Buy-back process in accordance with IAC Section C. IUK will determine the quantity and category of capacity that it needs to buy back from shippers to reduce the aggregate nominations to within the physical capability of the system.

3.1 Maximum Buy-back Price

All shippers will be informed, via the IUK Shippers ~~'s Bulletin Board~~Information System, when IUK needs to buy back capacity. IUK ~~and both STA Shippers and IAA S~~shippers will be invited to sell capacity back to IUK in a pay-as-bid auction known as Voluntary Buy-back ("VBB").

~~When IUK implements the~~Under a VBB auction, ~~it~~ IUK will accept offers from ~~STA Shippers or IAA Shippers~~IUK shippers subject to paying no more than the Maximum Buy-back Price. This is the price that IUK will pay for Entry and Exit Capacity from STA Shippers ~~-~~to the period up to 1 October 2018 and/or the aggregate of offered Entry Capacity and Exit Capacity from IAA Shippers. This price will be calculated on the relevant Gas Day as the weighted average price paid for that day's Entry Capacity and Exit Capacity plus a Buy-back premium. ~~of 0.8189 p/(kWh/h) (approx 1p/therm) for the Gas Year~~

~~2014/15. For future Gas Years the premium will be adjusted as set out in Appendix 1.~~ The Buy-back premium is set to strike a reasonable risk-reward balance and limit the exposure of IUK (see ~~section 3.3 below~~ IUK's Charging Statement[4] for details of the level of the Buy-back premium).

3.2 Forced Buy-back Price

Forced Buy-back will be initiated on IAA Shippers ~~only~~, if:

- there is unfulfilled Buy-back requirement following VBB, due to insufficient capacity being offered to satisfy the Buy-back requirement at prices up to the Maximum Buy-back Price, or
- the Buy-back requirement occurs when the net OS revenue account has reached its maximum deficit (see next section), or
- the Buy-back requirement occurs after 21:00 (UKT) / 22:00 (CET) within day as there is insufficient time to run a VBB auction and implement the resulting renominations.

When IUK ~~implements~~ initiates Forced Buy-back, IAA Shippers who bought day-ahead or within day capacity will have such capacity pro-rated downwards to reduce aggregate nominations to within the physical capability of the IUK system and IUK will pay an IAA Shipper for the reduction in Entry Capacity and Exit Capacity (taking into account any capacity already offered and accepted in the VBB auction) at the Forced Buy-back Price. This price shall be the price paid by the IAA Shipper for such capacity plus a Forced Buy-back premium equal to 5% of the weighted average price paid for all Entry Capacity and Exit Capacity for that day.

This Forced Buy-back premium recognises that capacity has had to be forcibly bought-back from IAA Shippers, but is low enough to ensure that there is an incentive for IAA Shippers to bid in the VBB auction (rather than wait for Forced Buy-back).

3.3 Net OS Revenue Account

IUK will keep track of an account ("Net OS Revenue Account") which will be equal to the revenue from ~~OS Capacity~~ sales of Entry or Exit Capacity via oversubcription, on a cumulative basis over the Gas Year, minus any payments made for Buy-back during that time. This account will be allowed to go negative (if Buy-back costs exceed sales revenue) up to a limit ~~of £100,000~~set out in IUK's Charging Statement. At this level, if further Buy-back is required, IUK will implement the Forced Buy-back process.

~~As the maximum amount of OS Capacity to be made available is 15% of the technical capacity, the maximum deficit (and hence exposure to IUK) to meet the VBB premium is approximately £41,120, per occurrence of VBB (based on reverse flow capacity of 25.5 bcm/y). As the maximum deficit (and total possible loss to IUK from Buy back over each year) will be limited to £100,000, this means that VBB could be met fully on two occasions, and partially on a third, even if no other OS revenue is received earlier in the year.~~ It is thought to be ~~very~~ unlikely that ~~Buy-back would be required on 3 consecutive occasions with no OS Capacity sales in advance.~~ that the limit will be reached ~~However~~however~~,~~ setting this limit of exposure enables IUK ~~Shareholders~~ to know in advance the risk to which ~~they~~ it would be exposed for Buy-back. In addition, there is an exposure to the 5% premium to be paid in Forced Buy-back to be taken into account in the event that this scenario is reached. ~~(see examples in Appendix 2).~~

[4] "IUK's Charging Statement" sets out IUK's charges related to the IUK Access Agreement and IUK Access Code. This is available at www.interconnector.com

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

4 Initial Registration Fee

An Initial Registration Fee is a one off charge by IUK on any new IAA Shippers signing an IAA~~. This is~~ to cover IUK's legal, administrative and training costs~~ and must be paid before the new IAA Shipper can access IUK's Information System and purchase capacity~~. This fee is not payable by a~~n existing~~ STA Shipper or sub-lessee of an STA Shipper upto 1 October 2018 who is already receiving transportation services from IUK and who then signs up to the IAA service.

~~For the Gas Year starting on 1 October 2014, the fee is £10,000 and for future Gas Years this will be adjusted as set out in Appendix 1.~~

~~As an illustration, for Gas Year 2014/15 this equates to the purchase of a quarter of the OS Capacity on one day at the reserve price.~~The Initial Registration Fee is set out in IUK's Charging Statement. ~~related to the IAA and IAC~~

5 Monthly Administration Fee

A Monthly Administration Fee is payable by each ~~IAA~~ Shipper~~ under an IAA~~. This covers IUK's on-going costs supporting contract administration, principally ~~an IAA~~a Shipper's access to IUK's ~~i~~Information ~~s~~System (e.g. user accounts, requests for help, interface issues, e-learning modules, etc.), on-going credit review and invoicing. ~~STA shippers will also pay the same level of monthly fee. If an STA Shipper is also an IAA Shipper only one monthly fee is payable.~~

~~For the Gas Year starting on 1 October 2014, the fee is £500 per month and for future Gas Years this will be adjusted as set out in Appendix 1.~~

The Monthly Adminis~~i~~tration Fee is set out in IUK's Charging Statement ~~related to the IAA and IAC.~~

6 Balancing Charges

~~6.1 For the period to 1 November 2015~~

~~An IAA Shipper has the obligation to ensure that the nomination for the quantity of Natural Gas to be offtaken from the Interconnector at Exit Points is equal to the nominations for the quantity of Natural Gas to be delivered by the IAA Shipper to the Interconnector at Entry Points. Any differences that do occur between entry and exit allocations are allowed without any penalty or recompense within an allowed tolerance for each IAA Shipper of ±560,000 kWh.~~

~~Any imbalance that is less than the allowed tolerance (either in a positive or negative direction) is carried forward to the next Gas Day. On any Gas Day on which the IAA Shipper's accumulated imbalance exceeds the allowed tolerance, a Balancing Charge shall apply as follows –~~

~~(i) if the accumulated imbalance is negative (i.e. where any Entry Allocations of an IAA Shipper are less than the corresponding Exit Allocations), the IAA Shipper will pay to IUK a Balancing Charge, calculated on the relevant Gas Day using the "Negative Imbalance Daily Gas Price" (p/kWh) calculated as the lesser of :~~

~~(a) NBP Price + NGG Exit Cost + Reserve Price for Entry Capacity + 0.0171~~

~~and~~

~~(b) Zeebrugge Hub Price + Fluxys Exit Cost + Reserve Price for Entry Capacity + 0.0171~~

~~(ii) if the accumulated imbalance is positive (i.e. where any Entry Allocations of an IAA Shipper are greater than the corresponding Exit Allocations), IUK will pay to the IAA Shipper a Balancing Charge, calculated on the relevant Gas Day using the "Positive Imbalance Daily Gas Price" (p/kWh) calculated as the greater of:~~

~~(a) NBP Price - NGG Entry Cost - Reserve Price for Entry Capacity – 0.0171~~

~~and~~

~~(b) Zeebrugge Hub Price - Fluxys Entry Cost - Reserve Price for Entry Capacity – 0.0171~~

~~where –~~

~~"NBP Price" means the NBP day-ahead price published in a reputable industry publication in respect of the relevant Gas Day.~~

~~"Zeebrugge Hub Price" means the Zeebrugge day-ahead price published in a reputable industry publication in respect of the relevant Gas Day.~~

~~"NGG Entry Cost" means the NTS entry capacity charge for Bacton and transportation charge to NBP;~~

~~"NGG Exit Cost" means NTS exit capacity charge for Bacton and transportation charge from NBP;~~

~~"Fluxys Entry Cost" means the FTS entry charge for Zeebrugge and transportation charge to Zeebrugge Hub;~~

~~"Fluxys Exit Cost" means FTS exit charge for Zeebrugge and transportation charge from Zeebrugge Hub;~~

~~Gas to re-balance the Interconnector will be taken from or added to the pipeline inventory. The above formulae have been derived to equate to a market based mechanism to calculate the equivalent cost that STA Shippers will incur in supplying or disposing of gas on the relevant Gas Day. A small margin of 0.0171 p/kWh (0.5 p/th) is included to act as an incentive on IAA Shippers to maintain a balance and to reflect that STA Shippers have lost the ability to utilise the capacity to take advantage of the market differential and may actually have to take action to correct inventory when they may not have been intending to act on the market. Discussions during development of CMP indicated that the margin above was a suitable incentive to trade. Any net income from Balancing Charges paid by IAA Shippers will be used by IUK to offset the opex recovered from STA Shippers to acknowledge that STA Shippers have had to source gas throughout the year on behalf of IAA Shippers.~~

~~6.2 From 1 November 2015 onwards~~

An IAA Shipper has the obligation to ensure that ~~the nomination~~its intended inputs and intended outputs of Natural Gas are balanced each hour of the Gas Day. ~~for the quantity of Natural Gas to be redelivered from the Interconnector at Exit Points and any quantities of Natural Gas it disposes of is equal to the nominations for the quantity of Natural Gas to be delivered by the IAA Shipper to the Interconnector at Entry Points and the quantities of Natural Gas acquired.~~ IUK ~~will be operating~~operates an operational balancing account at Bacton and Zeebrugge under which allocations to an IAA shipper will equal its relevant nominations hence IAA Shippers will be in balance. In exceptional circumstances (e.g. an operational balance account is not being applied), where there is a difference between an IAA Shipper's allocated Inputs and Outputs ~~(as defined in paragraph 1 Section E of the IUK Access Code),~~ such differences will be dealt with as per ~~6.1(i) and (ii) above.~~Section E and F of the IAC.

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

7 ~~Fuel Charges~~Commodity charges

IUK procures natural gas and electricity for the operation of the IUK Transportation System, which includes:

- Fuel gas for the operation of compressors and boilers at Bacton and heaters at Zeebrugge;
- HV electricity for the operation of the compressors at Zeebrugge;
- Gas to maintain the pipeline inventory within acceptable operational limits, allowing for shrinkage.

IUK will estimate the consumption of gas and electricity to transport a unit of gas through the Transportation System and convert these into a suitable commodity charge by applying a Commodity Charge to each IAA Shipper's Entry Allocations. The Commodity Charge will be defined for Entry at either side of the pipeline separately.

The Commodity Charges will be set out in IUK's Charging Statement.

~~6.3 Fuel Gas~~

~~Fuel Gas is consumed in the operation of the Interconnector~~IUK's Transportation System ~~comprising:~~

~~Fuel Gas used for the operation of compressors~~ and boilers ~~at Bacton when gas is flowing from UK to Belgium; and~~

~~Fuel Gas used for the operation of heaters at Zeebrugge. when gas is flowing from UK to Belgium; and~~

~~Fuel Gas used for the operation of heaters at Bacton when gas is flowing from Belgium to UK.~~

~~6.3.1 For the period to 1 October 2018~~

~~Fuel Gas is allocated to IAA Shippers (and STA Shippers) in proportion to their allocations of gas flowing into and out of the Interconnector~~IUK's Transportation System~~.~~

~~A Fuel Gas Charge shall be payable by an IAA Shipper in respect of any Gas Day on which any Fuel Gas is allocated to the IAA Shipper. Such charge shall be an amount (in Pounds Sterling) equal to the Negative Imbalance Daily Gas Price (see above) multiplied by the total quantity of Fuel Gas allocated to that IAA Shipper on that Gas Day.~~

~~Fuel Gas will be taken from the pipeline inventory. The STA Shippers will therefore have to source gas to maintain their inventory within their inventory limits. Income from Fuel Gas Charges paid by IAA Shippers will be used by IUK to offset the opex recovered from STA Shippers.~~

~~6.3.2 From 1 October 2018 onwards~~

~~Fuel Gas will be allocated to an IAA Shipper for a Gas Day calculated based on its entry a~~Allocations ~~multiplied by a fixed percentage factor notified in advance by IUK. Such Fuel Gas must be provided~~

~~by the IAA Shipper for the purposes of balancing its inputs and outputs, taking into account any Natural Gas acquired from or disposed to other IAA Shippers.~~

~~6.4 Electricity~~

~~Electricity is consumed in the operation of the compressors at Zeebrugge when gas is flowing from Belgium to UK. The daily metered quantity of electricity used by the compressors is allocated as follows:~~

~~(a) in the period to 1 October 2018, to IAA Shippers (and STA Shippers) in proportion to their allocations of gas flowing into and out of the Interconnector~~IUK's Transportation System~~;~~

~~(b) from 1 October 2018, to an IAA Shipper based on its entry allocations multiplied by a fixed percentage factor notified in advance by IUK.~~

~~6.4.1 For the period to 1 October 2018~~

~~Before each Gas Year IUK shall notify all shippers of its best estimate of the "Estimated Compressor Electricity Unit Cost", expressed in Euro/kWh based on historical reverse flowrate data, forecast information concerning reverse flowrates for that Gas Year, the costs for the supply of electricity to IUK and any other available and relevant information.~~

~~Each IAA Shipper (and STA Shipper) shall pay a monthly electricity charge, an amount (in Euros) equal to the Estimated Compressor Electricity Unit Cost multiplied by the total amount of electricity allocated to that IAA Shipper in that month.~~

~~For the Gas Year starting on 1 October 2014, the Estimated Compressor Electricity Unit Cost has been determined as 0.094 Euro/kWh.~~

~~As soon as practicable (but in any event within 60 days, or such longer period as may be necessary to allow for the receipt by IUK of all relevant invoices and data relating to the supply of electricity) after the end of each Gas Year, IUK shall calculate in respect of that Gas Year the "Actual Compressor Electricity Unit Cost", expressed in Euros/kWh, based on the actual total consumption of electricity and the actual total electricity costs. For reference, the Estimated Compressor Electricity Unit Cost for the Gas Year 2012-2013 was 0.100 Euro/kWh and the Actual Compressor Electricity Unit Cost was 0.10037 Euro/kWh.~~

~~IUK shall then calculate:~~

~~(a) the aggregate amount of all monthly electricity charge payments made by each shipper to IUK in respect of each month during that Gas Year; and~~

~~(b) the aggregate amount of all monthly electricity charge payments that would have been made by each IAA Shipper (and STA Shipper) to IUK over the same period had the monthly electricity charge payments of that IAA Shipper (or STA Shipper) in respect of each month during that Gas Year been calculated and paid by reference to the Actual Compressor Electricity Unit Cost (rather than the Estimated Compressor Electricity Unit Cost) for each month in such Gas Year.~~

~~The excess of the aggregate amount referred to in (a) above over the aggregate amount referred to in (b) above or (as the case may be) the excess of the aggregate amount referred to in (b) above over the aggregate amount referred to in (a) above shall be payable by IUK to the applicable IAA Shipper~~

~~(or STA Shipper) or (as the case may be) by the applicable IAA Shipper (or STA Shipper) to IUK together with interest (from the date when each successive monthly electricity charge fell due for payment until payment of such excess) at a rate equal to the aggregate of Euro LIBOR plus two per cent (2%).~~

~~If, for any Gas Year, the Actual Compressor Electricity Unit Cost exceeds the Estimated Compressor Electricity Unit Cost by more than 15%, then the Actual Compressor Electricity Unit Cost shall be deemed to be an amount equal to 115% of such Estimated Compressor Electricity Unit Cost.~~T is set out in IUK's Charging Statement

~~6.4.2 **From 1 October 2018 onwards**~~

~~An IAA Shipper shall pay a monthly electricity charge in respect of any days during a Month that electricity was allocated to it based on the electricity allocation multiplied by the unit cost of electricity calculated and notified by IUK.~~

~~6.5 **Shrinkage**~~

~~From 1 November 2015 Shrinkage will be allocated to an IAA Shipper for a Gas Day calculated based on its entry allocations multiplied by a fixed percentage factor notified in advance by IUK. Such Shrinkage must be provided by the IAA Shipper for the purposes of balancing its inputs and outputs.~~

~~7~~8 Annual Distribution of Net OS Revenues

At the end of the Gas Year, if the Net OS Revenue Account is negative, then IUK will bear 100% of this loss and return the balance to zero. At the end of the Gas Year, if the Net OS Revenue Account is positive, then this amount will be paid out so that the balance returns to zero. 25% will be paid to IUK and 75% (the Net Revenue Share) will be distributed to all shippers (STA Shippers~~,~~ and ~~and IAA Shippers, and~~ Sub-Lessees ~~and~~ under the STA to the period upto 1 October 2018, and IAA shippers ~~and IAA~~) based on their allocated flow over the year.

~~Appendix 1 – Escalation of Fees~~

~~The following escalation factor will be used in future Gas Years to calculate the value of the following –~~

~~(a) VBB premium (see section 3.1)~~
~~(b) Initial Registration Fee (see section 4)~~
~~(c) Monthly Administration Fee (see section 5)~~

~~Escalation factor = PPIr / PPIo~~

- ~~Where "**Producer Price Index**" or "**PPI**" means the "JVZ7" Index numbers of producer prices – "PPI : 7200700000 : Net Sector Output Prices – Output of manufactured products" as published by the Office for National Statistics in the monthly Producer Price Index Dataset (or any successor to such Index published by such Office or any other department of HM Government) at www.ons.gov.uk.~~
- ~~Where PPIr = the average value of the PPI for the twelve month period ending on 30 June immediately prior to the commencement of the Gas Year which ends on 30 September in year~~

~~r in respect of which the price is calculated (being the most recently available data at the time the calculation is done each September).PPIo = PPIr for 2014/15 = 108.6583~~

~~Recent PPI data from the above referenced source is reproduced below –~~

~~Base 2010=100~~													
	~~**Jul**~~	~~**Aug**~~	~~**Sep**~~	~~**Oct**~~	~~**Nov**~~	~~**Dec**~~	~~**Jan**~~	~~**Feb**~~	~~**Mar**~~	~~**Apr**~~	~~**May**~~	~~**Jun**~~	~~**Avg**~~
~~**2010 11**~~	~~100.2~~	~~100.2~~	~~100.3~~	~~100.7~~	~~101.1~~	~~101.6~~	~~102.3~~	~~102.8~~	~~103.8~~	~~104.8~~	~~104.9~~	~~105.1~~	~~102.3167~~
~~**2011 12**~~	~~105.4~~	~~105.4~~	~~105.6~~	~~105.6~~	~~105.8~~	~~105.7~~	~~105.9~~	~~106.3~~	~~106.8~~	~~107.2~~	~~107~~	~~106.6~~	~~106.1083~~
~~**2012 13**~~	~~106.8~~	~~107.2~~	~~107.5~~	~~107.6~~	~~107.4~~	~~107.2~~	~~107.6~~	~~108.1~~	~~108.4~~	~~108.3~~	~~108.3~~	~~108.4~~	~~107.7333~~
~~**2013 14**~~	~~108.7~~	~~108.8~~	~~108.8~~	~~108.5~~	~~108.3~~	~~108.3~~	~~108.6~~	~~108.7~~	~~108.8~~	~~108.9~~	~~108.8~~	~~108.7~~	~~108.6583~~

~~Appendix 2 – Buy-back Examples~~

~~Maximum OS available on a daily basis is 5,021,425 kWh/h (equivalent to 4,112,099 therms) based on 15% of 25.5 bcm/y.~~

~~For simplicity, all capacity is assumed to be sold at the reserve price.~~

~~Example 1 (Net OS Revenue Account positive):~~

~~The full OS Capacity is sold on 25 days over the year at the reserve price of 0.8350 p/kWh/h/day (1.0196 p/th).~~

~~BB occurs on 2 days over the year, for full OS Capacity, at the weighted average price paid plus a premium of 0.8189 p/kWh/h/day (1p/th); so Maximum Buy-back Price = 1.6539 p/kWh/h/day (2.0196 p/th).~~

~~Regardless of the timing of the Buy-back days, either:~~

~~(a) sufficient revenue will be in the Net OS Revenue Account on each occasion to meet the full BB costs, or~~
~~(b) the deficit will be used but the £100,000 limit will not be met.~~

~~OS Revenue over the year = 5,021,425 * 25 * (0.8350/100) = £1,048,222~~

~~VBB cost over the year = 5,021,425 * 2 * (1.6539/100) = £166,099~~

~~Balance of Net OS Revenue Account at end of year = £1,048,222 - £166,099 = £882,124~~

~~Revenue to IUK = 25% * £882,124 = £220,531~~

~~Revenue shared by all Shippers = 75% * £882,124 = £661,593~~

~~Example 2 (Net OS Revenue Account negative, but deficit limit not met):~~

~~The full OS Capacity is sold on 3 days over the year and 2% of technical capacity is sold as OS Capacity on 20 days over the year, all at the reserve price of 0.8350 p/kWh/h/day (1.0196 p/th),~~

~~VBB occurs on 3 days over the year for full OS Capacity at the weighted average price paid plus a premium of 0.8189 p/kWh/h/day (1p/th) so VBB price = 1.6539 p/kWh/h/day (2.0196 p/th).~~

~~The BB days could be spread throughout the year or consecutive as long as there had been £23,361 of OS revenue already i.e. 5 days of 2% technical capacity as OS Capacity sales, such that the 3*£41k BB did not exceed the £100k deficit limit.~~

~~OS Revenue over the year = 5,021,425 * 3 * (0.8350/100) + 5,021,425 * (2/15) * (0.8350/100) * 20 = £237,597~~

~~BB cost over the year = 5,021,425 * (1.6539/100) * 3 = £249,148~~

~~Balance of Net OS Revenue Account at end of year = £237,597 - £249,148 = -£11,551~~

~~Cost to IUK = 100% * £11,551 = £11,551~~

~~**Example 3 (Net OS Revenue Account negative and deficit limit met):**~~

~~The full OS Capacity is sold on 5 days over the year at the reserve price of 0.8350 p/kWh/h/day (1.0196 p/th).~~

~~BB occurs on the first 3 days for full OS Capacity at the weighted average price paid plus a premium of 0.8189 p/kWh/h/day (1p/th) so VBB price = 1.6539 p/kWh/h/day (2.0196 p/th).~~

~~OS Revenue over the year = (5,021,425 * 0.8279/100 * 5) = £209,644~~
~~Net OS Revenue Account at end of first BB day = -£41,120~~
~~Net OS Revenue Account at end of second BB day = -£82,240~~

~~Third BB day: VBB auction opened, Max VBB Premium available~~
~~= (100,000 - 82,240) * 100/5,021,425~~
~~= 0.3537 p/kWh/h/day (0.43p/th).~~

~~Outcome could be:~~

- ~~(a) VBB auction provided full OS Capacity at prices up to Max VBB Price of 0.8350 + 0.3537 = 1.1887 p/kWh/h/day (1.452 p/th).~~
- ~~(b) No capacity offered at prices up to Max VBB Price of 1.1887 p/kWh/h/day (1.452 p/th), FBB launched and capacity bought back at 1.05 * 0.8350 = 0.8768 p/kWh/h/day (1.071 p/th).~~
- ~~(c) A combination of VBB auction providing capacity up to 1.1887 p/kWh/h/day (1.452 p/th) and FBB for the remainder at 0.8768 p/kWh/h/day (1.071 p/th).~~

~~BB cost over the year in scenario (a)~~
~~= (5,021,425 * 1.6539/100 * 2) +(5,021,425 * 1.1887/100) = £225,788~~

~~Balance of Net OS Revenue Account at end of year = £209,644 - £225,788 = -£16,143~~
~~Cost to IUK = 100% * £16,143 = £16,143~~

~~**Example 4 (VBB followed by FBB) :**~~

~~The full OS Capacity is sold on a day = 5,021,425 kWh/h~~
~~as follows :~~
~~IAA shipper 1 = 1,000,000~~
~~IAA Shipper 2 = 500,000~~
~~IAA Shipper 3 = 2,000,000~~
~~IAA shipper 4 = 760,412~~
~~IAA Shipper 5 = 760,412~~

~~Subsequently IUK initiates the VBB procedure and gets the following offers:~~
~~IUK shipper 1 = 500,000~~
~~IUK Shipper 2 = 500,000~~
~~IUK shipper 3 = 500,000~~
~~IAA Shipper 1 = 500,000~~
~~IAA Shipper 3 = 1,000,000~~

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

~~TOTAL = 3,000,000~~

~~After VBB, the revised IAA Shipper capacity holdings are:~~
~~IAA shipper 1 = 500,000~~
~~IAA Shipper 2 = 500,000~~
~~IAA Shipper 3 = 1,000,000~~
~~IAA shipper 4 = 760,412~~
~~IAA Shipper 5 = 760,412~~
~~TOTAL = 3,521,425~~

~~Therefore there is a shortfall on the Buy-back Requirement of:~~
~~5,121,425 – 3,000,000 = 2,021,425 kWh/h~~

~~IUK then implements FBB and pro-rates the shortfall based on the revised IAA Shipper capacity holdings. The FBB capacity allocation of the shortfall becomes:~~
~~IAA shipper 1 = (500,000/3,521,425)*2,021,425 = 287,018~~
~~IAA Shipper 2 = (500,000/3,521,425)*2,021,425 = 287,018~~
~~IAA Shipper 3 = (1,000,000/3,521,425)*2,021,425 = 574,036~~
~~IAA shipper 4 = (760,412/3,521,425)*2,021,425 = 436,676~~
~~IAA Shipper 5 = (760,412/3,521,425)*2,021,425 = 436,676~~

~~The resulting capacity holdings become:~~
~~IAA shipper 1 = 212,982~~
~~IAA Shipper 2 = 212,982~~
~~IAA Shipper 3 = 425,964~~
~~IAA shipper 4 = 324,036~~
~~IAA Shipper 5 = 324,036~~
~~TOTAL = 1,500,000~~

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

~~Appendix 3 – Glossary of Terms~~

~~The definitions of terms used in this document can be found in the IAA. For ease of reference various definitions are re-produced below:~~

~~"**Adjacent Transmission System**" or "**AT System**" means the National Transmission System or the Fluxys Transmission System;~~

~~"**Bacton Entry Point**", "**Bacton Exit Point**" and **"Bacton Connection Point"** mean respectively the Entry Point, Exit Point and Connection Point at Bacton;~~

~~"**Connection Point**" means a point at which the Transportation System is connected to an AT System;~~

~~**"Entry Capacity"** means capacity in the Transportation System available for use by an IAA Shipper in delivering gas to the Transportation System at the Bacton Entry Point or the Zeebrugge Entry Point;~~

~~"**Entry Point**" means any Connection Point which allows the delivery of Natural Gas into the Transportation System from the relevant AT System (whether or not Natural Gas is physically flowing at that point at any given time);~~

~~"**Euro LIBOR"** means the London interbank offered rate administered by ICE Benchmark Administration Limited (or any other person which takes over the administration of that rate) for Euros and a period of one month displayed on relevant pages of the Reuters screen (or any replacement of the Reuters page which displays that rate or the appropriate page of such other information service which publishes that rate from time to time in place of Reuters). The relevant rate will be determined as of 11.00 a.m. (London time) on the first day of the relevant month. If the relevant page or service is not, or ceases to be, available, then IUK may specify another page or service displaying the relevant rate, and if no such page or service is available, then the rate will be the arithmetic mean of the rates (rounded upwards to four decimal places) as supplied to IUK at its request by the principal London offices of three leading banks selected by IUK and which are the rates at which each of the relevant banks could borrow Euros in the London interbank market for the one month period were it to do so by asking for and then accepting interbank offers for deposits in reasonable market size;~~

~~**"Exit Capacity"** means capacity in the Transportation System available for use by an IAA Shipper in offtaking gas from the Transportation System at the Zeebrugge Exit Point or the Bacton Exit Point;~~

~~"**Exit Point**" means any Connection Point which allows the redelivery of Natural Gas into the relevant AT System from the Transportation System (whether or not Natural Gas is physically flowing at that point at any given time);~~

~~"**Fluxys Transmission System**" or "**FTS**" means the Belgian high pressure gas transmission system currently owned and operated by Fluxys;~~

~~"**Gas Year**" means the period beginning at 06.00hours (CET) on 1 October of any year and ending at 06.00 hours (CET) on 1 October of the next succeeding year;~~

~~**"IUK Access Agreement"** and **"IAA"** means the agreement between IUK and the IAA Shipper for access to the Transportation Services;~~

~~**"IUK Access Code"** and **"IAC"** means the code published by IUK containing provisions governing access to the Transportation Services offered by IUK to IAA Shippers, as amended or replaced;~~

ANNEX A: Proposed changes to IUK's Charging Methodology (marked version compared to current methodology)

~~"**IAA Shipper**" means any person or entity that is for the time being entitled to access the Transportation Services pursuant to an IUK Access Agreement;~~

~~"**National Transmission System**" or "**NTS**" means the principal pipeline system operated by National Grid Gas the conveyance of gas through which is authorised by the National Grid Gas Licence;~~

~~**"Net OS Revenue Account"** shall have the meaning given to that expression in Section F paragraph 10 of the IUK Access Code;~~

~~"**Transportation Services**" means those services IUK provides to an IUK Shipper in relation to the Transportation System;~~

~~"**Zeebrugge Entry Point**", "**Zeebrugge Exit Point**" and **"Zeebrugge Connection Point"** mean respectively the Entry Point, Exit Point and Connection Point at Zeebrugge.~~