

**AMENDMENT AND RESTATEMENT AGREEMENT**

**relating to the**

**INTERCONNECTION AGREEMENT**

**(UK-CONTINENT INTERCONNECTOR)**

**between**

**NATIONAL GRID GAS PLC**

**and**

**INTERCONNECTOR LIMITED**

**(previously known as Interconnector (UK) Limited)**

THIS AMENDMENT AND RESTATEMENT AGREEMENT is made the day of 2021 April 2016

**BETWEEN:**

- (1) **National Grid Gas plc**, having its registered office at 1-3 Strand, London WC2N 5EH (~~“hereinafter called “National Grid Gas”~~);
- and
- (2) Interconnector Limited (previously known as Interconnector (UK) Limited), having its registered office at 4th Floor Burdett House, 15-16 Buckingham, 10 Furnival Street, London WC2N 6DU (“Interconnector EC4A 1AB (hereinafter called “IUK”),
- each an “Operator” and together the “Operators”.

**RECITAL:**

- (A) National Grid Gas and InterconnectorIUK entered into the Interconnection Agreement (UK-Continent Interconnector) on 25 August 1998 (the “**Interconnection Agreement**”).
- (B) Pursuant to an agreement dated 12 May 201625 September 2015 the Operators amended and restated the Interconnection Agreement (the “**20162015 ARIA**”). Agreements between the Operators to amend the Interconnection Agreement that preceded the 20162015 ARIA are referenced in Annex H (Table of Prior Amendments) of the 20162015 ARIA.
- (C) The Operators wish to amend and restate the 20162015 ARIA as set out in the Schedule to this Amendment and Restatement Agreement.
- ~~(D) — The amendments that are reflected in the Amended and Restated Interconnection Agreement are intended to ensure compliance with certain requirements of Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules.~~

**IT IS AGREED:**

**1. CONSIDERATION**

Each of the Operators agrees to vary the 20162015 ARIA as described in this Amendment and Restatement Agreement in consideration of the other’s acceptance of such changes.

## 2. DEFINED TERMS

- 2.1 In this Amendment and Restatement Agreement (including its Recitals), the following terms shall have the following meanings:

“~~2016~~~~2015~~ ARIA” has the meaning given in Recital (B);

“**Amended and Restated Interconnection Agreement**” means the amended and restated form of the Interconnection Agreement that is set out in the Schedule to this Amendment and Restatement Agreement;

“**Amendment Effective Date**” means the date and time on and from which the Amended and Restated Interconnection Agreement shall have effect which shall be 05.00 hours on [ ] ~~2019~~~~1~~ ~~May~~ ~~2016~~ unless otherwise expressly specified in the Amended and Restated Interconnection Agreement; and

“**Interconnection Agreement**” has the meaning given in Recital (A).

- 2.2 Terms which are defined in the Amended and Restated Interconnection Agreement shall, unless otherwise defined in this Amendment and Restatement Agreement, have the same meanings, interpretations and constructions when used in this Amendment and Restatement Agreement.

## 3. AMENDMENT AND RESTATEMENT OF ~~2016~~~~2015~~ ARIA

- 3.1 The Operators agree that with effect from the Amendment Effective Date, the ~~2016~~~~2015~~ ARIA shall be amended and restated in accordance with this Amendment and Restatement Agreement so that it shall have effect for all purposes in the form of the Amended and Restated Interconnection Agreement. This is without prejudice to any rights or obligations of either Operator that may have accrued pursuant to the ~~2016~~~~2015~~ ARIA as at the Amendment Effective Date.
- 3.2 The Operators agree that the terms of the ~~2016~~~~2015~~ ARIA (as in force immediately prior to the Amendment Effective Date) shall apply with respect to all periods prior to the Amendment Effective Date and that the Amended and Restated Interconnection Agreement shall apply with respect to all periods from and including the Amendment Effective Date.

#### **4. COUNTERPARTS**

This Amendment and Restatement Agreement may be executed in any number of counterparts, each of which will be an original, but all of which together shall constitute one agreement binding on the Operators, notwithstanding that the Operators are not signatories to the same counterpart.

IN WITNESS whereof the duly authorised representatives of each Operator have executed this Amendment and Restatement Agreement the day and year above written.

**SIGNED** for and on behalf of  
**National Grid Gas plc**

Signed: .....

Name: .....

Position: .....

**SIGNED** for and on behalf of  
**Interconnector ~~(UK)~~ Limited**

Signed: .....

Name: .....

Position: .....

## **SCHEDULE**

### **INTERCONNECTION AGREEMENT**

#### **(UK-CONTINENT INTERCONNECTOR)**

Amended and Restated [ ] 2021-1 May 2016

**between**

**NATIONAL GRID GAS PLC**

**and**

**INTERCONNECTOR ~~(UK)~~ LIMITED**

(previously known as Interconnector (UK) Limited)

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**THIS AGREEMENT** dated                      is made

**BETWEEN:**

- (1) **National Grid Gas plc**, having its registered office at 1-3 Strand, London WC2N 5EH  
~~(“hereinafter called “National Grid Gas”);~~
- and
- (2) **Interconnector ~~(UK)~~ Limited**, having its registered office at 4th Floor Burdett House, 15-16 Buckingham, 10 Furnival Street, London WC2N 6DU (“InterconnectorEC4A 1AB ~~(hereinafter called “UK”)~~,
- each an “Operator” and together the “Operators”.

**WHEREAS:**

- (A) National Grid Gas is the owner and operator of a pipeline system in Great Britain and holds a licence as a gas transporter under the Gas Act for that purpose.
- (B) InterconnectorUK is the owner and operator of a gas interconnector pipeline that connects the gas network in Great Britain to the gas network in Belgium and holds a gas interconnector licence (granted or treated as granted under the Gas Act) for that purpose.
- (C) National Grid Gas has prepared the Uniform Network Code setting out the terms upon which, amongst other things, National Grid Gas Shippers may arrange with National Grid Gas for the conveyance of gas by means of the National Grid Gas System; and InterconnectorUK has prepared the InterconnectorUK Access Rules setting out the terms upon which InterconnectorUK Shippers may arrange with InterconnectorUK for the conveyance of gas by means of the InterconnectorUK System.
- (D) The National Grid Gas System and the InterconnectorUK System are connected at the Interconnection Point and have been so connected since 1 October 1998.
- (E) The purpose of this Agreement is to set out the respective rights and obligations of the Operators insofar as they relate to the connection of their respective Connection Facilities and Systems at the Interconnection Point.
- (F) For the purposes of the Uniform Network Code, the points at which the InterconnectorUK System is connected to the National Grid Gas System constitute a Connected System Exit Point

and a System Entry Point in relation to which [InterconnectorUK](#) is respectively the Connected System Operator and the Delivery Facility Operator.

(G) The Uniform Network Code requires that:

- (i) in relation to a Connected System Exit Point, a CSEP Network Exit Agreement will be entered into between National Grid Gas and the Connected System Operator for the purposes of providing for the application of certain provisions of the Uniform Network Code and setting out certain other matters in relation to the offtake of gas by National Grid Gas Shippers from the National Grid Gas System at the CSEP; and
- (ii) in relation to a System Entry Point, a Network Entry Agreement will be entered into between National Grid Gas and the Delivery Facility Operator containing Network Entry Provisions setting out (inter alia) the specification, entry pressure, point of delivery and provisions for measurement with respect to gas delivered to the System at that point, and that Local Operating Procedures will be established between National Grid Gas and the Delivery Facility Operator.

(H) This Agreement is the Network Exit Agreement relating to the CSEP and the Network Entry Agreement relating to the SEP for the purposes of the Uniform Network Code.

**IT IS HEREBY AGREED as follows:**

**1. DEFINITIONS AND INTERPRETATION**

1.1 In this Agreement including its Recitals, the following terms shall have the following meanings:

**“Affiliate”**: means in relation to any body corporate: (i) a parent undertaking of such body corporate; or (ii) a subsidiary undertaking of such body corporate or of any such parent undertaking;

**“Agreement”**: means this Amended and Restated Interconnection Agreement, including the Annexes to it;

**“Amendment Effective Date”**: means the date and time on and from which this Amended and Restated Interconnection Agreement shall have effect which shall be 0500 hours on [\[ \]](#), ~~1 October 2015~~, unless otherwise expressly specified in this Agreement;

**“Authority”**: means the Gas and Electricity Markets Authority;

**“Balancing Code”**: means Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks;

**“CAM Code”**: means Commission Regulation (EU) No ~~2017/459984/2013~~ of ~~16 March 2017~~~~14 October 2013~~ establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and ~~repealing Commissionsupplementing~~ Regulation (EU~~EC~~) No ~~984/2013~~~~715/2009 of the European Parliament and of the Council~~;

**“Competent Authority”**: means any local, national or supra-national agency, authority, department, inspectorate, minister, official, court, tribunal or public or statutory person (whether autonomous or not) of the United Kingdom or the European Union which has jurisdiction over National Grid Gas or ~~InterconnectorUK~~ or the subject matter of this Agreement (including without limitation the Authority);

**“Connection Facilities”**: means the National Grid Gas Facilities and the ~~InterconnectorUK~~ Facilities;

**“CSEP”**: means the Interconnection Point as Connected System Exit Point;

**“Cumulative Steering Difference”**: has the meaning given in Annex F (Operational Balancing Account);

**“Directive”**: means any present or future directive, request, requirement, instruction, code of practice, direction or rule of any Competent Authority having the force of law or which a party is otherwise required to comply with under the arrangements by which a party is regulated pursuant to the Gas Act and any modification, extension or replacement thereof;

**“Exceptional Event”** means:

- (a) in respect of National Grid Gas, a Transportation Constraint as defined in the Uniform Network Code; and
- (b) in respect of ~~InterconnectorUK~~, a Transportation System Constraint as defined in (or within the meaning of) the ~~InterconnectorUK~~ Transportation Arrangements;

**“Expert”**: shall be the person appointed in accordance with Clauses 13.4 to 13.11;

**“Force Majeure Event”**: shall have the meaning ascribed to it in clause 14.2;

**“Gas Act”**: means the Gas Act 1986, as amended from time to time;

**“Gas Day”**: means the period beginning at 0500 hours UTC (0400 hours during daylight saving time periods) on one day and ending at 0500 hours UTC (0400 hours during daylight savings time) on the following day;

**“Gas Day D”**: means the Gas Day for which any Nomination or Renomination is made;

**“Gas Day D-1”**: means the Gas Day immediately preceding Gas Day D (and Gas Day D-2, Gas Day D-3 and so on shall be construed accordingly);

**“Gas Day D +1”**: means the Gas Day immediately following Gas Day D (and Gas Day D+2, Gas Day D+3 and so on shall be construed accordingly);

**“Interconnection Point”**: means the points (each being an Individual System Exit Point or an Individual System Entry Point or both) at which the National Grid Gas System and the [InterconnectorUK](#) System are connected at Bacton as described in Annex C (Measurement Provisions), Appendix 1;

**“Interoperability Code”**: means Commission Regulation (EU) 2015/703 of 30 April 2015 establishing a network code on interoperability and data exchange rules;

**“[InterconnectorUK](#) Access Rules”**: means the terms upon which [InterconnectorUK](#) has, or in the future will, agree with an [InterconnectorUK](#) Shipper to transport gas in the [InterconnectorUK](#) System and/or to provide related services, which terms are commonly referred to as the [InterconnectorUK Standard Transportation Agreement and/or the UK Access Agreement](#) and [InterconnectorUK](#) Access Code, as appropriate;

**“[InterconnectorUK](#) Facilities”**: means the facilities installed, owned and operated by [InterconnectorUK](#) at the Interconnection Point as described in Annex C (Measurement Provisions), Appendix 1;

**“[InterconnectorUK](#) Shipper”**: means any person (whether or not being a National Grid Gas Shipper) with whom [InterconnectorUK](#) may for the time being have arranged for the transportation of gas in the [InterconnectorUK](#) System;

**“[InterconnectorUK](#) System”**: means the interconnector pipeline system (including the [InterconnectorUK](#) Facilities) operated by [InterconnectorUK](#) for the conveyance of gas to or from the National Grid Gas System at Bacton from or to a pipeline system at Zeebrugge in Belgium;

**“Legal Requirement”**: means any act of Parliament, regulation, licence or Directive of a Competent Authority;

**“Local Operating Procedures”**: has the meaning in Section I of the Transportation Principal Document to the Uniform Network Code and means the procedures set out in Annex G (Local Operating Procedures), as such procedures may be revised from time to time in accordance with clause 3.2;

**“National Grid Gas Facilities”**: means the facilities installed, owned and operated by National Grid Gas at the Interconnection Point as described in Annex C (Measurement Provisions), Appendix I;

**“National Grid Gas Shipper”**: in the context of the SEP, means any gas shipper (as defined in the Gas Act), and in the context of the CSEP, any gas shipper which is pursuant to the Uniform Network Code for the time being a CSEP User in respect of the CSEP;

**“National Grid Gas System”**: means the main pipeline system operated by National Grid Gas in Great Britain (being the System as defined in the Transportation Principal Document to the Uniform Network Code), including the National Grid Gas Facilities;

**“National Grid Gas Transporter Licence”**: means the licence referred to in Recital (A);

**“Reasonable and Prudent Operator”**: means a person acting, in good faith, to perform its contractual obligations and, in so doing and in the general conduct of its undertaking, exercising that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced operator engaged in the same type of undertaking under the same or similar circumstances;

**“Relevant Interconnection Provision”**: has the meaning ascribed to it in Section A of the European Interconnection Document to the Uniform Network Code;

**“SEP”**: [means](#) the Interconnection Point as System Entry Point;

**“Shipper”**: means a National Grid Gas Shipper or an [InterconnectorUK](#) Shipper;

**“System(s)”**: means the National Grid Gas System and/or the [InterconnectorUK](#) System as appropriate;

**“Transportation Arrangements”**: means arrangements made:

- (a) by National Grid Gas (constituting transportation arrangements as defined in the National Grid Gas Transporter Licence) with a National Grid Gas Shipper; or
- (b) by [InterconnectorUK](#) with an [InterconnectorUK](#) Shipper,

for the transportation of gas in such Operator’s System to or from the Interconnection Point; and a reference to Transportation Arrangements shall include:

- (i) the Transportation Principal Document and European Interconnection Document to the Uniform Network Code, in the case of National Grid Gas; and
- (ii) the [InterconnectorUK](#) Access Rules, in the case of [InterconnectorUK](#);

**“Uniform Network Code”**: means the uniform network code prepared, and from time to time modified, pursuant to the National Grid Gas Transporter’s Licence (a copy of which code is available on The Joint Office of Gas Transporters website); and

**“UTC”** means coordinated universal time, according to ISO 8601: 1988(E).

## 1.2 Interpretation

1.2.1 Provisions in this Agreement set out the agreed arrangements between the Operators in relation to the Interconnection Point.

1.2.2 References to an Operator shall include its successors or permitted assignees.

1.2.3 Headings in this Agreement are for convenience only and shall not affect its interpretation or construction.

1.2.4 In this Agreement, unless the context requires otherwise:

- (a) a reference to a particular clause or annex is a reference to a clause of or annex to this Agreement;
- (b) a reference to a particular paragraph is a reference to a paragraph of an annex to this Agreement;
- (c) any reference to the singular shall include a reference to the plural (and vice versa);

(d) any reference to a gender includes the other gender; and

(e) the word “including” is to be construed without limitation.

1.2.5 Any reference in this Agreement to any statute, statutory instrument, statutory provision, bye-law, regulation, directive, rule, subordinate or delegated legislation or order includes any amendment, re-enactment, replacement or supplement thereto.

1.2.6 Daylight saving time begins at UTC 01:00 hours (when the clocks go forward one hour) on the last Sunday in March, and UTC 01:00 hours on the last Sunday in October (when the clocks are put back one hour).

1.2.7 Words and expressions defined in the Interoperability Code, the CAM Code, the Balancing Code, the Uniform Network Code or [InterconnectorUK](#) Access Rules and not defined in this Agreement shall have the meanings ascribed to them under the Interoperability Code, the CAM Code, the Balancing Code, the Uniform Network Code or the [InterconnectorUK](#) Access Rules (as appropriate). In the event that any such word or expression is defined in more than one of the aforementioned documents, the Operators shall meet to agree how to resolve any resulting inconsistency or lack of clarity in its meaning for the purposes of this Agreement.

## 2. GENERAL

2.1 The Operators agree that, subject to and in accordance with the terms of this Agreement, the [InterconnectorUK](#) System and the National Grid Gas System are, and shall remain, connected at the Interconnection Point.

2.2 Nothing in this Agreement shall:

2.2.1 impose or confer on either Operator any obligation to, or entitlement against, the other Operator to deliver gas to or offtake gas from the other Operator’s System, or as to the rates, quantities, pressure and quality of gas so delivered or offtaken (it being acknowledged that the only persons having such obligations or entitlements are [InterconnectorUK](#) Shippers and National Grid Gas Shippers), but without prejudice to [Interconnector’sUK’s](#) obligations as to the rate of offtake pursuant to paragraph [36](#) of Annex B-4; nor

2.2.2 make any provision of the Transportation Arrangements binding as between National Grid Gas and [InterconnectorUK](#) nor is any provision of this Agreement deemed to amend or vary any such Transportation Arrangements.

2.3 Without prejudice to any other agreement between the Operators and save as expressly otherwise provided in this Agreement, this Agreement shall not require either Operator to reinforce any part of its System or to take any other step with a view to its being feasible to accept the delivery of gas into, or make gas available for offtake from, its System at the Interconnection Point in any quantities or at any rate.

2.4 Without prejudice to any other agreement between the Operators:

2.3.12.4.1 National Grid Gas shall not be liable to the other in respect of any failure by National Grid Gas Shippers ~~(where the first Operator is National Grid Gas) or IUK Shippers (where the first Operator is IUK)~~ to comply with any provision of National Grid Gas's~~the first Operator's~~ Transportation Arrangements, nor for any failure of National Grid Gas~~the first Operator~~ to make gas (at any rate or pressure or of any quality or in any quantity) available for offtake from or accept delivery of gas into its System;

2.4.2 Interconnector shall not be liable to National Grid Gas in respect of any failure by Interconnector Shippers to comply with any provision of Interconnector's Transportation Arrangements, nor for any failure of Interconnector to make gas (at any rate or pressure or of any quality or in any quantity) available for offtake from or accept delivery of gas into its System.

2.42.5 Each Operator acknowledges that the other Operator's Transportation Arrangements contain or may contain provisions pursuant to which the delivery or offtake of gas to or from that other Operator's System by National Grid Gas Shippers (where the other Operator is National Grid Gas) or Interconnector~~IUK~~ Shippers (where the other Operator is Interconnector~~IUK~~), may be suspended or discontinued and/or the rate of such delivery or offtake may be limited.

2.52.6 Save as expressly provided otherwise in this Agreement, each Operator will perform its duties under this Agreement in accordance with the standard of a Reasonable and Prudent Operator and in compliance with the terms and conditions of this Agreement, and all applicable laws and regulations for the time being in force in the United Kingdom.

2.62.7 The Operators acknowledge and agree that the Cumulative Steering Difference represents a quantity of gas borrowed by one Operator from the other and which the other Operator is entitled to have returned under the arrangements in Annex F (Operational Balancing Account). If this Agreement is terminated then (unless the Operators agree otherwise) the Operators will ensure gas flows before or at the time of termination such that any Cumulative Steering



Difference at the time is returned to the Operator to which it is owed. If the Operator owing any Cumulative Steering Difference:

~~2.6.12.7.1~~ becomes insolvent; or

~~2.6.22.7.2~~ on termination of this Agreement does not return such Cumulative Steering Difference,

the Operator to which it is owed will be entitled to make a financial claim against the first Operator in respect of the value of the gas comprising the Cumulative Steering Difference.

### 3. LOCAL OPERATING PROCEDURES

- 3.1 Each Operator shall comply with the Local Operating Procedures.
- 3.2 The Operators shall keep under review, and (as appropriate for reasons of safety or prudent operation) may from time to time revise the Local Operating Procedures in accordance with the provisions of clause 7.

### 4. CONDITIONS AND DURATION

- 4.1 This Agreement shall continue until terminated in accordance with clause 4.3.
- 4.2 Upon the termination of this Agreement, unless the Operators have agreed that this Agreement is to be replaced by a further agreement relating to the same subject matter as this Agreement, the [InterconnectorUK](#) System and the National Grid Gas System shall cease to be connected and each Operator shall be responsible at its cost for any required decommissioning, disassembly or removal of its Connection Facilities.
- 4.3 Subject to clause 21 (Survival):
  - 4.3.1 the Operators may terminate this Agreement at any time by mutual consent; or
  - 4.3.2 an Operator (the “**First Operator**”) may terminate this Agreement on reasonable written notice to the other Operator in the event that the First Operator agrees with the Authority (or it is otherwise determined) that the First Operator’s licence to operate its System (granted or treated as granted under the Gas Act) is to be revoked, provided that this Agreement shall not (unless the Operators otherwise agree) terminate prior to the date on which such revocation is to occur.

Such termination shall be without prejudice to the claims of either Operator in respect of any breach of this Agreement prior to termination.

## 5. INFORMATION AND CONFIDENTIALITY

5.1 Unless expressly stated otherwise, the provision of information by either Operator to the other pursuant to this Agreement shall be made in good faith by the Operator disclosing such information but without any liability for, or warranty as to, the accuracy or completeness of such information. If either Operator acts upon information provided by the other, that Operator shall do so at its own risk.

5.2 For the purposes of this Agreement, in relation to an Operator “**Confidential Information**” means the terms of this Agreement and any information disclosed to that Operator by the other (whether orally or in writing or in some other permanent form) in connection with this Agreement, which at the relevant time:

5.2.1 has not already been, or could not already have been, lawfully acquired by the Operator to whom the disclosure is made; or

5.2.2 is not already in the public domain (other than as a result of a breach of the terms of this clause 5).

5.3 Except with the prior written consent of the other Operator, and subject to clause 5.4, each Operator shall keep confidential, and shall not disclose to any third party or use other than for a purpose connected with this Agreement, any Confidential Information.

5.4 An Operator may disclose Confidential Information:

5.4.1 to that Operator’s legal counsel, other professional consultant or adviser, insurer, accountant, underwriter or provider of finance or financial support, or their legal counsel and advisers, provided that such disclosure is solely to assist the purpose for which such person was engaged;

5.4.2 if and to the extent required by any Legal Requirement or by a Competent Authority or by the rules of any recognised stock exchange upon which the share capital or debt of the Operator making the disclosure is or is proposed to be from time to time listed or dealt in;

5.4.3 to any of its Affiliates or shareholders;

5.4.4 to the Expert in accordance with clause 13;

5.4.5 to directors and employees of that Operator and of its Affiliates or shareholders, to the extent required for the proper performance of their work; or

5.4.6 in respect of Relevant Interconnection Provisions, to:

- (a) National Grid Gas Shippers and any person who intends to become a National Grid Gas Shipper; and
- (b) [InterconnectorUK](#) Shippers and any person who intends to become an [InterconnectorUK](#) Shipper.

5.5 Except as otherwise provided in this clause 5, an Operator shall ensure that any person (excluding legal counsel) to which it discloses information pursuant to clause 5.4 (other than clause 5.4.2) undertakes to hold such Confidential Information subject to confidentiality obligations equivalent to those set out in clause 5.3.

5.6 This clause 5 is without prejudice to the provisions of the Transportation Arrangements as to confidentiality as between [InterconnectorUK](#) and [InterconnectorUK](#) Shippers and/or as to confidentiality as between National Grid Gas and National Grid Gas Shippers.

5.7 The foregoing obligations with regard to Confidential Information shall remain in effect for three (3) years after this Agreement is terminated.

## 6. LIABILITY

6.1 Each Operator (the “first” Operator) shall itself bear the risk of any loss, damage or liability which:

6.1.1 the first Operator may suffer in consequence of its System being connected at the Interconnection Point to the other Operator’s System and/or as a result of anything done or not done (whether negligently or otherwise) by the other Operator;

6.1.2 the first Operator may suffer arising in connection with or as a result of the other Operator’s performance or failure to perform (whether negligently or otherwise) its obligations set out in Annex D (Capacity and Optimisation), Annex E (Nominations and Matching), or (subject to clause 2.7) Annex F (Operational Balancing Account) except as expressly provided in any such Annex; or

6.1.3 the first Operator may suffer in consequence of or acting on any information provided by the other Operator under this Agreement, irrespective of the accuracy or completeness of such information, without prejudice to any provision in this Agreement for the correction or adjustment of any incompleteness or inaccuracy,

and the first Operator accordingly waives any liability (in contract or tort or otherwise) of the other Operator in respect of any such loss, damage or liability of the first Operator.

6.2 Without prejudice to any other provision of this Agreement, excluding or limiting the liability of either Operator to the other, neither Operator shall be liable to the other Operator for:

6.2.1 any claim for loss, damage and/or expense of a third party; or

6.2.2 any indirect loss, indirect damage, indirect cost and indirect financial harm;

of whatever kind and nature suffered by the other Operator under or in connection with this Agreement, howsoever caused (including the default or negligence of the other Operator or a breach of any duty owed in law by the other Operator).

6.3 Nothing in this Agreement limits an Operator's liability for injury or death caused by negligence.

6.4 Nothing in this Agreement limits an Operator's liability for any loss, damage or liability caused by the wilful default of, or fraudulent misrepresentation or fraudulent concealment by, that Operator.

## 7. AMENDMENT PROCESS

### 7.1 Amendment prohibition

7.1.1 The Operators may, at any time, only amend any of the provisions of this Agreement in accordance with this clause 7.

### 7.2 Amendment process

7.2.1 An Operator (the "**Proposer**") may propose an amendment to this Agreement by sending a written notice (an "a "Proposed Amendment Notice") to the other Operator (the "**Receiver**").

7.2.2 AnA Proposed Amendment Notice shall set out:

(a) a description of the nature and purpose of the proposed amendment in sufficient detail to enable the Receiver to evaluate the proposed amendment in full, together with the Proposer's reasons for proposing the amendment;

(b) the Proposer's view of whether, or not, the proposed amendment:

- (i) is required to enable one or both Operators to comply with a Legal Requirement (a “**Legally Required Amendment**”);
  - (ii) is an amendment on which the Operators are required by the Interoperability Code to consult with network users (a “**Consultation Amendment**”);
  - ~~(iii) has a subject matter that relates to a Relevant Interconnection Provision; or~~
  - ~~(iv) is required to resolve an inconsistency between this Agreement and the Proposer’s Transportation Arrangements; and~~
- ~~the~~ date by which the Proposer believes the Proposed Amendment ~~proposed amendment~~ is required to be implemented (if any) and the basis for any such belief.

7.2.3 The Receiver (having given such proposed amendment reasonable consideration) shall within fifteen (15) Business Days after the date on which the Amendment Notice was sent, give notice to the Proposer:

- (a) stating whether it agrees with the scope of the Amendment Notice, and if it does not, specifying what it disagrees with and the reasons for which it disagrees; and
- (b) if the Receiver wishes to propose an alternative proposed amendment, setting out the details in accordance with Clause 7.2.2; and/or
- (c) stating whether it requires further information to evaluate the proposed amendment (in which case the Proposer will provide such additional information as soon as reasonably practicable, and in any event within ten (10) Business Days) and the Receiver shall repeat the steps in Clause 7.2.3(a) and (b) following receipt of such additional information).

7.2.3.2.4 Representatives of the Operators shall meet within thirty (30) days of the date upon which the ~~Proposed~~ Amendment Notice is received by the Receiver to discuss:

- (a) if applicable, the matters referred to in clause 7.2.2(b); ~~and~~

- (b) the proposed amendment and any alternative proposed amendment proposed under Clause 7.2.3(b), with a view to agreeing upon whether and if so what amendments are to be made to this Agreement, and a timetable and process for agreeing such changes, ~~that are to be made to this Agreement to give effect to the proposed amendment,~~ having regard to any date for implementation specified in the ~~Proposed~~ Amendment Notice.

~~7.2.4~~7.2.5 The Operators shall use reasonable endeavours to agree the matters referred to in clause 7.2.3~~4~~ having regard to the mutual aim in clause 7.8.5.

~~7.2.6~~ Prior to any meeting held in accordance with Clause 7.2.4, National Grid Gas will notify Interconnector whether it considers, in its sole discretion, acting reasonably, that the proposed amendment relates to a Relevant Interconnection Provision under the Uniform Network Code.

~~7.2.5~~7.2.7 If the Operators do not reach agreement on any matter set out in clause 7.2.3~~4~~ within thirty (30) days after the meeting of the Operators' representatives pursuant to clause 7.2.3~~4~~, either Operator may serve a written notice (a "**Senior Level Meeting Notice**") on the other Operator requesting a senior level meeting to discuss the matters that are not agreed. A director of each Operator (or another senior representative of each Operator) with authority to settle the matter(s) in dispute will, within thirty (30) days of the receipt by the receiving Operator of the Senior Level Meeting Notice, seek in good faith to meet with a view to resolving any disagreement.

~~7.2.6~~7.2.8 If within thirty (30) days after the meeting of the directors (or other senior representatives) under clause 7.2.7~~7~~, the Operators have been unable to reach agreement on whether a proposed amendment is a Legally Required Amendment, then the disagreement shall unless the Operators agree otherwise, be determined by an Expert in accordance with clause 13.4.

~~7.2.7~~7.2.9 If having completed the process set out in this clause 7.2 and any process agreed in accordance with clause 7.2.4(b), the Operators have:

- (a) agreed on the changes that are to be made to this Agreement to give effect to a proposed amendment, then clause 7.3 shall apply;
- (b) not agreed on the changes that are to be made to this Agreement to give effect to a proposed amendment, and the proposed amendment is a Legally Required Amendment, then clause 7.4 shall apply; or

- (c) not agreed on the matters referenced in clause 7.2.34 and/or the changes that are to be made to this Agreement to give effect to a proposed amendment then, where the proposed amendment is not a Legally Required Amendment, the proposed amendment shall (unless the Operators agree otherwise in writing) lapse and no further action shall be taken in respect of the proposed amendment and neither Operator shall be obliged to amend this Agreement.

~~7.2.8~~7.2.10 Where clause 7.2.9(b) applies, if at any time before the determination of the Expert is submitted in accordance with clause 13 (Resolution of Disputes), the Operators reach agreement on the changes that are to be made to this Agreement to give effect to the proposed amendment, clause 7.3 will apply in respect of the amendment from that time onwards.

### 7.3 Agreement on proposed amendment

7.3.1 If the Operators have agreed on ~~an~~the changes that are to be made to this Agreement to give effect to a proposed amendment then:

- (a) where the proposed amendment relates to a Relevant Interconnection Provision, National Grid Gas will, in accordance with the Uniform Network Code, propose a Code Modification (but may in parallel seek to obtain approval of the National Grid Gas Shippers to the proposed amendment), unless National Grid Gas considers that it is entitled, pursuant to the Uniform Network Code, to agree the amendment because it is a Legally Required Amendment, in which case it will consult with National Grid Gas Shippers to the extent that National Grid Gas considers appropriate;
- (b) where ~~Interconnector UK~~ considers the proposed amendment requires the consent of, or to be consulted upon with, ~~Interconnector UK~~ Shippers, ~~Interconnector UK~~ shall seek its Shippers' consent and/or shall consult with those Shippers concerning the proposed amendment in such manner as ~~Interconnector UK~~ considers appropriate;
- (c) if it is a Consultation Amendment, the Operators will consult upon the proposed amendments as set out in clause 7.6 below;
- (d) ~~Interconnector UK~~ will submit details of the changes which the Operators have agreed are to be made to this Agreement to give effect to the proposed

amendment to the Authority for approval in accordance with Standard Condition 3 of [Interconnector's UK's](#) gas interconnector licence; and

- (e) upon and subject to Authority approval in accordance with Standard Condition 3 of [Interconnector's UK's](#) gas interconnector licence and (where applicable under paragraph (a), approval of the relevant Code Modification) the Operators shall amend this Agreement to incorporate the amendment.

#### **7.4 Non-agreement on a Legally Required Amendment**

7.4.1 Where a proposed amendment is a Legally Required Amendment and the Operators have not agreed on the amendments that are to be made to this Agreement to give effect to that Legally Required Amendment then, before taking any of the steps in accordance with clause 7.3, the Operators will appoint an Expert to determine in accordance with the dispute resolution process set out in clause 13 (Resolution of Disputes):

- (a) the amendments that need to be made to this Agreement to give effect to the relevant Legal Requirement; and
- (b) to determine those amendments on the following basis:
  - (i) the amendments should (unless the Operators agree otherwise) be the minimum necessary for compliance with the relevant Legal Requirement; and
  - (ii) the amendments should, to the extent reasonably practicable, create the least adverse consequences for both Operators consistent with enabling compliance with the relevant Legal Requirement.

7.4.2 Following the determination under clause 7.4.1, the Operators shall treat the determination as an agreed amendment for the purposes of clause 7.3.

#### **7.5 Notice in relation to a change to a Relevant Interconnection Provision**

7.5.1 Where a National Grid Gas Shipper proposes a change to a Relevant Interconnection Provision, National Grid Gas will notify [Interconnector UK](#) of such proposal.



## 7.6 Consultation Amendment

7.6.1 Where the Operators are required by the Interoperability Code to consult in relation to the proposed amendment then, without limiting National Grid Gas's obligations under clause 7.3.1(a), the Operators may consult separately or jointly with their Shippers on the proposed amendment.

## 7.7 Transportation Arrangements

7.7.1 Any provision of the Uniform Network Code which is or becomes inconsistent with any provision of this Agreement will, as between National Grid Gas and National Grid Gas Shippers, prevail over such inconsistent provision of this Agreement.

7.7.2 Any provision of [Interconnector's~~UK's~~](#) Transportation Arrangements which is or becomes inconsistent with any provision of this Agreement will, as between [Interconnector~~UK~~](#) and [Interconnector~~UK~~](#) Shippers, prevail over such inconsistent provision of this Agreement.

## 7.8 Implementation

7.8.1 Save to the extent agreed otherwise in writing by the Operators, each Operator shall bear its own costs of the preparation of all documentation and the negotiation of changes in accordance with this clause 7.

7.8.2 The Operators may, except in respect of the period or process for consultation which applies under clause 7.6.1, and subject to all applicable Legal Requirements, vary by agreement any of the time periods and/or processes set out in this clause 7.

7.8.3 Nothing agreed between the Operators amends this Agreement or otherwise binds the Operators unless and until an amendment is approved by the Authority under Standard Condition 3 of [Interconnector's~~UK's~~](#) gas interconnector licence (and, where applicable, pursuant to a Code Modification).

7.8.4 The Operators shall inform the Authority of the implementation of an agreed amendment within ten (10) days after its implementation.

7.8.5 The Operators acknowledge that, save where it is not reasonably practicable to do so, it is their mutual aim to conclude and implement an amendment to this Agreement within 12 months of [ana-Proposed](#) Amendment Notice being received in respect of that amendment.

7.8.6 The Operators shall designate an effective date for the implementation of an agreed amendment.

7.8.7 An agreed amendment is implemented by execution by the Operators of an agreement amending this Agreement.

## 8. ASSIGNMENT AND OPERATION OF CONNECTION FACILITIES

8.1 An Operator may assign all or part of its rights and obligations under this Agreement only:

8.1.1 in accordance with this ~~clause~~ Clause 8;

8.1.2 to a person who is demonstrably capable of performing the assigning Operator's obligations under this Agreement; and

8.1.3 with the prior written consent of the other Operator (the "**Consenting Operator**"), such consent not to be unreasonably withheld or delayed.

8.2 Where an Operator's rights and obligations under this Agreement are to be assigned:

8.2.1 it shall be a condition precedent to such assignment that the assignee shall enter into an agreement with the Consenting Operator covenanting to be bound on the same terms and conditions as this Agreement; and

8.2.2 the assigning Operator shall be released from its obligations under this Agreement arising after the time at which the assignment is effective but shall remain liable for any obligations which have accrued up to such time.

8.3 Neither Operator shall appoint any other person to operate its Connection Facilities without first informing and consulting with the other Operator as to such appointment and agreeing or procuring such other person to agree to such procedural and operational requirements as the other Operator may reasonably require in connection with such appointment.

## 9. MODIFICATION AND INSPECTION OF CONNECTION FACILITIES

9.1 ~~Interconnector UK~~ and National Grid Gas shall ensure that the objective in clause 9.2 is and remains satisfied at all times during the term of this Agreement.

9.2 The objective is that, without prejudice to clause 2.2.1 of this Agreement, in all material respects the National Grid Gas Facilities and the ~~Interconnector UK~~ Facilities are and will continue to be technically and operationally compatible as facilities by which the National Grid Gas System and the ~~Interconnector UK~~ System may safely be connected.

9.3 Where an Operator (the “**Proposing Operator**”):

9.3.1 is proposing for any reason (including to comply with any Legal Requirement) to make a modification (the “**Proposed Modification**”) to its Connection Facilities; and

9.3.2 acting as a Reasonable and Prudent Operator, considers that the Proposed Modification will or may impact:

(a) either Operator’s ability to perform its obligations under this Agreement (including to comply with clause 9.1); and/or

(b) the Connection Facilities of the other Operator such that a modification to those Connection Facilities may be required,

then the Proposing Operator shall, as soon as reasonably practicable after identifying the Proposed Modification, serve a written notice on the other Operator (the “**Receiving Operator**”), setting out details of the Proposed Modification, including the reason and proposed timetable for it.

9.4 Within a reasonable period after receiving a notice served in accordance with clause 9.3 above (having regard to the nature of the matters raised in that notice), the Receiving Operator shall serve a written notice on the Proposing Operator setting out the Receiving Operator’s assessment, acting as a Reasonable and Prudent Operator, of:

9.4.1 the modifications (if any) which would, if the Proposed Modification were implemented, need to be made to the Receiving Operator’s Connection Facilities for the purposes of ensuring that the Receiving Operator is able to continue to comply with its obligations under this Agreement (including to comply with clause 9.1) and applicable Legal Requirements;

9.4.2 the costs which the Receiving Operator would be likely to incur in making the modifications (if any) described in accordance with clause 9.4.1; and

9.4.3 any other representations which the Receiving Operator would like to make to the Proposing Operator concerning the Proposed Modification, including as to the appropriateness of the proposed timetable.

9.5 Following receipt by the Proposing Operator of the notice under clause 9.4, the Operators shall discuss in a timely and good faith manner the issues raised by the Proposed Modification and

the changes (if any) that (subject to clause 7 (Amendment Process)) may need to be made to this Agreement to implement the modification.

9.6 Subject to clause 7 (Amendment Process), the Proposing Operator may only implement a Proposed Modification if the Operators have agreed (or an Expert has determined):

9.6.1 the modifications (if any) that are to be made to this Agreement and/or the Proposing Operator's and the Receiving Operator's Connection Facilities for the purposes of ensuring that after the Proposed Modification is implemented, the objective referenced at clause 9.2 shall continue to be satisfied and that the Operators are otherwise able to continue to comply with their respective obligations under this Agreement and applicable Legal Requirements;

9.6.2 the timetable for implementing the modifications referenced in clause 9.6.1; and

9.6.3 the costs for implementing the modifications referenced in clause 9.6.1 and how those costs are to be allocated (having regard to clause 9.7) as between the Operators.

9.7 Subject to clause 9.9, the reasonable and agreed costs of implementing an agreed or determined Proposed Modification to the Connection Facilities shall be met by the Proposing Operator unless:

9.7.1 the Proposed Modification relates to a Legal Requirement that directly affects both Operators, in which case the costs of implementing the required changes to the Connection Facilities shall be allocated fairly between the Operators having regard to the impact of that Legal Requirement on both Operators; or

9.7.2 the Receiving Party shall derive a quantifiable benefit (which may be in the form of a monetary saving or otherwise) from the implementation of the Proposed Modification, in which case that quantifiable benefit shall be taken into account in the agreed or determined allocation of costs.

9.8 To the extent that it is agreed or determined in accordance with this clause 9 that the Receiving Operator is to recover its costs from the Proposing Operator, the Receiving Operator shall provide the Proposing Operator with an itemised invoice in respect of recoverable costs and the provisions of clause 15 (Invoicing and payment) shall apply to the payment of amounts due.

9.9 Each Operator shall be responsible for its own costs in negotiating and implementing any changes to this Agreement.

9.10 If the Operators cannot agree the matters referenced in clause 9.6, the Proposing Operator may refer the matter for Expert determination in accordance with clause 13.

9.11 Each Operator shall be entitled, upon reasonable notice to the other, to inspect the other's Connection Facilities (and to have access to the site thereof accordingly), for the purposes of determining whether the objective in clause 9.2 is satisfied, subject to the following terms:

9.11.1 each Operator shall be entitled to appoint two (2) authorised persons ("**Authorised Persons**") to conduct the inspection;

9.11.2 notice of the identity and position of such Authorised Persons shall be provided to the other Operator prior to the inspection;

9.11.3 such Authorised Persons shall agree to the health, safety and security requirements of the other Operator;

9.11.4 such Authorised Persons shall follow all directions and comply with any reasonable requests made by the other Operator;

9.11.5 such Authorised Persons shall not disrupt or otherwise interfere with the other Operator's Connection Facilities; and

9.11.6 such Authorised Persons shall remain the sole responsibility of the Operator who has appointed them.

9.12 Without prejudice to any other agreement between National Grid Gas and [InterconnectorUK](#) in respect of the installation of the National Grid Gas Facilities or the [InterconnectorUK](#) Facilities, subject to clauses 9.3 to 9.11, nothing in this Agreement shall impose any obligations upon either Operator or take effect as a warranty by either Operator in relation to its System; and neither Operator will be liable to the other in respect of any failure or malfunction thereof.

## 10. NOTICES AND OPERATIONAL COMMUNICATIONS

10.1 Where any notice or other communication (other than a communication given or to be given in accordance with any procedure established under clause 10.3~~3~~) is to be given or made by either Operator to the other under this Agreement, such notice or communication shall:

10.1.1 be in writing and in English;

10.1.2 be signed by or on behalf of the Operator giving it;

10.1.3 be delivered to the receiving Operator:

- (a) by hand or by courier to the address of the receiving Operator specified below (or such other address of that Operator as may have been notified by it from time to time for this purpose); or
- (b) by first-class, prepaid, recorded post to the address of the receiving Operator specified below (or such other address of that Operator as may have been notified by it from time to time for this purpose); or
- (c) by ~~email~~~~fax~~ to the receiving Operator's ~~email address~~~~fax number~~ specified below (or such other ~~email address~~~~fax number~~ of that Operator as may have been notified by it from time to time for this purpose).

If to National Grid Gas:

Address: ~~National Grid~~~~NG~~ House  
 Warwick Technology Park  
 Gallows Hill  
 Warwick, CV34 6DA

Email address : ~~Box.UKT.customerlifecycle@nationalgrid.com~~

~~Fax No.: 01926 65 6605~~

In each case marked for the attention of: Gas Customer ~~Portfolio~~ Manager, ~~Future Networks, Gas System Operation. Transmission Network Services~~

If to ~~Interconnector~~~~UK~~:

Address: 4th Floor ~~Burdett House, 15-16 Buckingham, 10 Farnival~~ Street,  
 London, ~~WC2N 6DU~~~~EC4A 1AB~~

Email address : ~~operations@interconnector.com~~

~~Fax No.: 020 7242 1710~~

In each case marked for the attention of: ~~Chief~~ Commercial ~~Officer~~ ~~Director~~

10.2 A notice or communication served or made in accordance with clause 10.1 shall (unless the contrary can be demonstrated) be deemed to have been received by the receiving Operator:

10.2.1 if delivered by hand or by courier, on signature of a delivery receipt by or on behalf of the receiving Operator at the address specified in clause 10.1;

10.2.2 if delivered by email, on the date and at the time it is sent to the email address unless it is delivered between 17:00 hours and 09:00 in which case it shall be deemed to have been delivered at 09:00 and unless the email prompts a reply indicating that the email was undelivered in which case the email shall not be deemed to have been received at all; and

~~10.2.2~~ 10.2.3 if delivered by first-class, prepaid, recorded post, at the time recorded by the delivery service as having been delivered to the address specified in clause 10.1; ~~and~~

~~10.2.3 if delivered by fax transmission between the hours of 09:00 and 17:00, at the time of receipt by the sender of confirmation of transmission and otherwise on the next day after transmission.~~

~~10.3 Where a communication by facsimile is received in an incomplete or illegible form:~~

~~10.3.1 if the recipient so requests (by telephone or otherwise), the sender shall promptly retransmit the communication to the recipient; and~~

~~10.3.2 provided that the request for re-transmission was made within 24 hours after time of receipt (in accordance with clause 10.3.1) of the first facsimile, the communication shall not be deemed to have been received until the time (whether or not between 09:00 and 17:00 hours) of receipt by the sender of confirmation of such retransmission.~~

~~10.4~~ 10.3 The provisions of clause 3 (Local Operating Procedures) and clause 25 (Communications and Data Exchange) shall apply in respect of operational communications between the Operators.

## 11. EMERGENCIES

11.1 Each Operator agrees to provide reasonable co-operation to the other with a view to ensuring safety in the event of any emergency circumstances affecting the other's System, provided that (without prejudice to any right of the affected Operator to take any action itself in such

event) this shall not require the Operators to act in breach of their respective Transportation Arrangements.

11.2 The procedures established pursuant to clause 3.1 shall include procedures for giving effect to clause 11.1.

11.3 Without prejudice to any other right of National Grid Gas to reduce or discontinue the flow of gas at the CSEP, if, as a result of emergency circumstances affecting the National Grid Gas System or any part of that System which includes the CSEP, it is necessary for National Grid Gas to take steps to reduce the level of firm demand on the National Grid Gas System or any part of it, National Grid Gas may require that the rate at which gas is being offtaken from the CSEP is reduced:

11.3.1 consistently with any Directive of a Competent Authority relating to such reduction, or

11.3.2 in the absence of any such Directive, by a proportionate amount commensurate with the proportionate reduction in demand required in aggregate at points (other than the CSEP) on the National Grid Gas System or such part of it.

## **12. MAINTENANCE**

12.1 The Operators agree to exchange information as to, and to take reasonable steps to co-ordinate, their respective plans for maintenance of their respective Connection Facilities and adjacent parts of the [InterconnectorUK](#) System or National Grid Gas System, [in order to minimise the impact on potential flows and capacity at the Interconnection Point](#).

12.2 Where the operation of any pipeline inspection or maintenance equipment in either System requires a specific even rate of offtake of gas from or delivery of gas to the other System at the Interconnection Point for any period, each Operator agrees to co-operate with the other (and with each [InterconnectorUK](#) and/or National Grid Gas Shipper as appropriate) with a view to ensuring that such rate of offtake is maintained for such period.

## **13. RESOLUTION OF DISPUTES**

13.1 For the purposes of this clause 13 a dispute is any dispute or difference between the Operators arising out of or in connection with this Agreement.

13.2 Nothing in this clause 13 shall prevent any Operator from seeking interim or interlocutory relief in the courts of England and Wales.



### 13.3 Settlement of disputes

13.3.1 Where a dispute arises, an Operator shall give written notice to the other Operator of the dispute including the subject matter of the dispute and any reasonable supporting information.

13.3.2 The Operators shall use reasonable endeavours to resolve the dispute within thirty (30) days after the date of receipt of the notice by the other Operator under clause 13.3.1.

13.3.3 Where the Operators are unable to resolve the dispute within the period specified in clause 13.3.2, either Operator may by written notice to the other Operator refer the dispute to:

- (a) the courts of England and Wales; or
- (b) where a condition (or conditions) set out in clause 13.3.5 is satisfied, expert determination under clause 13.4.

13.3.4 Where the Operators do resolve the dispute within the period specified in clause 13.3.2, the Operators may enter into a settlement agreement to record the settlement of the dispute.

13.3.5 A matter may be referred to expert determination under clause 13.4 where one (or more) of the following conditions is satisfied:

- (a) the Agreement expressly provides for the referral of the dispute to expert determination under clause 13.4; or
- (b) the Operators agree in writing to the referral of the dispute to expert determination under clause 13.4; or
- (c) the dispute arises under an Annex to this Agreement.

### 13.4 Expert determination

13.4.1 A dispute which is to be referred to or resolved by Expert determination under this Agreement shall be determined by an individual appointed as Expert in accordance with clauses 13.4 to 13.11.

13.4.2 No person shall be nominated as a proposed Expert under this Agreement unless that person has the requisite qualifications to resolve the dispute referable by virtue of his education, experience and training.

### 13.5 Initial notice and selection of Expert

13.5.1 An Operator shall give notice of a dispute which is to be resolved by or referred to Expert determination in accordance with clause 13.5.2.

13.5.2 The notice shall be given to the other Operator and shall:

- (a) provide details of the issues to be resolved;
- (b) the proposed terms of reference; and
- (c) the identity of one or more persons proposed to act as the Expert.

13.5.3 The Operators shall endeavour within twenty one (21) Business Days after the notice under clause 13.5.1 was given to agree upon the selection of an Expert, and may meet for this purpose. If agreement is not reached on the Expert to be appointed within a further seven (7) days, the matter shall be referred for resolution to the President for the time being of the Law Society whose decision shall be final and binding on the Operators and whose costs of such reference shall be borne by the Operators equally.

### 13.6 Appointment of the Expert

13.6.1 Upon the selection under clause 13.5 of an Expert, the Operators shall forthwith notify the Expert selected of his selection and request him to confirm within five (5) Business Days whether or not he is willing and able to accept the appointment.

13.6.2 The notification to the Expert shall include the following:

- (a) the names of the Operators and a summary of the dispute;
- (b) the proposed terms of his appointment
- (c) a statement that the information disclosed in the notification is confidential and that it should not be disclosed, copied or revealed whether the appointment is accepted or not; and
- (d) a request for confirmation that the Expert is able and willing to act in accordance with the proposed terms.

13.6.3 If the selected Expert is unwilling or unable to accept the appointment, or shall not have confirmed his willingness and ability to accept such appointment within the period required under clause 13.6.1, or the amount of his remuneration or terms of his appointment are not agreed within the period required under clause 13.6.4, the Operators shall endeavour to agree upon the selection of another Expert within three (3) Business Days, failing which another Expert shall be selected in accordance with clause 13.5.3.

13.6.4 The Operators shall use their best endeavours to ensure that the terms of the contract of appointment of the Expert are agreed with him within ten (10) Business Days following his confirmation of ability and willingness to act, and agree that if the Operators are unable to agree with the Expert the amount of his remuneration or any other terms of his appointment then:

- (a) if one of the Operators is willing to agree what the Expert proposes, such amount or terms shall be determined by the President for the time being of the Law Society whose decision shall be final and binding on the Operators and whose costs of such reference shall be borne by the Operators equally;
- (b) if neither of the Operators is willing to agree what the Expert proposes, or the Expert is not willing to agree what is determined pursuant to paragraph (a), another Expert shall be selected in accordance with clause 13.5.3.

13.6.5 The Expert shall be an independent contractor and the relationship of the Operators and the Expert shall in no event be construed to be that of principal and agent.

13.6.6 The Expert shall not act as an arbitrator (and accordingly the provisions of the Arbitration Act 1996 shall not apply) nor as mediator.

### 13.7 Timetable and procedure

13.7.1 No later than five (5) Business Days following his appointment, the Expert shall by giving reasonable notice to each Operator convene a meeting with the Operators at which he shall raise any matters upon which he requires clarification and discuss with the Operators any additional procedural requirements he or they may have.

13.7.2 The Operators shall, not later than ten (10) Business Days after the appointment of the Expert, submit to the Expert and to each other Operator written submissions of not more than ten (10) pages in length together with all supporting documentation,

information and data which they wish to submit in respect of the dispute; and the Operators may also submit a statement of facts which they have agreed between themselves to the Expert.

13.7.3 Each Operator may, not later than twenty (20) Business Days after the appointment of the Expert, submit to the Expert and the other Operator written submissions of not more than ten (10) pages in length, together with any additional supporting documentation, information and data, in reply to the submissions made under [clause](#)~~Clause~~ 13.7.2.

13.7.4 The Expert shall disregard any documentation, information, data or submissions supplied or made (other than pursuant to clause 13.7.9) by any Operator later than twenty (20) Business Days after his appointment unless the same are provided in response to a request from the Expert.

13.7.5 If the Expert shall wish to obtain independent professional and/or technical advice in connection with the dispute:

- (a) he shall first provide the Operators with details of the name, organisation and estimated fees of the professional or technical adviser; and
- (b) he may engage such adviser with the consent of the Operators (which consent shall not be unreasonably withheld) for the purposes of obtaining such professional and/ or technical advice as he may reasonably require.

13.7.6 The Expert may at his discretion and at any time request information from any of the Operators in writing or orally (but if orally shall only do so in the presence of the other Operator).

13.7.7 At any time after the period referred to in clause 13.7.3 expires, with the written consent of the Operators, the Expert may (but shall not be required to) convene a hearing upon giving the Operators reasonable notice.

13.7.8 Having regard to clause 13.7.12, the Expert shall provide a draft of his determination, which shall be a report in writing giving reasons for the determination, to the Operators not later than thirty-five (35) Business Days following his appointment.

13.7.9 Each Operator may, within ten (10) Business Days following delivery of the draft determination, submit to the Expert any documentation, information, data,

submissions or comments not exceeding five (5) pages in length on or in respect of the draft determination.

13.7.10 Having regard to ~~clause~~Clause 13.7.12, the Expert shall submit his final determination, which shall be a report in writing giving reasons for his determination of the dispute, to the Operators not later than fifty (50) Business Days following his appointment.

13.7.11 If the Expert fails to submit the final determination by the time required under ~~clause~~Clause 13.7.10, at the request of any Operator another Expert may be appointed in accordance with the provisions of clause 13.5.3 and the appointment of the previous Expert shall cease unless, before the appointment of the new Expert, the previous Expert shall have submitted his final determination hereunder, in which case the new Expert shall be forthwith informed that his services will not be required.

13.7.12 If the Expert determines that an amendment is necessary:

- (a) the Expert shall have regard to the amendments proposed by each Operator; and
- (b) the Expert shall be required to provide the text for the amendment that the Expert determines, and to determine the date from which such amendment is to be effective.

## 13.8 Effect of determination

13.8.1 The Expert's final determination shall (unless given after the appointment of another Expert under clause 13.7) be final and binding on the Operators except in the event of fraud or where it is so clearly erroneous on its face that it would be unconscionable for it to stand, in which case another Expert may be appointed in accordance with the provisions of clause 13.5.3.

13.8.2 The Operators agree to take all necessary steps (acting reasonably) to implement the Expert's final determination.

13.8.3 Any challenge to the final determination of the Expert as referred to in clause 13.8.1 above shall be made to the courts of England and Wales. In the event that such challenge is successful, another Expert may be appointed in accordance with the provisions of this clause 13.

### 13.9 Conflict of interests

13.9.1 The Expert shall confirm to the Operators before his appointment that he does not hold any interest or duty which would or potentially would conflict with the performance of his duties under his contract with the Operators.

13.9.2 If after his appointment the Expert becomes aware of any interest or duty which conflicts or potentially conflicts with the performance of his duties under his contract with the Operators, the Expert shall inform the Operators forthwith of such conflict giving full details thereof.

13.9.3 Any Operator may within five (5) Business Days of the disclosure of any such conflict or potential conflict object to the appointment or continued appointment of an Expert, in which case the Expert shall not be or shall cease to be appointed and a new Expert shall be selected and appointed in accordance with this clause 13 (and the rejected Expert shall not be nominated for such selection).

### 13.10 Confidentiality

13.10.1 The Operators and the Expert shall keep the fact that the Expert determination is taking place and its outcome confidential.

13.10.2 All documentation, information, data, submissions and comments disclosed or delivered whether in writing or otherwise by any Operator to the Expert or to the other Operator either in connection with or in consequence of the appointment of the Expert shall be regarded and treated as confidential; and the Expert and the Operators shall not disclose any or all of the documentation, information, data, submissions and comments including the contents and copies thereof in any form except:

- (a) in connection with any proceedings in any court;
- (b) as required by law or by a competent authority; or
- (c) to legal or tax advisers for the purpose of taking advice.

### 13.11 Costs

13.11.1 Each Operator shall bear its own costs of the Expert determination including without limitation costs of providing documentation, information, data, submissions or

comments under this ~~clause~~ [Clause](#) 13 and all costs and expenses of all witnesses and other persons retained by it.

13.11.2 The Expert shall provide the Operators with a breakdown of:

- (a) his fees; and
- (b) his reasonable expenses, including the fees of and reasonable expenses incurred by any technical or professional advisers.

13.11.3 The Expert's fees and expenses shall be payable by the Operators in equal amounts, unless the Expert (having regard to the conduct of the Operators with respect to the dispute in question) shall direct in his final determination that such costs and expenses should be borne by one of the Operators, in which case the Operators shall pay such fees and expenses in accordance with such direction.

13.11.4 If the terms of the Expert's appointment provide for the payment of his fees and expenses before the delivery of the final determination, the Operators shall pay such fees and expenses in equal amounts, and shall make adjustment payments inter se following any such direction as is referred to in clause 13.11.3.

#### **14. FORCE MAJEURE**

14.1 For the avoidance of doubt, the provisions of this Agreement shall be without prejudice to any question as to whether [InterconnectorUK](#) or National Grid Gas is entitled, as a result of circumstances constituting a **"Force Majeure Event"** for the purposes of their respective Transportation Arrangements, to any relief in respect of their respective obligations (or liability in respect of their obligations) pursuant to their respective Transportation Arrangements.

14.2 A Force Majeure Event shall mean any event or circumstance or combination of events or circumstances which is beyond the reasonable control of an Operator and which, or the effect of which, adversely affects the performance by that Operator of its obligations under or pursuant to this Agreement provided, however, that any such event or circumstance, or combination of events or circumstances, shall not constitute a Force Majeure Event hereunder if it could have been prevented, overcome, or remedied by the affected Operator through the exercise of reasonable diligence and reasonable care. Force Majeure Events hereunder shall include each of the following events and circumstances, but only to the extent that each satisfies the above requirements:

- (a) any act of war (whether declared or undeclared), hostilities, invasion, armed conflict or act of foreign enemy, blockade, embargo, mobilisation, requisition, revolution, riot, insurrection, civil commotion or disorder, act of terrorism, or sabotage;
- (b) act of God;
- (c) radioactive contamination, ionising radiation or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive, or other hazardous properties;
- (d) strikes, works to rule or go-slows;
- (e) earthquake, tidal wave, flood, storm, cyclone, typhoon, tornado or lightning, landslip or landslide or adverse weather or climatic conditions;
- (f) fire or explosion;
- (g) epidemic or plague;
- (h) unlawful, illegal, criminal or negligent acts of third parties; or
- (i) any event or circumstances of a nature analogous to the foregoing.

14.3 If, by reason of a Force Majeure Event, an Operator is wholly or partially unable to carry out its obligations under this Agreement, the affected Operator shall give the other Operator notice of the Force Majeure Event(s) as soon as practicable, describing the Force Majeure Event(s) and the obligations affected together with an estimate of the period of time that the affected Operator will be unable to perform the obligations and any other relevant matters. Failure by the affected Operator to give notice of a Force Majeure Event to the other Operator as required by this clause 14.3 shall not prevent the affected Operator from giving such notice at a later time, provided however that in such case the affected Operator shall not be excused pursuant to clause 14.5 from any failure or delay in complying with its obligations under or pursuant to this Agreement until the notice required by this clause has been given.

14.4 The affected Operator shall use all reasonable efforts to mitigate the effects of a Force Majeure Event, including, but not limited to, the payment of all sums of money which are reasonable and cost effective in the light of the likely efficacy of the mitigation measures. This clause 14.4 shall not oblige the affected Operator to settle any labour dispute.

14.5 So long as the affected Operator has at all times since the occurrence of the Force Majeure Event complied with its obligations under clause 14.4 and continues so to comply, then:



- (a) the affected Operator shall not be liable for any failure or delay in performing its obligations (other than the obligation on the part of either Operator to make any payments to the other Operator under or pursuant to this Agreement) to the extent that such failure or delay has been caused or contributed to by one or more Force Majeure Event(s) or its or their effects or by any combination thereof; and
- (b) the time limits and deadlines for the performance by the affected Operator of its obligations under this Agreement (other than the obligation on the part of either Operator to make any payments to the other Operator under or pursuant to this Agreement) which are affected by such Force Majeure Event shall be extended for so long as the relevant Force Majeure Event or its effects continue.

## **15. INVOICING AND PAYMENT**

- 15.1 Where pursuant to this Agreement either Operator is required to make any payment to the other (the “payee”) the provisions of this clause 15 shall apply.
- 15.2 As soon as practicable after the end of each month the payee shall prepare and send to the other Operator an invoice for the total amount (rounded to the nearest penny) payable hereunder (including any applicable VAT) in respect of such month together with any supporting data and information required (under the relevant provision hereof) to be given.
- 15.3 On the later of the twentieth day of the month following that to which the invoice relates or the tenth Business Day after submission of the invoice, the paying Operator shall pay such invoice in immediately available funds to such account as the payee may direct.
- 15.4 Where any sum is disputed the paying Operator shall pay the undisputed portion thereof in accordance with clause 15.3 pending agreement or resolution of the matter in dispute.
- 15.5 Where any amount payable hereunder is not paid by the due date in accordance with clause 15.3, the paying Operator shall pay interest on the overdue amount from the date such amount was due to the date it is eventually paid at an annual rate equal to the Bank of England base rate plus 3 percentage points per annum, or if payment of the overdue amount was withheld pursuant to clause 15.4 by reason of a bona fide dispute, plus 1 percentage point per annum.
- 15.6 Unless expressly otherwise stated, amounts provided to be payable by either Operator hereunder are stated exclusive of any applicable VAT, and such VAT shall be payable in addition to the amount stated.

## 15.7 Where:

- (a) the amount of any sum payable to either Operator by the other is to be calculated by reference to costs incurred by or operations of the payee Operator (such costs or details of such operations the “**reference information**”), and

~~(a)~~(b) this Agreement does not make express provision for the paying Operator to be able to verify the reference information,

then the paying Operator shall be entitled at its expense at reasonable intervals to appoint an independent person of suitable qualification and reputation to verify the reference information by reference to which such amounts have been calculated; and the payee Operator shall provide to any person so appointed reasonable access to the reference information.

**16. THIRD PARTY CONNECTIONS TO THE IUK SYSTEM**

- 16.1 Should IUK enter into discussions with a third party concerning the making of a new and direct connection to the IUK System, IUK shall give notice to National Grid Gas of the fact of such discussions and of their progress. IUK shall give such notice as soon as reasonably practicable having regard to all of the following:

16.1.1 any restrictions on such disclosure imposed by law and/or pursuant to IUK’s contractual commitments;

16.1.2 the need to protect IUK’s commercial interests arising from such discussions; and

16.1.3 the impact which IUK, acting reasonably, considers any resulting new and direct connection would be likely to have on the National Grid Gas System and/or National Grid Gas’s obligations under this Agreement.

**17. ANTI-BRIBERY**

- 17.1 Each Operator undertakes that it:

17.1.1 will not engage in; and

17.1.2 has, and will maintain and enforce, adequate procedures to prevent any officer, employee, agent or contractor associated with it (“**Authorised Personnel**”), engaging in,

any activity, practice or conduct which would contravene the Bribery Act 2010 or any other applicable statute, order, directive or law which relates to anti-bribery.

17.2 Each Operator undertakes that it will not do any act or omit to do any act or thing which causes or may cause the other Operator to contravene the Bribery Act 2010 or any other applicable statute, order, directive or law which relates to anti-bribery.

17.3 Each Operator shall maintain, for a minimum of six (6) years and at its normal place of business, detailed and accurate records relevant to compliance with this clause 17, and shall permit the other Operator or its Authorised Personnel access at all reasonable times to such compliance records in order to verify compliance with this clause 17.

17.4 An Operator shall immediately give written notice to the other Operator upon its breach or suspected breach of this clause 17.

## **18. GOVERNING LAW**

18.1 This Agreement shall be governed by English law, and the English courts shall have exclusive jurisdiction in respect of this Agreement.

## **19. THIRD PARTY RIGHTS**

19.1 A person who is not party to this Agreement may not enforce any term of this Agreement under the Contracts (Rights of Third Parties) Act 1999.

## **20. ENTIRE AGREEMENT**

20.1 The documents forming this Agreement shall be read as one and shall constitute the entire express agreement between the Operators with respect to the subject matter hereof and shall prevail and supersede all prior agreements, understandings, statements, representations, commitments, warranties and communications between the Operators hereto with respect to the subject matter hereof and no Operator shall rely on or be bound by any of the foregoing not appearing in or incorporated by specific reference into this Agreement.

20.2 Nothing in this clause shall operate to exclude an Operator's liability to the other for fraudulent misrepresentation.

**21. SURVIVAL**

21.1 The provisions of this Agreement which by their nature or from their context are intended to, or would naturally, continue to have effect after termination of this Agreement shall survive after termination.

21.2 Without limiting the generality of clause 21.1, the Operators acknowledge and agree that the following provisions shall survive termination: clauses 1, 5, 6, 10, 13, ~~17-176~~ through ~~24-243~~.

**22. SEVERABILITY**

22.1 If any term or provision in this Agreement shall be held to be illegal or unenforceable in whole or in part, under any enactment or rule of law, such term or provision or part shall to that extent be deemed not to form part of this Agreement but the validity and enforceability of the remainder of this Agreement shall not be affected.

**23. WAIVER**

23.1 No waiver or consent by either Operator (express or implied) of any one or more defaults by the other shall operate or be construed as a waiver of, or consent to, any other defaults, whether of a like or different nature, and failure by an Operator to complain of any act of the other or to declare such other in default in respect of this Agreement, regardless of how long that failure continues, shall not constitute a waiver by such Operator of its rights with respect to such default.

**24. NO PARTNERSHIP / AGENCY RELATIONSHIP**

24.1 Nothing in this Agreement constitutes either Operator being a partner or agent of the other Operator.

**25. COMMUNICATIONS AND DATA EXCHANGE**

25.1 In this clause 25:

- (a) **Data** means data to be sent by one Operator to the other under any provision of this Agreement; and
- (b) a reference to a **system** is to the information technology system or systems established by an Operator to produce, receive, handle and process Data.

25.2 Where this Agreement makes specific provision as to how a particular communication between the Operators is to be sent, this clause 25 applies subject to that provision.

25.3 In agreeing the provisions of this clause 25, the Operators have had due regard to their obligations under Article 22 and Article 23 of the Interoperability Code.

25.4 Each Operator shall:

- (a) make such arrangements (including providing and maintaining systems and making arrangements with third party providers) as are reasonably necessary to ensure it is able to send Data to and receive Data from the other Operator pursuant to the provisions of this Agreement;
- (b) keep the other Operator informed of the arrangements made pursuant to paragraph (a).

25.5 The Operators shall coordinate and cooperate with each other in implementing clause 25.4 in order to ensure the compatibility of their respective arrangements.

25.6 Each Operator (the first Operator) shall:

- (a) (in relation to Data to be sent electronically) ensure it has appropriate virus protection to manage the risk of sending infected files of Data to the other Operator and of receiving infected files of Data from the other Operator;
- (b) ensure that only authorised, appropriately qualified personnel are allowed to have access to and deal with the Data received from the other Operator;
- (c) notify the other Operator without delay of any unauthorised access which has or may have occurred to the first Operator's system;
- (d) ensure it has appropriate security measures to prevent unauthorised access of its system;
- (e) ensure that it has all necessary rights to send Data (as envisaged by the provisions of this Agreement) to the other Operator, and to authorise the other Operator to deal with the Data in the way envisaged under this Agreement;
- (f) make appropriate arrangements to maintain the security of Data received from the other Operator;
- (g) maintain the confidentiality of Data received from the other Operator, and only deal with such Data as envisaged by the provisions of this Agreement;

- (h) ensure that any third party to which the Operator transfers Data received from the other Operator maintains its confidentiality and deals with it only as permitted under this Agreement;
  - (i) (in relation to Data to be sent electronically) ensure the security and reliability of communications of Data to the other Operator through agreed arrangements for encryption, electronic signatures and non-repudiation by signed confirmation;
  - (j) ensure the other Operator is informed in a timely manner prior to any planned unavailability of the first Operator's system.
- 25.7 The standard required of each Operator under clause 25.6(a), (b), (d) and (f) is the standard of a Reasonable and Prudent Operator.
- 25.8 If and for so long as any failure or unavailability (including any planned unavailability) of either Operator's system occurs which disrupts or may disrupt the exchange of Data between the Operators, the Operators agree to establish and apply contingency arrangements.
- 25.9 If an Operator (Operator A) fails to comply with the obligations in clause 25.6:
  - (a) Operator A will not have any liability to the other Operator (Operator B) in respect of the failure;
  - (b) Operator B may take any reasonable steps to protect itself and its systems from any adverse consequences of Operator A's failure (which may include suspending the transfer of Data for so long as such failure continues); and
  - (c) neither Operator shall have any liability to the other (in respect of failed Data transfers) in a case where Operator B takes any steps within paragraph (b).

**IN WITNESS** whereof the duly authorised representatives of the Operators have executed this Agreement the day and year above written

Signed for and on behalf of:

**National Grid Gas plc**

Signature:

.....

Name:

.....

Position:

.....

Signed for and on behalf of:

**Interconnector ~~(UK)~~ Limited**

Signature:

.....

Name:

.....

Position:

.....

**ANNEX A – Network Entry Provisions**

Contents

Annex A1: General

Annex A2: Gas Entry Conditions



**ANNEX A-1****GENERAL****1. Scope**

This Annex A sets out provisions applying in respect of the Interconnection Point as a SEP and the delivery of gas (offtaken from the [InterconnectorUK](#) System) to the National Grid Gas System.

**2. Interpretation**

2.1 In this Annex A the following terms shall have the following meanings:

**“Entry Gas”**: gas delivered or tendered for delivery to the National Grid Gas System at the SEP;

**“Gas Entry Conditions”**: the Gas Entry Conditions contained in Annex A-2;

**“Network Entry Provisions”**: the Network Entry Provisions set out in paragraph 3.

**3. Network Entry Provisions**

3.1 For the purposes of the Uniform Network Code, the Network Entry Provisions applicable in respect of the SEP shall be as set out in this paragraph 3.

3.2 The Connected Delivery Facility is the [InterconnectorUK](#) System as described in Appendix 1 to Annex C (Measurement Provisions).

3.3 The Individual System Entry Points comprised in the SEP are as described in Appendix 1 to Annex C (Measurement Provisions).

3.4 The Gas Entry Conditions are as specified in Annex A-2, subject as provided in paragraphs 4 and 5.

3.5 The Measurement Provisions are as specified in Annex C (Measurement Provisions) (insofar as applicable to measurement of flows of gas into the National Grid Gas System at the SEP).

3.6 The points of delivery at the SEP comprise the points marked ‘Y’ in the diagram in Appendix 1 to Annex C (Measurement Provisions).

3.7 Any other provision of this Agreement, insofar as (i) relating to the delivery of gas to the National Grid Gas System at the SEP, and (ii) falling within the permitted scope of Network Entry provisions pursuant to Uniform Network Code Section I 2.3.3 of the Transportation Principal Document, shall be a Network Entry Provision.

#### 4. **Change in Legal Requirements**

Where after the date of this Agreement there is a change in any Legal Requirement relating to the composition or other characteristics of gas delivered to or conveyed by the National Grid Gas System, either Operator may require that both Operators shall discuss the amendment of the Gas Entry Conditions in accordance with ~~clause~~[Clause](#) 7 (Amendment Process) of this Agreement, so as to enable such Operator and this Agreement to comply with such changed Legal Requirement.

#### 5. **Change of Flow Direction**

If the composition of gas ('**entry non-compliant gas**') being offtaken from the National Grid Gas System at the CSEP is such that such gas would not comply with any of the Gas Entry Conditions, and subsequently the direction of flow of gas in the [InterconnectorUK](#) System is to be reversed so that such gas will be delivered to the National Grid Gas System at the SEP:

- (a) [InterconnectorUK](#) shall give notice to National Grid Gas thereof not less than 1 hour before delivery of gas to the National Grid Gas System at the SEP is to commence;
- (b) the Operators shall, having regard to the reasonable requirements of each Operator, agree a programme for the redelivery to the National Grid Gas System of the quantity (the '**allowed quantity**') of such entry non-compliant gas which was so offtaken. The allowed quantity shall be adequate to allow the redelivery of the quantity of such entry non-compliant gas as was delivered from the National Grid Gas System to the [InterconnectorUK](#) System;
- (c) for the period of redelivery, in accordance with such programme, to the National Grid Gas System at the SEP of the gas which was offtaken from the National Grid Gas System at the CSEP, in a quantity not exceeding the allowed quantity, the Gas Entry Conditions shall be relaxed so as to be equal to the values of the relevant characteristics of the entry non-compliant gas which was originally offtaken from the National Grid Gas System.

**ANNEX A-2**  
**GAS ENTRY CONDITIONS**

**1. Composition**

The composition of Entry Gas shall be within the limits set out in Table A below:

**TABLE A**

Characteristic	Unit	Minimum	Maximum
Gross Calorific Value <sup>1</sup>	MJ/Nm <sup>3</sup>	38.9	44.6
Wobbe Index <sup>1</sup>	MJ/Nm <sup>3</sup>	49.75	54.19
Temperature	°C	1.0	38.0
Hydrocarbon Dewpoint	°C from 1 to 69 barg	n/a	-2.0
Water Dewpoint	°C <del>at from 1 to</del> 69 barg	n/a	-10.0
Oxygen Content	ppm vol	n/a	1000.0
Carbon Dioxide	mol%	n/a	2.5
Hydrogen Sulphide (including COS)	ppm vol	n/a	3.3
Total Sulphur	mg/Nm <sup>3</sup>	n/a	30
Incomplete Combustion Factor	n/a	n/a	0.48
Soot index	n/a	n/a	0.6
Inert gases (including Carbon Dioxide and Nitrogen)	mol%	n/a	n/a

Nitrogen	mol%	n/a	n/a
Hydrogen	ppm vol	n/a	1000.0

Note:

1. Reference temperatures – 0°C for volume and 25°C for combustion.

The above Table A uses expressions and abbreviations which have meanings assigned to them in the Gas Safety (Management) Regulations 1996, schedule 3, and will be subject to future modification in accordance with [clause](#)~~Clause~~ 7 (Amendment Process) of the Agreement to ensure compliance with any relevant statutory gas requirement.

Either Operator may request the limits in Table A above in relation to Nitrogen and inert gases to be revised in accordance with [clause](#)~~Clause~~ 7 (Amendment Process) of the Agreement.

## 2. **Contaminants**

Entry Gas shall not contain any solid or liquid material which would interfere with the integrity or operation of the National Grid Gas System or any pipeline connected to such system or any appliance which a consumer might reasonably be expected to have connected to the National Grid Gas System.

## ~~3.~~ **Odour**

~~Entry Gas shall have no odour which might cause National Grid Gas to contravene the Legal Requirement or gas industry practice not to distribute any gas which does not possess a distinctive and characteristic odour.~~

## ~~4.3.~~ **Pressure**

The pressure of Entry Gas shall not exceed 69 barg.

## **ANNEX B – Network Exit Provisions**

### Contents

Annex B-1: General and interpretation

Annex B-2: Quality

Annex B-3: Pressure

Annex B-4: Flow [Rate Rules](#) ~~profiles, rate changes, etc~~

## ANNEX B-1: GENERAL AND INTERPRETATION

### 1. Scope

This Annex B sets out provisions applying in respect of the CSEP and the offtake of gas from the National Grid Gas System for delivery to the [InterconnectorUK](#) System.

### 2. Interpretation

2.1 In this Annex B ~~1~~ the following terms shall have the following meanings:

**“Applicable Offtake Requirements”**: the ‘Applicable Offtake Requirements’ (in accordance with the Uniform Network Code) in relation to Exit Gas;

**“Exit Flow Day”**: a Gas Day during which gas flows from the National Grid Gas System to the [InterconnectorUK](#) System at the Interconnection Point;

**“Exit Gas”**: gas offtaken from or made available by National Grid Gas for offtake from the National Grid Gas System at the CSEP;

**“Feeder”**: any of the pipelines forming part of that part of the National Grid Gas System by means of which gas delivered to the National Grid Gas System at the System Entry Points at Bacton is transported away from those System Entry Points or (on an Exit Flow Day) gas is transported [from the King’s Lynn Compressors](#) to Bacton for offtake from the National Grid Gas System at the CSEP; and Feeders 2, 3, 4, [5](#) and [27](#) are the Feeders identified as such in Annex C (Measurement Provisions), Appendix 1;

**“King’s Lynn Compressors”**: the gas compressors [including the associated pipework and equipment](#) forming part of the National Grid Gas System and installed on Feeders 2, ~~and 4~~ [and 27](#) at [King’s](#) Lynn which have been modified so as to be capable of compressing gas for transportation to Bacton;

~~“King’s Lynn Flow to CSEP”: at any time on an Exit Flow Day, the rate (in mcmh) determined as A – B~~

~~where:~~

~~A — is the rate of offtake at the CSEP (ascertained at the point marked ‘A’ on the diagram in Annex C (Measurement Provisions), Appendix 1);~~

~~B — is the aggregate rate at which gas delivered to the National Grid Gas System at the System Entry Points (other than the Interconnection Point) at Bacton flows from~~

~~Feeder 2 to the CSEP (ascertained at the point marked 'B' on the diagram in Annex C (Measurement Provisions), Appendix 1);~~

**"Output Nominations"**: has the meaning given in the Uniform Network Code;

**"Reasonable Measures"**: has the meaning given to that expression in paragraph 5.1 of this Annex B-1; and

**"Total King's Lynn Flow"**: means the rate (in mcmh) at which gas is flowing through the King's Lynn Compressors. ~~sum of:~~

~~(i) the King's Lynn Flow to CSEP, and~~

~~(ii) the rate (in mcmh) at which gas (having flowed in Feeders 2 and 4 through the King's Lynn Compressors) is flowing to Feeders 3 and 5 (ascertained at the point marked 'C' on the diagram in Annex C (Measurement Provisions), Appendix 1).~~

2.2 Unless expressly otherwise provided, references in this Annex B to rates of offtake, delivery or flow of gas are to the instantaneous rate (expressed in MW or mcmh) of such offtake, delivery or flow from, to or in the National Grid Gas System, and a reference to rate of offtake is to such rate of offtake, in aggregate by all National Grid Gas Shippers, from the National Grid Gas System at the CSEP.

2.3 Unless expressly otherwise provided, any reference to a Section of the Uniform Network Code in this Annex B, is a reference to a Section of the Transportation Principal Document of the Uniform Network Code.

~~3. Intentionally deleted~~

#### ~~4.3.~~ **Certain Network Exit Provisions**

~~4.13.1~~ For the purposes of Section J4.3.1 (a) of the Uniform Network Code, the points of offtake at the CSEP comprise the points marked 'X' shown in sheet 1 of the diagram in Annex C (Measurement Provisions), Appendix 1.

~~4.23.2~~ For the purposes of Sections J4.3.3(a) and (c) of the Uniform Network Code:

- (a) the provisions of Annex C (Measurement Provisions) as to the measurement of flow (and determination of volume) and the determination of Gross Calorific Value of gas offtaken shall apply;

- (b) Annex C (Measurement Provisions) specifies or refers to the measurement equipment which is (and is required to be) installed at the CSEP.

4.33.3 For the purposes of Section J4.3.1(f) of the Uniform Network Code:

- (a) and in particular having regard to Section L4.3.2(a) of the Uniform Network Code, the allowable number of Gas Days of Programmed Maintenance shall be 5 in any one Planned Maintenance Period and 15 in any three consecutive Planned Maintenance Periods, provided that in respect of any Planned Maintenance Period in which pipeline inspection pursuant to paragraph (c) is undertaken, the allowed number of Gas Days shall be 15 in that Planned Maintenance Period and 25 in any three consecutive Planned Maintenance Periods of which that period is one;
- (b) notwithstanding clause 12.1, where National Grid Gas is carrying out Programmed Maintenance, National Grid Gas will endeavour to ensure that the availability of gas for offtake from the National Grid Gas System at the CSEP is not reduced by more than is reasonably necessary for ~~or results from~~ the carrying out of such maintenance, and in particular is not wholly discontinued unless the total suspension of availability of gas for offtake from the National Grid Gas System is necessary to enable National Grid Gas to comply with a Legal Requirement, or otherwise is not practically avoidable;
- (c) for the purposes of Section L4.4.1 of the Uniform Network Code, where National Grid Gas intends to undertake pipeline inspection which would require particular rates of offtake at the CSEP, it is a requirement that National Grid Gas Shippers cooperate so far as is practicable with any reasonable requirement of National Grid Gas as to the rate of offtake of gas from the National Grid Gas System at the CSEP.

4.43.4 For the purposes of Section Q1.8. of the Uniform Network Code, the Local Operating Procedures shall apply.

#### 5.4. **Reasonable Measures**

5.14.1 References in the context of any requirement in this Annex B to National Grid Gas taking “**Reasonable Measures**” are references to National Grid Gas taking all such operational and technical measures which National Grid Gas, acting as a Reasonable and Prudent Operator, might reasonably be expected to take in order to secure compliance with such requirements.

5.24.2 Where any provision of this Annex B requires National Grid Gas to take Reasonable Measures:



- (a) National Grid Gas shall not thereby be required to take any measures, which would or which might reasonably be expected to:
- (i) prejudice the physical or operational security of the National Grid Gas System;
  - ~~(ii) require reinforcement of the National Grid Gas System or modification or installation of any additional plant or equipment to the National Grid Gas System, which (in any such case) National Grid Gas would not have been required to undertake in order to comply with its obligations pursuant to the National Grid Gas Transporter Licence except:~~
    - ~~(1) in relation to National Grid Gas's obligations under paragraph 2.2 of Annex B-3, where National Grid Gas decides to undertake reinforcement to meet its obligations; or~~
  - (ii) where the Operators have agreed that IUK shall bear the cost of such reinforcement, modification or installation;
  - (iii) prevent National Grid Gas from performing or result in breach of any of its obligations under the Uniform Network Code or under any other arrangement for the conveyance of gas which was in existence or had been agreed to prior to 1st March 1996, or from complying with any Legal Requirement;
  - (iv) require National Grid Gas to incur any cost (other than a cost for which National Grid Gas is to be compensated by IUK under the provisions of this Agreement) of a kind or amount which it would not be reasonable to expect the Authority to allow in full (in accordance with the National Grid Gas licence as a gas transported under the Gas Act) in establishing the restrictions in respect of the charges made by National Grid Gas for transportation services;
- (b) in taking Reasonable Measures:
- (i) National Grid Gas shall utilise any compression at King's Lynn and such other plant and equipment comprised in the National Grid Gas System which would be necessary to allow King's Lynn to operate and which is deemed by National Grid Gas to be available at the relevant time, but such compressors (and other plant and equipment comprised in the National Grid Gas System) will not be expected to operate beyond its actual capability at any time;

- (ii) National Grid Gas shall be entitled to rely on Exit Flow Profiles in relation to the CSEP and such information as is provided to it by National Grid Gas Shippers, Delivery Facility Operators and others as to the flows and quality of gas flows at other System Entry Points.

5.34.3 In the event of any dispute arising between the Operators as to whether or not National Grid Gas shall have taken Reasonable Measures, the matter shall be referred to an Expert in accordance with the provisions of clause 13 (Resolution of Disputes).

**ANNEX B-2: QUALITY****1. General**

1.1 ~~In consideration of IUK agreeing to make payments to National Grid Gas in accordance with paragraph 6,~~ National Grid Gas agrees that the Applicable Offtake Requirements for the purposes of the Uniform Network Code shall be in accordance with paragraphs 2, ~~3~~ and ~~35~~ of this Annex B-2 which shall constitute a Special Offtake Arrangement for the purposes of the Uniform Network Code.

1.2 ~~Nothing~~~~In accordance with clause 2.2, and notwithstanding that IUK has agreed to make payments to National Grid Gas pursuant to paragraph 6, nothing~~ in this Annex B-2 shall take effect as a warranty or undertaking of National Grid Gas to ~~Interconnector~~~~IUK~~ in respect of the specification of gas made available for offtake from the National Grid Gas System at the CSEP nor make National Grid Gas liable to ~~Interconnector~~~~IUK~~ for any failure of the gas made available for offtake to comply with the Applicable Offtake Requirements.

~~1.3 — For the avoidance of doubt, nothing in paragraph 1.2 of this Annex B-2 shall have the effect of limiting the liability of National Grid Gas to (i) National Grid Gas Shippers under the Uniform Network Code; or (ii) IUK under any other agreement between IUK and National Grid Gas or (iii) National Grid Gas Shippers under any other agreement between National Grid Gas Shippers and National Grid Gas.~~

~~1.4 — National Grid Gas shall not be required, in taking Reasonable Measures for the purposes of this Annex B-2, to take any Operational Balancing Step which (but for the requirements of this Annex B-2) National Grid Gas would not otherwise take, if:~~

~~(i) — in National Grid Gas's reasonable opinion it would not be appropriate for it to take such measures unless a modification of the Uniform Network Code or the operational guidelines established by National Grid Gas pursuant to Special Condition 8A of the National Grid Gas Transporter Licence were made to contemplate the taking of such measures, or otherwise the sanction of the Authority to the taking of such measures were obtained, and~~

~~(ii) — such modification has not been made or sanction been given.~~

~~1.5~~1.3 ~~Interconnector~~~~IUK~~ shall monitor the quality of Exit Gas pursuant to Annex C (Measurement Provisions), and shall notify National Grid Gas as soon as possible if ~~Interconnector~~~~IUK~~ becomes aware (pursuant to such monitoring) that Exit Gas or any characteristic of Exit Gas is

for the time being not in compliance with the requirements in paragraph 2 below, giving details of the prevailing value of the relevant characteristic.

~~1.6 IUK may, not more than once in any six month period, provide to National Grid Gas details of its future forecasts of Gross Calorific Value and Wobbe Index of Exit Gas and the assumptions on which such forecasts are based. National Grid Gas shall review such assumptions and, to the extent it is not restricted or prevented from so doing by confidentiality or other obligations, it shall advise IUK of any material errors in any of such assumptions of which National Grid Gas is aware at that time. For the avoidance of doubt National Grid Gas shall be under no obligation to verify any forecasts made by IUK. National Grid Gas shall have no liability in respect of any advice given or omitted to be given by it in respect of this paragraph 1.6.~~

## 2. **Applicable Offtake Requirements**

2.1 Subject to ~~paragraph~~paragraphs 3, 5 and 6 of this Annex B-2, the Applicable Offtake Requirements are that, at the point of offtake from the National Grid Gas System:

- (a) the characteristics of Exit Gas shall be within the limits in Table A below;
- (b) Exit Gas shall not contain any liquid material which would interfere with the integrity or operation of the Interconnector~~IUK~~ System or any appliance which is an appliance of a description and type which a consumer might reasonably be expected to have connected to the National Grid Gas System; and
- (c) Exit Gas shall have no added odorant.

**TABLE A**

Characteristic	Unit	Minimum	Maximum
Gross Calorific Value <sup>1</sup>	MJ/Nm <sup>3</sup>	38.9	44.6
Wobbe Index <sup>1</sup>	MJ/Nm <sup>3</sup>	49.75	54.19
Temperature	°C	1.0	<del>38.28</del> 38.28.0
Hydrocarbon Dewpoint	°C from 1 to 69 barg	n/a	-2.0
Water Dewpoint	°C <del>at from 1 to</del> 69 barg	n/a	-10.0
Oxygen Content	ppm vol	n/a	1000.0
Carbon Dioxide	mol%	n/a	2.5
Hydrogen Sulphide (including COS)	ppm vol	n/a	3.3
Total Sulphur	mg/Nm <sup>3</sup>	n/a	30
Incomplete Combustion Factor	n/a	n/a	0.48
Soot index	n/a	n/a	0.6
Inert gases (including Carbon Dioxide and Nitrogen)	mol%	n/a	n/a
Nitrogen	mol%	n/a	n/a
Hydrogen	ppm vol	n/a	1000.0

Note:

1. Reference temperatures – 0°C for volume and 25°C for combustion

- 2.2 The characteristics of gas made available for offtake from the National Grid Gas System at the CSEP will be determined in accordance with Annex C (Measurement Provisions).
- 2.3 The above Table A uses expressions and abbreviations which have meanings assigned to them in the Gas Safety (Management) Regulations 1996, schedule 3, and will be subject to future modification in accordance with clause 7 (Amendment Process) to ensure compliance with any relevant statutory gas requirement.
- 2.4 Either Operator may request the limits in Table A above in relation to Nitrogen and inert gases to be revised in accordance with clause 7 (Amendment Process).
- 2.5 In order to minimise the level of solid material (if any) contained in the Exit Gas, National Grid Gas and [InterconnectorUK](#) shall each comply with any velocity control protocol which may be agreed between the Operators from time to time. To the extent that Exit Gas does contain any solid material, National Grid Gas and [InterconnectorUK](#) agree to co-operate with each other to ensure the safe disposal of such material.

### 3. [Carbon Dioxide](#)

#### ~~3. [Reasonable Measures](#)~~

- 3.1 ~~Subject to paragraph 3.2,~~ National Grid Gas shall take all Reasonable Measures but shall not be required to take measures beyond Reasonable Measures to secure ~~that the compliance of~~ Exit Gas ~~complies~~ with the ~~requirements in Table A as to Carbon Dioxide content~~[Qualified Requirements](#); and accordingly, ~~for the purposes of the Uniform Network Code,~~ the Applicable Offtake Requirements shall be deemed to be relaxed (and Exit Gas shall not be considered as not complying therewith) to the extent that National Grid Gas is unable to secure, by taking such Reasonable Measures, that Exit Gas complies with the ~~requirements in Table A as to Carbon Dioxide~~[Qualified Requirements](#).

#### ~~3.2 For the purposes of this paragraph 3, the “[Qualified Requirements](#)” are:~~

- ~~(i) the requirements in Table A in paragraph 2 as to temperature and Carbon Dioxide;~~
- ~~and~~
- ~~(ii) the requirements in paragraph 2.1(c) as to odour.~~

#### ~~4. Gross Calorific Value/Wobbe Index~~

~~4.1 National Grid Gas will take Reasonable Measures (subject to and in accordance with paragraph 3) to secure that, notwithstanding that the minimum limit in respect of Gross Calorific Value of Exit Gas is 38.9 MJ/Nm<sup>3</sup>, the Gross Calorific Value of Exit Gas is not less than 39.4 MJ/Nm<sup>3</sup>.~~

#### ~~5. Carbon Dioxide~~

~~5.1 The Applicable Offtake Requirement in relation to Carbon Dioxide shall not apply to the extent that at any time, pursuant to any Legal Requirement, National Grid Gas is required to permit or is not entitled to refuse the delivery of gas to the National Grid Gas System at System Entry Points having a Carbon Dioxide content exceeding that which is permitted under the Network Entry Provisions applicable (pursuant to Section 11.6 or otherwise) at 1st January 1997 at such System Entry Point.~~

#### 3.2 For the avoidance of doubt:

~~(a)~~ it will not be feasible to secure such compliance~~for National Grid Gas to secure that Exit Gas complies with the requirements in Table A as to Carbon Dioxide content~~ where insufficient gas of the requisite quality to enable National Grid Gas to arrange blending is being or (at the appropriate time) has been delivered to the National Grid Gas System.

(b) this paragraph 3 is without prejudice to paragraph 9.2 of the Local Operating Procedures.

#### ~~6. Payment by IUK~~

~~6.1 Payments made by IUK to National Grid Gas pursuant to Annex B-3 relate in part to the costs of operating the Kings Lynn Compressors for the purposes of enabling National Grid Gas to comply with the requirements of this Annex B-2.~~

#### ~~7. Intentionally deleted~~

#### ~~8. Hydrocarbon Dewpoint~~

~~8.1 National Grid Gas shall be deemed not to have taken all Reasonable Measures to secure that Exit Gas complies with the requirements in Table A as to Hydrocarbon Dewpoint content where, notwithstanding that sufficient gas of the requisite quality to enable National Grid Gas to arrange blending is being or (at the appropriate time) has been delivered to the National Grid Gas System, such blending is not achieved.~~

~~8.2 In using Reasonable Measures to secure that Exit Gas complies with the requirements in Table A as to Hydrocarbon Dewpoint content National Grid Gas shall (subject to there being sufficient gas of the requisite quality) carry out blending having due regard to measurement uncertainties.~~



**ANNEX B-3: EXIT PRESSURE****1. General**

1.1 In consideration of [InterconnectorUK](#) agreeing to make payments to National Grid Gas in accordance with [the Pressure Service Charges Agreement paragraphs 6 and 7](#), National Grid Gas agrees that the Applicable Offtake Pressure for the purposes of the Uniform Network Code shall be in accordance with paragraphs 2, 3 and 4.

1.2 ~~Nothing~~~~In accordance with clause 2.2, and notwithstanding that IUK has agreed to make payments to National Grid Gas pursuant to paragraphs 6 and 7, nothing~~ in this Annex B-3 shall take effect as a warranty or undertaking of National Grid Gas to [InterconnectorUK](#) in respect of the pressure of gas made available for offtake from the National Grid Gas System at the CSEP nor make National Grid Gas liable to [InterconnectorUK](#) for any failure of the gas made available for offtake to comply with the Applicable Offtake Pressure.

~~1.3 For the avoidance of doubt, nothing in paragraph 1.2 of this Annex B-3 shall have the effect of limiting the liability of National Grid Gas to (i) National Grid Gas Shippers under the Uniform Network Code; (ii) IUK under any other agreement between IUK and National Grid Gas or any Affiliate of National Grid Gas; or (iii) National Grid Gas Shippers under any other agreement between National Grid Gas Shippers and National Grid Gas or any Affiliate of National Grid Gas.~~

~~1.4 This Annex B-3 is without prejudice to the provisions of Section J2.1.5 of the Uniform Network Code.~~

~~1.5 In this Annex B-3 a reference to the pressure at which it is feasible for National Grid Gas to make Exit Gas available is a reference to the pressure at which it is feasible for National Grid Gas to do so by taking Reasonable Measures.~~

~~1.6~~1.3 [InterconnectorUK](#) may from time to time advise National Grid Gas of a basis for operating the National Grid Gas System which (in [Interconnector'sUK's](#) opinion) will minimise the amounts which [InterconnectorUK](#) is liable to pay to National Grid Gas pursuant to [the Pressure Service Charges Agreement paragraphs 6 and 7](#); and National Grid Gas agrees, but without any binding obligation to do so (and so that [the terms of the Pressure Service Charges Agreement paragraphs 6 and 7](#) shall apply irrespective of whether National Grid Gas has done so), to take reasonable account of any such advice.

~~1.7~~1.4 Notwithstanding the other provisions of this Agreement, the Operators shall cooperate with each other with a view to securing that, notwithstanding any fluctuation in the pressure or rate of flow of Exit Gas, the quantity shown in the prevailing Exit Flow Profile is offtaken from the National Grid Gas System at the CSEP, provided that this shall not require [InterconnectorUK](#) or National Grid Gas to incur any significant cost or to be in breach of any material provision of the Transportation Arrangements; and for the avoidance of doubt where such quantity is so offtaken National Grid Gas shall not be taken to have failed to make gas available at the Applicable Offtake Pressure.

## 2. **Applicable Offtake Pressure**

2.1 Subject to paragraphs 3 and 4, the Applicable Offtake Pressure shall be the Normal Offtake Pressure.

2.2 The “**Normal Offtake Pressure**” is a pressure of 45 barg or ~~asuch higher~~ pressure higher than 45 barg, not exceeding 55 barg, as [InterconnectorUK](#) may require by notice to National Grid Gas specifying such higher pressure and given not later than ~~17~~16:00 hours on Gas Day D-1.

2.3 Where Interconnector requires a pressure higher than 45 barg in accordance with paragraph 2.2 Interconnector shall be liable to make payment to National Grid Gas of the applicable charges in accordance with the Pressure Service Charges Agreement.

## 3. **Enhanced ~~Pressure~~pressure**

3.1 [InterconnectorUK](#) may request that for any Gas Day that the Applicable Offtake Pressure should be a higher pressure than the Normal Offtake Pressure up to 68 barg (an “Enhanced Pressure”),~~7~~ by notice to National Grid Gas specifying the requested pressure and given not earlier than 09:00 hours nor later than ~~17~~16:00 hours on Gas Day D-1 in respect of which the request is made for Gas Day D.

3.2 National Grid Gas will reply to [InterconnectorUK](#), within 3 hours after receiving a request under paragraph 3.1, stating:

- (a) whether it is feasible for National Grid Gas to make Exit Gas available, until the end of the relevant Gas Day, at the requested pressure;
- (b) where it is not feasible for National Grid Gas to do so, whether it is feasible for National Grid Gas to make Exit Gas available, until the end of the relevant Gas Day, at any other pressure, higher than the Normal Offtake Pressure;

- (c) where it is feasible for National Grid Gas to make Exit Gas available at a higher pressure (~~“enhanced pressure”~~) in accordance with paragraph (a) or (b), the time on the relevant Gas Day with effect from which Exit Gas can be made available at such ~~Enhanced Pressure.enhanced pressure;~~

~~(d) whether IUK will be liable for amounts pursuant to paragraph 7.1(ii) in respect of such enhanced pressure.~~

- 3.3 Where pursuant to paragraph 3.2(a) or (b) National Grid Gas states that it is feasible for it to make Exit Gas available at an ~~Enhanced Pressure, Interconnector~~~~enhanced pressure, IUK~~ may confirm its request by notice (which shall not purport to vary the contents of National Grid Gas’s statement) to National Grid Gas given not later than 2 hours after National Grid Gas’s reply under paragraph 3.2, in which case:

- (a) subject to paragraph 4, with effect from the start time and until the end of the relevant Gas Day the Applicable Offtake Pressure shall be the ~~Enhanced Pressure~~~~enhanced pressure;~~

~~(a)(b)~~ ~~Interconnector~~~~IUK~~ shall be liable to make payment to National Grid Gas ~~of the applicable charges~~ in accordance with ~~the Pressure Service Charges Agreement~~~~paragraph 7.~~

#### 4. Exceptions

- 4.1 The Applicable Offtake Pressure shall not be the Normal Offtake Pressure, or any ~~Enhanced Pressure~~~~enhanced pressure~~ established under paragraph 3, and shall be such lesser pressure at which (in the relevant circumstances) it is feasible for National Grid Gas to make gas available for offtake at the CSEP, in any of the following circumstances:

- (a) where at any time on a Gas Day the Total King’s Lynn Flow exceeds 42,000 MW Variable;
- (b) where for any reason, whether or not constituting a Force Majeure Event for National Grid Gas, one of the King’s Lynn Compressors is not fully operational at the relevant time unless National Grid Gas has not acted as a Reasonable and Prudent Operator to secure the operation and maintenance of such Compressor;
- (c) where at any time on any Gas Day, there is an unplanned reduction in the prevailing rate at which gas is being delivered to the National Grid Gas System at System Entry

Points in aggregate, as a result of which National Grid Gas experiences operational difficulties in achieving the Normal Offtake Pressure;

- (d) where the rate of offtake (in mcmh) of Exit Gas exceeds the rate properly provided for in the prevailing Exit Flow Profile.

4.2 Where any of the foregoing circumstances apply, National Grid Gas will:

- (a) inform InterconnectorUK, as soon as reasonably practicable after the occurrence or commencement of such circumstances, of the reduced Applicable Offtake Pressure;

~~(a)~~(b) provide to InterconnectorUK, no later than the Exit Close-out Date, reasonable details (including measurement data) of such circumstances.

## 5. Late Requested Pressure Increases

If after 1716:00 hours on ~~the~~ Gas Day D-1, Interconnector~~immediately preceding the Gas Day in respect of which a request is made, IUK~~ requests ~~National Grid Gas~~ that the pressure of Exit Gas on Gas Day D should be higher than the Applicable Offtake Pressure, (whether or not InterconnectorUK has requested a pressure of up to 55 barg under paragraph 2.2 or a higher pressure under paragraph 3), ~~National Grid Gas~~ will use reasonable endeavours to accommodate such request for increases in pressure to the extent that it can do so by utilising the King's Lynn Compressors and so that in accordance with the Uniform Network Code National Grid Gas shall have no liability to National Grid Gas Shippers in respect thereof.

## ~~6. King's Lynn Compressor Costs~~

~~6.1 IUK agrees to pay to National Grid Gas for each Gas Day in any Gas Year the aggregate of the following amounts:~~

- ~~(a) an amount in respect of the maintenance of the King's Lynn Compressors, determined as:~~

$$P_M * PPI / PPI_0 * V_C / V_T$$

- ~~(b) an amount in respect of the costs of operating the King's Lynn Compressors, determined as:~~

$$((V_F * CV) / 3.6) * P_0 * V_C / V_T$$

~~where:~~

$P_M$  is £1,400;

$PPI$  is the arithmetic average of the monthly values of the Producer Prices Index for the twelve months ending 30th June before the Gas Year in question;

$PPI_0$  is the arithmetic average of the monthly values of the Producer Prices Index, which is agreed as at the Amendment Effective Date to be 88.225, such value to be revised by the Operators in the event of the index value being updated or replaced;

$V_F$  is the volume (in  $\text{Sm}^3$ ) of fuel gas consumed by the King's Lynn Compressors on that Gas Day, determined in accordance with Annex C (Measurement Provisions);

$CV$  is the calorific value of such fuel gas, determined in accordance with Annex C Part 2 paragraph 5 (Measurement Provisions);

$P_0$  is an amount in pence per kWh determined:

(i) subject to paragraph (ii), as:

$$0.5483 * GPI / GPI_0$$

where

$GPI$  = the arithmetic average of the quarterly values of the Gas Price Index for the four (4) consecutive quarters ending 30th June before the Gas Year in question;

$GPI_0$  = the arithmetic average of the quarterly values of the Gas Price Index for the four (4) consecutive quarters ending 30th June 1997, which is agreed to be zero decimal four three nine five (0.4395) pence per kWh;

(ii) as the average cost (inclusive of costs of Transportation Charges at System Entry Points) to the Shrinkage Provider of procuring shrinkage gas in the relevant Gas Year is ascertainable, if (for the relevant Gas Year) either (1) National Grid Gas has published and provided to the Authority a statement for the relevant year of the average cost, or (2) National Grid Gas has procured all shrinkage gas (excluding Daily Imbalances of the Shrinkage Provider) pursuant to public tender;

$V_C$  is an amount determined as:

$$(QA - QB) - K * (S - QB)$$

where

QA is the aggregate quantity (in kWh) of gas flowing on the relevant Gas Day at the rate 'A' in the definition (in paragraph 2.1 of Annex B-1) of the King's Lynn Flow to CSEP;

QB is the aggregate quantity (in kWh) of gas flowing on the relevant Gas Day at the rate 'B' in the definition (in paragraph 2.1 of Annex B-1) of the King's Lynn Flow to CSEP;

K is one where S exceeds QB and otherwise is zero;

S is the shorthaul quantity for the relevant Gas Day, being the aggregate of the quantities offtaken from the System at the CSEP on the Gas Day which are subject to the NTS Optional Commodity Rate pursuant to Section B1.8.5(d) of the Uniform Network Code;

provided that  $V_c$  shall be zero if it would otherwise be negative;

$V_T$  is the aggregate quantity (in kWh) of gas flowing on the relevant Gas Day at the rate of the Total King's Lynn Flow.

6.2 For the purposes of paragraph 6.1:

(a) the '**Producer Prices Index**' for any month is the 'Index of Number of Producer Prices – Home Sales – Output of Manufactured Products' published by the Central Statistical Office in the Monthly Digest of Statistics;

(b) the '**Gas Price Index**' for any quarter is the price of Natural Gas in Great Britain expressed in pence per kWh as published in the quarterly publication 'Quarterly Energy Prices, a Statistical publication by the Department of Energy and Climate Change' under the heading 'Prices of Fuels purchased by manufacturing industry in Great Britain' and the sub heading 'Gas (pence per kWh) Large', or any subsequent publication that replaces or updates this publication;

(c) if value added tax is for the time being included in either the Producer Prices Index or the Gas Price Index, such index shall be adjusted so as to exclude the effect of such value added tax before being used in the above calculations;

~~(d) — if the Producer Prices Index is rebased, or either such Index ceases (temporarily or permanently) to be published, or there is any change in the basis in which either such Index is calculated or published which materially alters the effect of using such Index for the purposes of paragraph 6.1, then:~~

~~(i) — an adjusted or alternative index shall be used in paragraph 6.1, as agreed by the parties or in default of agreement as an Expert may (on the application of either party) determine to be appropriate;~~

~~(ii) — until such adjusted or alternative index is agreed or determined, the value(s) of the Index last used (before the relevant change to the Index) for the purposes of paragraph 6.1 shall continue to be used;~~

~~(iii) — when such adjusted or alternative index is agreed or determined, a financial adjustment shall be made, as agreed by the parties or in default of agreement as an Expert may (on the application of either party) determine to be appropriate, in respect of any period in relation to which paragraph (ii) applies, so as to put the parties in the same financial position as if the adjusted or alternative index had been used during such period.~~

~~6.3 — National Grid Gas agrees to review with IUK, if IUK so requests, but not more frequently than once every 12 months, the policies adopted by National Grid Gas for the operation of the King's Lynn Compressors, with a view to establishing whether it would be practicable and reasonable for National Grid Gas to adopt any alternative policy which would be likely to result in a material reduction in the amounts which IUK will be liable to pay under this paragraph 6 (without increasing the amounts payable under paragraph 6), and to adopt any such revised policy which may be agreed pursuant to such review, provided that:~~

~~(i) — no such review shall affect the liability of IUK to pay any amount under this paragraph in respect of any period before the adoption of any such revised policy, and~~

~~(ii) — no alternative policy shall be considered as a result of which it would or might not be feasible for National Grid Gas to comply with this Annex B or its obligations under any Transportation Arrangement of National Grid Gas; and in particular, National Grid Gas shall be entitled to operate the King's Lynn Compressors so as to provide a reasonable operational tolerance above the Applicable Offtake Pressure.~~

~~6.4 — National Grid Gas will notify IUK of the occurrence of any of the circumstances in paragraph 6.5, and following such occurrence IUK may require by notice to National Grid Gas that the~~

~~basis for determining the amounts payable by IUK pursuant to paragraph 6.1(b) in respect of costs of operating the King's Lynn Compressors shall be reviewed and if appropriate revised so as to result in IUK's bearing a fair and reasonable proportion of such costs having regard to the extent to which such costs are incurred in connection with the transportation of gas in the National Grid Gas System for offtake at the CSEP.~~

~~6.5 The circumstances referred to in paragraph 6.4 are:~~

- ~~(i) where any new load, or new loads in aggregate, of not less than 586,142,000 kWh (20,000,000 therms) per annum is or are connected directly to Feeders 2 and 4;~~
- ~~(ii) where National Grid Gas enters into an agreement to make gas available for offtake from the National Grid Gas System at a System Exit Point (not including the CSEP) on Feeder 2 or 4 at a pressure greater than 25 bar.~~

~~6.6 Amounts payable by IUK under this paragraph 6 shall accrue on a daily basis and shall be invoiced and payable, monthly in arrears, in accordance with clause 15 (Invoicing and Payment). Such invoices shall provide daily breakdowns.~~

## ~~7. Compression costs for enhanced pressure~~

~~7.1 In respect of any Gas Day in relation to which IUK confirmed under paragraph 3.3 a request for enhanced pressure, IUK shall pay to National Grid Gas:~~

- ~~(i) a fixed fee, in respect of the administration of the measures required to make available Exit Gas at the enhanced pressure, of £120 per Gas Day; and~~
- ~~(ii) an amount determined, for each hour of such Gas Day during which National Grid Gas operated any compressor forming part of the National Grid Gas System (other than the Kings Lynn Compressors) for the purposes of maintaining such pressure, which National Grid Gas would not have operated but for the requirement to maintain the enhanced pressure (for the relevant Gas Year), as follows:~~

$$\text{£468} * \text{GPI/GPI}_0$$

~~where GPI and GPI<sub>0</sub> have the same meanings (by reference to the Gas Year in which such Gas Day falls) as in paragraph 6.~~

~~7.2 Amounts payable by IUK under this paragraph 7 shall accrue on a daily basis (in respect of each Gas Day referred to in paragraph 7.1) and shall be invoiced and payable, monthly in arrears, in accordance with clause 15 (Invoicing and Payment).~~



## ANNEX B-4

FLOW ~~PROFILES,~~ RATE ~~RULES~~CHANGES, ETC

## 1. General

1.1 The quantities in which and rates at which gas is offtaken from the National Grid Gas System at the CSEP, and changes in such quantities and rates, shall be limited in accordance with this Annex B-4.

1.2 This Annex B-4 applies only in respect of Exit Flow Days.

1.3 ~~InterconnectorUK~~ will not be liable to National Grid Gas in respect of any failure of ~~InterconnectorUK~~ to operate the ~~InterconnectorUK~~ Facilities and ~~InterconnectorUK~~ System in accordance with paragraph 6, but (without prejudice to any entitlement of National Grid Gas under Section J of the Uniform Network Code) in the event of any such failure:

- (a) National Grid Gas shall be entitled (but not obliged) to take any operational step available to it to ensure that the requirements of this Annex B-4 are complied with in respect of the rate of offtake;
- (b) if the security of the National Grid Gas System is materially prejudiced or threatened as a result of such failure, National Grid Gas may take any available step to discontinue the flow of gas at the CSEP.

1.4 ~~With~~ ~~to~~ the intent that revisions in the Exit Flow Profile are made only by reason of a change in the quantities of gas which Shippers intend to be offtaken from the National Grid Gas System at the CSEP on a Gas Day, it is agreed that ~~InterconnectorUK~~ will not require ~~InterconnectorUK~~ Shippers, and National Grid Gas will not require National Grid Gas Shippers, to nominate (pursuant to the Transportation Arrangements) rates or profiles of flow of Exit Gas.

- 1.5 (a) ~~InterconnectorUK~~ acknowledges that National Grid Gas:
- (i) will not compare any Exit Flow Profile with any Output Nominations or Renominations in respect of the CSEP, and will disregard such Nominations in applying the provisions of this Annex B-4; ~~and~~
  - ~~(ii) may (but will not be obliged to) provide to National Grid Gas Shippers or their agent a copy of each Exit Flow Profile or revision thereof; and~~

~~(iii)~~(ii) ~~will~~ notify to National Grid Gas Shippers or their agent (if appointed) any flow related notices~~Curtailment Notice~~ given to Interconnector UK.

~~(b)~~ National Grid Gas acknowledges that Interconnector UK:

~~(i)~~ may ~~(but will not be obliged to) provide to UK Shippers or their agent a copy of each Exit Flow Profile or revision thereof; and~~

(b) ~~will~~ notify to Interconnector UK Shippers or their agent (if appointed) any flow related notices~~Curtailment Notice~~ received from National Grid Gas.

1.6 For the purposes of this Annex B-4:

~~(a)~~ "Agreed Target Quantity" has the meaning given in paragraph 1.1 of Annex F;

~~(a)~~ ~~Intentionally deleted.~~

(b) "Change Lead Time" has the meaning given in paragraph 2.5;

~~(c)~~ ~~"Curtailment Notice" has the meaning given in paragraph 5.6;~~

~~(d)~~(c) "Exit Flow Profile" means a profile~~statement in the form (in electronic format) in Appendix A, showing the quantity of gas (taking account of paragraph 6.2) to be~~ ~~offtaken, and (for each hour) the rate of offtake of gas, from the National Grid Gas System at the CSEP during a Gas Day~~ comprised in an Offtake; and "Day Ahead Exit Flow Profile Notice;" ~~(which is also an Exit Flow Profile) is defined in paragraph 2.1(a);~~

~~(e)~~(d) "Exit Flow Rate" means the instantaneous rate of offtake of gas at the CSEP (other than during a Ramp Period), shown or to be shown in an Exit Flow Profile, expressed in MW;

~~(f)~~ ~~"Final Preceding Day Rate" means the Prevailing Exit Flow Rate applying at the end of Gas Day D-1, as shown in the Exit Flow Profile in force at the end of Gas Day D-1;~~

~~(g)~~(e) "Flow Rate Change Time" means the time (being the start of the Ramp Period) with effect from which a revision in the Exit Flow Rate becomes effective;

(f) "Offtake Profile Notice" means a notice from Interconnector to National Grid Gas in the form in Appendix A, that sets out:

(i) the Gas Day to which it relates;

(ii) the Exit Flow Profile; and

(iii) the Agreed Target Quantity.

~~(h) “FMS” has the meaning given to it in Annex C (Measurement Provisions);~~

~~(i) “Initial Exit Flow Rate” means the Exit Flow Rate applying at the start of a Gas Day;~~

~~(j)(g) “Prevailing Exit Flow Rate” at any time means the Exit Flow Rate prevailing at or immediately before such time;~~

~~(k) “Primary Meters” has the meaning given to it in Annex C (Measurement Provisions);~~

~~(h)(h) “Relevant Exit Flow Rate” is, subject to paragraph 2.6, the Exit Flow Rate for the Flow Rate Change Time as specified in the Exit Flow Profile prevailing immediately prior to the submission of a revised Exit Flow Profile pursuant to paragraph 2.3; and in relation to any change (whether an increase or a decrease) in the Exit Flow Rate:~~

(i) “Ramp Rate” means the instantaneous rate of change (in MW/minute) of the rate of offtake; and

(ii) “Ramp Period” is the period of time over which (on the basis of the Ramp Rate permitted in paragraph 36.2) such change occurs.

## 2. OfftakeExit Flow Profile Notices

2.1 ~~InterconnectorIUK~~ shall provide to National Grid Gas not later than 17:00 hours on Gas Day D-1 an initial OfftakeExit Flow Profile Notice (the “Day Ahead Exit Flow Profile”) in relation to Gas Day D.

~~(b) IUK may provide to National Grid Gas replacement Day Ahead Exit Flow Profiles provided the same are delivered to National Grid Gas not later than 03:00 hours on Gas Day D-1 and provided also that not more than two such replacement Day Ahead Exit Flow Profiles may be submitted in any hour.~~

2.2 If ~~InterconnectorIUK~~ fails to submit an initial Offtakea Day Ahead Exit Flow Profile Notice in accordance with paragraph 2.1, ~~(a)~~, it shall be deemed to have submitted a flat Exit Flow Profile of zero.

2.3 At any time after 04:00 hours on Gas Day D-1 and during Gas Day D, ~~InterconnectorIUK~~ may provide to National Grid Gas, not less than 30 minutes before the earliest Change Lead Time starts, a revised OfftakeExit Flow Profile Notice showing one or more revised Exit Flow Rates,

each of such revised Exit Flow Rates being with effect from a time (on the hour) not earlier than the expiry of the Change Lead Time for that revised Exit Flow Rate.

#### ~~2.4~~ Intentionally blank.

~~2.5~~2.4 Subject to paragraph 2.6, the “Change Lead Time” for any revised Exit Flow Rate is, in respect of that Exit Flow Rate, a period of at least:

- (i) 1 hour for an increase or decrease in the Relevant Exit Flow Rate of not more than 475 MW;
- (ii) 2 hours for an increase or decrease in the Relevant Exit Flow Rate of more than 475 MW but not more than 1425 MW;
- (iii) 3 hours for an increase or decrease in the Relevant Exit Flow Rate of more than 1425 MW but not more than 1900 MW;
- (iv) 4 hours for an increase or decrease in the Relevant Exit Flow Rate of more than 1900 MW but not more than 2850 MW;
- (v) 5 hours for an increase or decrease in the Relevant Exit Flow Rate of more than 2850 MW but not more than 3325 MW;
- (vi) 6 hours for an increase or decrease in the Relevant Exit Flow Rate of more than 3325 MW but not more than 7125 MW;
- (vii) 8 hours for an increase or decrease in the Relevant Exit Flow Rate of more than 7125 MW,

in each case before the Flow Rate Change Time; but (without prejudice to the foregoing) ~~Interconnector UK~~ shall ensure that as much notice as is reasonably practicable is given to National Grid Gas of any change in the Exit Flow Rate.

~~2.5~~ For these purposes a relevant cumulative increase is the aggregate increase in rate of offtake under any two or more connected changes of the rate of flow. Two changes are connected where notice of the second-notified change is required (in accordance with paragraph 2.4) to be given before the first-notified change has occurred.

~~2.6~~ For the purposes of paragraph 2.5, in determining the amount of the increase or decrease in the Relevant Exit Flow Rate, there shall be included all previously notified revisions which are to take effect at or prior to the relevant Flow Rate Change Time.

2.72.6 If:

~~(ii)(i)~~ IUK requests National Grid Gas to accept a revision of the ~~Offtake~~Exit Flow Profile ~~Notice~~ upon less notice than is required pursuant to ~~paragraphs~~ paragraphs 2.3 and ~~paragraphs 2.4, 6;~~ and;

(ii) National Grid Gas determines that it is feasible (in accordance with the Uniform Network Code), consistently with the expectation in Section J4.5.7 (construed mutatis mutandis), for National Grid Gas to make gas available for offtake in accordance with such revised profile,

then ~~National Grid Gas will accept such Offtake~~IUK may revise the Exit Flow Profile ~~Notice~~in accordance with such request.

~~2.8~~ If, upon a request pursuant to paragraph 2.~~67~~(i), National Grid Gas determines (pursuant to paragraph 2.~~67~~(ii)) that it is not feasible to make gas available for offtake in accordance with such request:

~~(a)~~ National Grid Gas will, in so far as time allows between such request and soon as ~~reasonably practicable but not later than~~ the start of the Change Lead Time, endeavour to work collaboratively with Interconnector to agree an amended revised ~~Offtake Profile Notice such that reject the request by giving notice to IUK and National~~ Grid Gas Shippers or their agent (if appointed); and

~~2.82.7~~ such notice will (but without obliging National Grid Gas determines that it is feasible (in accordance with the Uniform Network Code), consistently with the expectation in Section J4.5.7 (construed mutatis mutandis), for ~~to accept any further request, and without prejudice to any requirements of paragraph 4)~~ notify IUK and National Grid Gas Shippers or their agent (if appointed) whether in National Grid Gas's determination it would be feasible to make gas available for offtake in accordance with such revised profile, provided that National Grid may, in its discretion, elect, at any time, to reject any such request by Interconnector giving notice to Interconnector ~~at the Exit Flow Rate requested but upon notice other than that requested.~~

~~2.92.8~~ An Exit Flow Profile shall show, in relation to a change in the rate of offtake (at the start of the Gas Day or within the Gas Day) the Ramp Period and the change in rate on the basis of the permitted Ramp Rate in accordance with paragraph ~~36.2~~.

~~2.102.9~~ The maximum instantaneous offtake rate at the CSEPA ~~Exit Flow Profile~~ shall not exceed ~~specify an Exit Flow Rate which exceeds~~ 28,000 MW Variable, unless National Grid Gas,

acting through its Gas National Control Centre operations staff, expressly agree a higher Exit Flow Rate, provided that National Grid Gas will only agree this higher Exit Flow Rate where National Grid Gas considers that it is, and will remain, compliant with its statutory obligation in relation to the safe and efficient operation of the National Grid Gas System.

The Maximum Network Exit Point Offtake Rate (as defined in the Network Code) ("MNEPOR") at the CESP is 672,000,000 kWh/d.

2.112.10 Subject to paragraphs 2.6, 7, 5.1 and 5.14, ~~a statement which purports to be an OfftakeExit Flow Profile Notice~~ but which is not in the form in Appendix G-1 Schedule CA or is not provided in accordance with the requirements of this Annex, or which at any time provides for a rate of offtake (at any time of the Gas Day) which is not in compliance with any requirement ~~(including without limitation paragraph 2.10)~~ of this Annex as to the Exit Flow Rate, will not be valid or take effect as an OfftakeExit Flow Profile Notice; and where it receives such a ~~notice statement~~ National Grid Gas will notify InterconnectorUK of such invalidity and, where appropriate, will advise ~~why it is invalid of the reasons for such invalidity (which notification for the avoidance of doubt shall not be a Curtailment Notice).~~

2.122.11 Where an OfftakeExit Flow Profile Notice has been submitted earlier than required under this Annex, a further OfftakeExit Flow Profile Notice may be submitted to take effect at the same Flow Rate Change Time (whether to correct any invalidity in accordance with paragraph 2.811 in the earlier profile or to reflect a change in circumstances), ~~subject to and in accordance with the other provisions of~~ this Annex, which will replace the earlier ~~such~~ Exit Flow Profile; provided that not more than two such replacement Exit Flow Profiles may be submitted in any hour (commencing on the hour).

### 3. If, pursuant Exit Flow Rate

3.1 ~~The Exit Flow Rate as shown in a Day Ahead Exit Flow Profile may increase or decrease during the course of a Gas Day but only provided that, without prejudice to all other provisions of this Agreement, all of the following are satisfied:~~

- ~~(i) the maximum amount of any such increase or decrease is 2850 MW or (if greater) twenty per cent. (20%) of the then Prevailing Exit Flow Rate;~~
- ~~(ii) the Prevailing Exit Flow Rate immediately prior to any increase or decrease has remained at a uniform rate for at least the immediately preceding two hours; and~~

(iii) ~~for the avoidance of doubt, the requirements of paragraphs 2.9, 2.10 and 4 are at all times complied with.~~

~~3.2 For the avoidance of doubt, the Exit Flow Rate as shown in an Exit Flow Profile other than a Day Ahead Exit Flow Profile may increase or decrease during the course of a Gas Day but only provided that, without prejudice to all other provisions of this Agreement, the requirements of paragraphs 2.3 to 2.6 inclusive (subject to paragraphs 2.7 and 2.8), 2.9, 2.10 and 4 are at all times complied with.~~

#### ~~4. Exit Flow Rate Limits~~

~~2.12 Subject to paragraph 2.6 or 2.8 National Grid Gas has rejected an Offtake Profile Notice, Interconnector may submit a revised Offtake Profile Notice in accordance with such notification.~~

~~4.12.13 If an Offtake Profile Notice is rejected, it shall have no effect and, subject to paragraph 2.2, the 5.1, the Initial Exit Flow Rate in any Exit Flow Profile prevailing before such request shall continue in force. shall not:~~

~~(i) Without prejudice to the preceding provisions of this paragraph 2, Interconnector may when requesting differ by more than 4750 MW from either the actual Final Preceding Day Rate or the forecast Final Preceding Day Rate (as indicated by the Exit Flow Profile for Gas Day D-1 which is prevailing at, or at any time after, the time when any relevant Day Ahead Exit Flow Profile or other Exit Flow Profile is submitted) except that in the event that both the actual and the forecast Final Preceding Day Rate is less than 2375 MW, the Initial Exit Flow Rate may be any amount between and including 0 and 7125 MW; or~~

~~(ii) be less than zero.~~

~~4.2 Subject to paragraph 5.1, the Exit Flow Rate in any Exit Flow Profile during the course of a Gas Day shall not:~~

~~(i) differ from the Initial Exit Flow Rate by more than 7125 MW; or~~

~~(ii) be less than zero.~~

## ~~5. Flow rate flexibility and curtailment~~

### ~~5.1 If either:~~

~~(i) IUK requests National Grid Gas to accept a Day Ahead Exit Flow Profile request discontinuous flow in respect of the Gas Day that, or a revision of an Exit Flow Profile, which does not comply with the requirements of paragraph 4.1(i) or (as the case may be) 4.2(i); and~~

~~(ii) National Grid Gas determines that it is feasible (in accordance with the Uniform Network Code), consistently with the expectation in Section J4.5.7 (construed mutatis mutandis), for National Grid Gas to make gas available for offtake in accordance with such profile or revised profile;~~

~~or if~~

~~5.12.14 IUK submits an Exit Flow Profile which initially satisfies the following requirements: requirements of paragraph 4.1(i) but which later (as a consequence of Exit Flow Rate changes on Gas Day D-1) ceases to satisfy such requirements; and~~

~~(a) the Agreed Target Quantity is less than 5200 MW; and~~

~~(b) the quantity to be flowed in respect of any one hour on the relevant Gas Day does not exceed 217 MW.~~

~~2.15 Where following a request by Interconnector pursuant to paragraph 2.12:~~

~~(a) National Grid Gas determines that it is feasible (in accordance with the Uniform Network Code), consistently with the expectation ~~at~~in Section J4.5.7 (construed mutatis mutandis), for National Grid Gas to make gas available for offtake in accordance with the discontinuous flow profile specified by Interconnector then, National Grid Gas may accept such Offtake Profile Notice; or such profile,~~

~~then in each case, subject to paragraph 5.3, IUK may provide or maintain such Exit Flow Profile or revise such Exit Flow Profile in accordance with the provisions thereof.~~



~~5.2 — If, pursuant to paragraph 5.1(i) or (iii) National Grid Gas determines (pursuant to paragraph 5.1(ii) or (iv)) that it is not feasible to make gas available for offtake in accordance with such discontinuous flow request profile:~~

~~(a) — National Grid Gas will reject the requestprofile by giving a Curtailment Notice to IUK and National Grid Gas Shippers or their agent (if appointed);~~

~~(b) — in the case of a Day Ahead Exit Flow Profile or any other Exit Flow Profile which is to commence at the start of the Gas Day:~~

~~(i) — National Grid Gas shall use reasonable endeavours to notify IUK (but without obliging National Grid Gas to accept the same) of any alternative Exit Flow Profile(s) which, at the time of such notification, would be acceptable to National Grid Gas provided it was submitted to National Grid Gas in accordance with the other provisions of this Agreement (including, without limitation, those as to the time of submission of such Exit Flow Profile);~~

~~(ii) — IUK may submit an alternative Exit Flow Profile in accordance with such notification; and~~

~~(iii) — in the event that, pursuant to paragraphs 5.2(b)(i) and (ii), an alternative Exit Flow Profile is either not submitted by IUK or is submitted but is not acceptable to National Grid Gas, the Exit Flow Rates on the Exit Flow Profile rejected by National Grid Gas pursuant to paragraph 5.2(a) shall, for the entire Gas Day, be increased or decreased by such amount in MW as National Grid Gas may determine to be necessary to ensure that such profile fully satisfies the requirements of paragraph 4; and such amended Exit Flow Profile shall be treated for the purposes of this Agreement as if it was submitted by IUK, shall be binding on IUK, and National Grid Gas shall have no liability whatsoever in respect of the same; and~~

~~(c) — in the case of a requested revision to any other Exit Flow Profile, the Exit Flow Profile prevailing before such request shall continue in force.~~

~~5.3 — Where National Grid Gas has accepted or confirmed a Day Ahead Exit Flow Profile or a revised Exit Flow Profile for an increased Exit Flow Rate in each case pursuant to paragraph 5.1, National Grid Gas may at any subsequent time, by giving a Curtailment Notice, require IUK to revise the Exit Flow Profile by reducing the Exit Flow Rate for the whole or any part or parts of that profile, with effect not later than a time (on the hour) specified by National Grid Gas (the~~

~~“curtailment time”, being at the end of the relevant Ramp Period), and by an amount not less than the amount determined in accordance with paragraph 5.4.~~

~~5.4 The amount of the reduction specified by National Grid Gas shall be such that the revised Exit Flow Rate would be not less than the greatest Exit Flow Rate which IUK might have specified in the Exit Flow Profile for the relevant time or times without infringing the requirements of paragraph 4.~~

~~5.5 If (upon National Grid Gas’s giving a Curtailment Notice) IUK fails to provide a revised Exit Flow Profile to National Grid Gas in accordance with paragraph 5.3, the prevailing Exit Flow Profile shall be deemed to have been revised in accordance with National Grid Gas’s notice to Interconnector under that paragraph; and if IUK fails to comply with paragraph 6.1 in relation thereto, National Grid Gas may take operational steps in accordance with paragraph 1.3.~~

~~5.6 For the purposes of this Annex B 4 a “Curtailment Notice” is a notice given by National Grid Gas to IUK and National Grid Gas Shippers or their agent (if appointed):~~

- ~~(i) of rejection pursuant to paragraph 5.2(a) of an Exit Flow Profile which does not comply with the requirements of paragraph 4.1(i) or 4.2(i);~~
- ~~(ii) requiring revision pursuant to paragraph 5.2(a) of an Exit Flow Profile which does not comply with the requirements of paragraph 4.1(ii) or 4.2(ii);~~
- ~~(iii) requiring a reduction of the Exit Flow Rate pursuant to clause 11.3.~~

~~5.7 Not used.~~

~~5.8 A Curtailment Notice shall specify the subparagraph of paragraph 5.6 under which it is given.~~

~~5.9 A Curtailment Notice under paragraph 5.6(i) shall be given:~~

- ~~(i) in connection with any Day Ahead Exit Flow Profile submitted prior to 17:00 hours on Gas Day D-1, as early as reasonably practicable, but (subject to paragraph 5.9(a)(ii) below) not later than 21:00 hours on Gas Day D-1;~~
- ~~(ii) in connection with any other Day Ahead Exit Flow Profile (including, without limitation, a Day Ahead Exit Flow Profile submitted whether before or after 17:00 hours on Gas Day D-1, which initially satisfied the requirements of paragraph 4.1(i) but which later (as a consequence of Exit Flow Rate changes~~

~~on Gas Day D-1) ceased to satisfy such requirements), as early as reasonably practicable, but not later than 03:00 hours on Gas Day D-1;~~

~~(iii) — in connection with a revised Exit Flow Profile (not being a Day Ahead Exit Flow Profile), as early as reasonably practicable and not later than the start of the Change Lead Time.~~

~~5.10 — A Curtailment Notice under paragraph 5.6(ii):~~

~~(a) — shall be given not less than 5 hours before the curtailment time; and~~

~~(b) — shall specify the curtailment time, the reduced Exit Flow Rate required by such notice, and the estimated period (which shall not bind National Grid Gas) for which such reduced Exit Flow Rate is required;~~

~~5.11 — Where National Grid Gas has given a Curtailment Notice under paragraphs 5.6(ii), as soon as reasonably practicable after National Grid Gas determines that the requirement for the reduced Exit Flow Rate no longer applies or will at a certain time cease to apply, National Grid Gas will so notify IUK and National Grid Gas Shippers or their agent (if appointed), specifying the time (where later than the time of such notification) with effect from which such requirement will cease to apply.~~

~~5.12 — There shall be no minimum period of notice required for a Curtailment Notice under paragraph 5.6(iii); and IUK shall provide a Day Ahead Exit Flow Profile or (as the case may be) revise the prevailing Exit Flow Profile in compliance with any such Curtailment Notice, provided that the requirements of paragraphs 4.1(i) and 4.2(i) shall not apply in respect of an Exit Flow Profile submitted in compliance with such a Curtailment Notice.~~

~~5.13 — Not used.~~

~~5.14 — Without prejudice to the preceding provisions of this paragraph 5, provided that each of the requirements of paragraph 5.15 are satisfied, IUK may when requesting National Grid Gas to accept a Day Ahead Exit Flow Profile request that the Exit Flow Rate be at a rate other than in accordance with paragraph 3.1(i) or (ii) and where IUK makes such a request it shall notify National Grid Gas of the rate to apply in respect of each hour in the Gas Day.~~

~~5.15 — The requirements referred to in paragraph 5.14 are that:~~

~~(i) — the Initial Exit Flow Rate is less than 5200 MW;~~

~~(ii) the quantity to be flowed in respect of any one hour on the relevant Gas Day does not exceed 217 MW; and~~

~~(iii) meter readings from the FMS Primary Meters may be obtained instantaneously by National Grid Gas at its operational control facilities located at Warwick, Warwickshire.~~

~~5.16 Where following a request by IUK pursuant to paragraph 5.14 National Grid Gas determines that it is feasible (in accordance with the Uniform Network Code) consistently with the expectation at Section J4.5.7 (construed mutatis mutandis), for National Grid Gas to make gas available for offtake in accordance with the profile specified by IUK then, subject to paragraph 5.18, IUK may provide a Day Ahead Exit Flow Profile for which the rate for each hour of the Gas Day is the rate specified by IUK.~~

~~5.17 If, upon a request pursuant to paragraph 5.14, National Grid Gas determines (pursuant to paragraph 5.16) that it is not feasible to make gas available for offtake in accordance with such request National Grid Gas will reject the request by giving notice to IUK and National Grid Gas Shippers or their agent (if appointed) (which notice for the avoidance of doubt shall not be a Curtailment Notice).~~

~~5.18 Where IUK has provided a Day Ahead Exit Flow Profile pursuant to paragraph 5.14 which National Grid Gas has accepted, National Grid Gas may at any subsequent time require IUK to revise the Exit Flow Rate for the whole or any part or parts of that profile such that with effect from the time (on the hour, such time being not earlier than two hours after the giving of such notice) specified by National Grid Gas the Exit Flow Rate is in compliance with paragraphs 3.1(i) and (ii) (which notification for the avoidance of doubt shall not be a Curtailment Notice).~~

~~(-)(b) Where following a request by National Grid Gas pursuant to paragraph 5.18, IUK fails to submit to National Grid Gas a revised Exit Flow Profile showing an Exit Flow Rate which complies with paragraphs 3.1(i) and (ii), it shall be deemed to have submitted an Exit Flow Profile showing (from the time specified by National Grid Gas) a flat Exit Flow Rate of zero or (if greater) the lowest Exit Flow Rate permissible under paragraph 3; and if IUK fails to comply with paragraph 6.1 in relation thereto, National Grid Gas may take operational steps in accordance with paragraph 1.3.~~

### **6.3. Rates of exit flows**

~~6.13.1~~ Subject to and consistently with paragraph ~~36.2~~, ~~InterconnectorIUK~~ will operate the ~~InterconnectorIUK~~ Facilities and the ~~InterconnectorIUK~~ System so as to ensure that the rate of

offtake is as nearly as is practicable equal to the Exit Flow Rate determined pursuant to the provisions of this Annex B-4.

~~6.23.2~~ Where a change in the rate of offtake is to be made (by reason of a revision in the Exit Flow Rate at the start of or during the Gas Day), ~~InterconnectorUK~~ shall operate the ~~InterconnectorUK~~ Facilities and the ~~InterconnectorUK~~ System with a view to ensuring that the Ramp Rate does not at any time exceed an instantaneous rate of change of 150 MW/minute or such other rate of offtake as expressly agreed between ~~InterconnectorUK~~ and National Grid Gas (acting through its Gas National Control Centre operations staff) from time to time, provided that National Grid Gas will only agree this higher rate of offtake where National Grid Gas considers that it is, and will remain, compliant with its statutory obligations in relation to the safe and efficient operation of the National Grid Gas System.

~~6.33.3~~ A change in Exit Flow Rate pursuant to paragraph ~~36.2~~ shall not commence earlier than the start of the Gas Day or (as the case may be) the relevant Flow Rate Change Time, and shall be assumed to occur at the greatest Ramp Rate permitted under paragraph ~~36.2~~.

**APPENDIX A****Form of Exit Flow Profile**From: ~~Interconnector (UK) Ltd.~~

Fax No.

Exit Flow Profile ~~\_\_\_\_\_~~ Bacton Interconnector OfftakeTo: ~~National Grid Gas \_\_\_\_\_~~ Fax No. ~~0870 191 0647~~~~Grid Operations Controller~~~~System Control~~~~Warwick~~Re: ~~Bacton interconnector gas flow information for Gas Day \_\_\_\_\_~~

Time Hour commencing	Aggregate Oftake Flowrate
0500	
0600	
0700	
0800	
0900	
1000	
1100	
1200	
1300	
1400	

1500	
1600	
1700	
1800	
1900	
2000	
2100	
2200	
2300	
2359	
0100	
(25-hr day)	
0200	
0300	
0400	
TOTAL	
E.O.D	

Assumed C.V. = \_\_\_\_\_ MJ/m<sup>3</sup>

Prepared by: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Issue No. \_\_\_\_\_

## ANNEX C – Measurement Provisions

### Part 1

#### Interconnection Point metering

##### 1. Definitions

In this Annex:

~~“Connection Point Fiscal Metering System” or “FMS”~~ means the metering system immediately upstream of the System Entry Point at which all ~~natural~~ gas shall be measured or analysed in accordance with the terms of this Agreement, prior to entry into the National Grid Gas System;

**“Permitted Range”** means the percentage range (for any characteristic) specified in Table 1 in Annex C, Part 4 (which in relation to energy flow is expressed as a percentage of maximum volumetric flow);

~~“Flow Measurement Equipment”~~**“Primary Meters”** means the meters and equipment for measuring volumes of gas installed at the Interconnection Point as shown in Appendix 1;

**“Gas Analysis Equipment”** means the measurement equipment for measuring quality of gas installed at the Interconnection Point as shown in Appendix 1.

##### 2. General

2.1 The quantity and quality of gas offtaken from or delivered to the National Grid Gas System at the Interconnection Point shall be determined by the ~~Flow Measurement Equipment~~**Primary Meters** and the Gas Analysis Equipment.

2.2 ~~InterconnectorUK~~ shall be responsible for installing, calibrating, operating, maintaining and repairing the ~~Flow Measurement Equipment~~**Primary Meters** and Gas Analysis Equipment.

2.3 The ~~Fiscal Metering System~~**FMS** measures flow rates and gas qualities for the transfer of gas from National Grid Gas to ~~InterconnectorUK~~ (forward flow) and from ~~InterconnectorUK~~ to National Grid Gas (reverse flow), and in particular:

- (a) flow rates are measured through six parallel streams incorporating orifice plate meters designed, built and maintained to comply with the requirements of ISO 5167.-  
Five streams are sufficient to meet maximum flow rates; a minimum of one stream is



therefore available at any time for contingency use and to facilitate the validation of the metering systems;

- (b) each stream is equipped with pressure, differential pressure and temperature instrumentation and flow conditioner plates constructed in accordance with ISO 5167;
- (c) orifice plates can be removed during scheduled shutdown periods for cleaning and calibration and an inspection should be undertaken on impulse pipework to check for liquid contaminant. Photographic evidence should be taken for inspection by both parties and any excessive contamination should be analysed. An assessment of any impacts of measurement accuracy shall be provided to National Grid;
- (d) gas composition is monitored by two gas chromatographs and dedicated moisture, hydrogen and oxygen analysers. The two gas chromatographs sample the gas at regular alternate intervals and are subject to ISO 10723 performance evaluations on a periodic basis. In the event of unavailability of one instrument, the other will continue sampling at half the overall frequency; and
- (e) an independent organisation carries out regular inspections of the metering and gas quality equipment, witnessed by the Operators, to confirm conformity with the appropriate standards.

### 3. Accuracy

3.1 The total uncertainty in the measurements of the energy flow and gas quality characteristics by the Flow Measurement Equipment~~Primary Meters~~ and the Gas Analysis Equipment at the Interconnection Point shall in all steady-state flow conditions be within the Permitted Range.

3.2 The methods specified in ISO 5167-~~1~~and ISO 5168 or other approved guide in uncertainty in measurement (GUM) method~~1:2003 and ISO 5168:2005~~ shall be used for the determination of uncertainties in the measurement of volume flow rates in the calculation of the total uncertainty in the measurement of energy flow rates referred to in paragraph 3.1. ~~Both Operators acknowledge that the Primary Meters and the Gas Analysis Equipment do not comply with ISO 5167-2:2003 paragraph 6.3.3.3\* Notwithstanding this, the Primary Meters and Gas Analysis Equipment achieve the energy measurement uncertainty required by National Grid Gas.~~

~~\* Due to a physical restriction the approach piping to the Primary Meters and Gas Analysis Equipment is 12 mm shorter than prescribed in paragraph 6.3.3.3 of ISO 5167-2:2003.~~

- 3.3 The methods specified in accordance with the approved validation procedures, to be agreed between National Grid Gas and [InterconnectorUK](#) shall be used for the determination of uncertainties in the measurement of the gas quality characteristics referred to in paragraph 3.1.

#### 4. Validation of Flow Measurement Equipment

##### 4. Verification

- 4.1 National Grid Gas may request that the [Flow Measurement Equipment](#)~~Primary Meters~~ be ~~validated~~verified at any time in which case any such ~~validation~~verification shall be carried out as soon as reasonably practicable. Subject to paragraph 4.2 the costs and expense of such ~~validation~~verification, and any adjustment or replacement of the components of the ~~measurement equipment~~Primary Meters made as a result of any ~~validation~~verification made pursuant to this paragraph 4.1 shall if the ~~measurement equipment is~~Primary Meters are found to read within the Permitted Range be paid by National Grid Gas and in any other case by [InterconnectorUK](#).
- 4.2 National Grid Gas may request that the [Flow Measurement Equipment](#)~~Primary Meters~~ be verified if the previous ~~validation~~verification took place more than one (1) month previously and any ~~validation~~verification pursuant to this paragraph 4.2 shall be carried out as soon as reasonably practicable. [InterconnectorUK](#) shall bear the costs and expenses of such ~~validation~~verification and any adjustment or replacement of the components of the [Flow Measurement Equipment](#)~~Primary Meters~~ made as a result thereof.
- 4.3 Subject to paragraph 4.6 [InterconnectorUK](#) may at its own expense undertake ~~validation~~verification of the [Flow Measurement Equipment](#)~~Primary Meters~~ and may adjust or replace the components of the [Flow Measurement Equipment](#)~~Primary Meters~~ also at its own expense at any time. Validation of the Flow Measurement Equipment on all meter streams should occur no less frequently than once every 12 months.
- 4.4 Immediately following ~~validation~~verification pursuant to paragraph 4.1, 4.2 or 4.3 the individual components of the [Flow Measurement Equipment](#)~~Primary Meters~~ shall be adjusted or replaced as necessary so that the [Flow Measurement Equipment](#)~~Primary Meters~~ read centrally within the Permitted Range. Each individual component of the [Flow Measurement Equipment](#)~~Primary Meters~~ shall read within its recommended tolerance.

4.5 Where the Flow Measurement Equipment ~~is~~ Primary Meters ~~are~~ found when so verified to read outside the Permitted Range then:

- (a) the Flow Measurement Equipment ~~Primary Meters~~ shall be assumed to have read outside the Permitted Range during the latter half of the period since last ~~validated~~ verified and found to be within the Permitted Range or, if later, since last adjusted to read within the Permitted Range (except in the case where it is proved that the Flow Measurement Equipment ~~has~~ Primary Meters ~~have~~ begun to read outside the Permitted Range on some other date or during such other period as agreed by National Grid Gas and Interconnector ~~UK~~);
- (b) for the purposes of paragraph (c), the quantities read as delivered to or offtaken from the National Grid Gas System on each Gas Day during the period when the Flow Measurement Equipment ~~is~~ Primary Meters ~~are~~ assumed to have read outside the Permitted Range shall be adjusted by an amount as agreed by National Grid Gas corresponding to the amount by which the Flow Measurement Equipment ~~was~~ Primary Meters ~~were~~ found on ~~validation~~ verification to read outside the Permitted Range; and
- (c) the amount by which the quantity determined to have been delivered to or offtaken from the National Grid Gas System on any Gas Day differs from the quantity originally determined to have been delivered to or offtaken from that System on that Gas Day shall be accounted for in accordance with Annex F paragraph 8.

4.6 Any ~~validation~~ verification pursuant to this paragraph 4 shall be conducted by Interconnector ~~UK~~ and Interconnector ~~UK~~ shall give reasonable advance notice of such ~~validation~~ verification to National Grid Gas who shall be entitled to be present. Interconnector ~~UK~~ shall provide a ~~validation~~ verification report that includes all test results carried out on the measurement equipment to National Grid Gas within fourteen (14) days of any ~~validation~~ verification stating the results of such ~~validation~~ verification.

4.7 The results of any ~~validation~~ verification conducted by Interconnector ~~UK~~ shall be binding on Interconnector ~~UK~~ and National Grid Gas (and on all National Grid Gas Shippers and Interconnector ~~UK~~ Shippers), unless National Grid Gas shall within fourteen (14) days after receiving the ~~validation~~ verification report specified in paragraph 4.6 give notice to Interconnector ~~UK~~ that it disputes the accuracy of such ~~validation~~ verification. National Grid Gas shall not be entitled to dispute the accuracy of such ~~validation~~ verification solely on the grounds that it did not attend such ~~validation~~ verification.

- 4.8 At the request of either [InterconnectorUK](#) or National Grid Gas, [InterconnectorUK](#) and National Grid Gas shall meet and discuss and endeavour to settle any dispute or failure to agree arising from the application of the provisions of this paragraph 4 and if within thirty (30) days after such request they shall have been unable to agree the matter may be referred to an Expert for determination in accordance with clause 13 (Dispute Resolution) (at the request of either [InterconnectorUK](#) or National Grid Gas).

## 5. Calibration of Gas Analysis Equipment

The on-stream Gas Analysis Equipment shall be calibrated in accordance with [ISO 10723 \(or any replacement of ISO 10723\) performance evaluation](#)~~the approved validation procedures~~ at appropriate intervals with Standard Gas prepared by gravimetric means or traceable by recognised procedure to an appropriate gravimetrically prepared standard mixture and containing, as a minimum, nitrogen, carbon dioxide, methane, ethane, propane and butane. However, hydrocarbons heavier than butane should not be calculated from the butane content alone and so the Gas Analysis Equipment must allow the responses of hydrocarbons heavier than butane, with the Standard Gas also containing appropriate amounts of the heavier hydrocarbons.

## 6. Inspection Rights

National Grid Gas shall have the right, upon giving reasonable notice to [InterconnectorUK](#), to inspect [Interconnector'sUK's](#) measurement equipment and the charts and other measurements or test data, but the reading calibration and adjustment of the [Flow Measurement Equipment](#)~~Primary Meters~~ and/or Gas Analysis Equipment and the changing of any charts shall be carried out by [InterconnectorUK](#) who shall preserve all original test data, charts and other similar records for a period of three (3) years and shall make a copy thereof available to National Grid Gas upon request.

## 7. Gross Calorific Value

The Gross Calorific Value of the gas offtaken from or delivered to the National Grid Gas System at the Interconnection Point shall be determined by the Gas Analysis Equipment.

## 8. Modifications

Where an Operator proposes to modify the [Flow Measurement Equipment](#)~~Primary Meters~~ and/or Gas Analysis Equipment, the provisions of clause 9 (Modification and inspection of Connection Facilities) shall apply.

**9. Valves**

- 9.1 The Operators agree that valve numbers 3077, 3079 and 3081 are owned and operated by National Grid Gas.
- 9.2 National Grid Gas shall as soon as reasonably practicable advise [InterconnectorUK](#) of, and keep [InterconnectorUK](#) updated in relation to, any maintenance works which National Grid Gas proposes to carry out in relation to valve numbers 3077, 3079 and 3081. National Grid Gas shall ensure that [InterconnectorUK](#) shall have access to the National Grid Gas Facilities to witness any maintenance works to be carried out in relation to the valves and to observe the operation of such valves.
- 9.3 If National Grid Gas proposes to make a modification to valve numbers 3077, 3079 and/or 3081, the provisions of clause 9 (Modification and inspection of Connection Facilities) shall apply.
- 9.4 [InterconnectorUK](#) shall have the right to access, at all reasonable times during normal business hours and upon reasonable notice, to all maintenance records and certificates kept by National Grid Gas in relation to valve numbers 3077, 3079 and 3081.

## Part 2

### King's Lynn metering

#### 1. Definitions and general

- 1.1 In this Annex “**King's Lynn Meters**” means the meters and equipment for measuring volumes of gas installed by National Grid Gas at the King's Lynn Compressors.
- 1.2 The quantity of gas offtaken from the National Grid Gas System and consumed within the gas generators at King's Lynn shall (where required for the purposes of Annex B-3) be determined by the King's Lynn Meters.
- 1.3 National Grid Gas shall be responsible for installing, calibrating, operating, maintaining and repairing the King's Lynn Meters.

#### 2. Accuracy

- 2.1 The total uncertainty in the measurements of the energy flow by the King's Lynn Meters at King's Lynn shall in all steady-state flow conditions be within the Permitted Range.
- 2.2 The methods specified in ISO ~~5167~~~~and 5167-1:1991~~ and ISO 5168:~~1978~~ shall be used for the determination of uncertainties in the measurement of volume flow rates in the calculation of the total uncertainty in the measurement of energy flow rates referred to in paragraph 2.1.

#### 3. Validation

#### ~~3. Interconnector~~Verification

- 3.1 ~~UK~~ may request that the King's Lynn Meters be ~~validated~~verified at any time in which case any such ~~validation~~verification shall be carried out as soon as reasonably practicable. Subject to paragraph 3.2 the costs and expense of such ~~validation~~verification, and any adjustment or replacement of the components of the King's Lynn Meters made as a result of any ~~validation~~verification made pursuant to this paragraph 3.1 shall if the King's Lynn Meters are found to read within the Permitted Range be paid by ~~Interconnector~~UK and in any other case by National Grid Gas.
- 3.2 ~~Interconnector~~UK may request that the King's Lynn Meters be ~~validated~~verified if the previous ~~validation~~verification took place more than three (3) months previously and any ~~validation~~verification pursuant to this paragraph 3.2 shall be carried out as soon as reasonably practicable. National Grid Gas shall bear the costs and expenses of such ~~validation~~verification.

and any adjustment or replacement of the components of the King's Lynn Meters made as a result thereof.

3.3 Subject to paragraph 3.5 National Grid Gas may at its own expense undertake ~~validation~~verification of the King's Lynn Meters and may adjust or replace the components of the King's Lynn Meters also at its own expense at any time.

3.4 Immediately following ~~validation~~verification pursuant to paragraph 3.1, 3.2 or 3.3 the individual components of the King's Lynn Meters shall be adjusted or replaced as necessary so that the King's Lynn Meters read centrally within the Permitted Range. Each individual component of the King's Lynn Meters shall read within its recommended tolerance.

3.5 Where the King's Lynn Meters are found when so ~~validated~~verified to read outside the Permitted Range then:

(a) the King's Lynn Meters shall be assumed to have read outside the Permitted Range during the latter half of the period since last ~~validated~~verified and found to be within the Permitted Range or, if later, since last adjusted to read within the Permitted Range (except in the case where it is proved that the King's Lynn Meters have begun to read outside the Permitted Range on some other date or during such other period as agreed by National Grid Gas);

(b) an appropriate adjustment shall be made, as required, in respect of the amounts paid or payable by ~~Interconnector~~UK to National Grid Gas pursuant to paragraph 6 of Annex B-3 the period when the King's Lynn Meters are assumed to have read outside the Permitted Range, on the basis of an amount corresponding to the amount by which the King's Lynn Meters were found on ~~validation~~verification to read outside the Permitted Range.

3.6 Any ~~validation~~verification pursuant to this paragraph 3 shall be conducted by National Grid Gas and National Grid Gas shall give reasonable advance notice of such ~~validation~~verification to ~~Interconnector~~UK who shall be entitled to be present. National Grid Gas shall provide a ~~validation~~verification report to ~~Interconnector~~UK within fourteen (14) days of any ~~validation~~verification stating the results of such ~~validation~~verification.

3.7 The results of any ~~validation~~verification conducted by National Grid Gas shall be binding on National Grid Gas and ~~Interconnector~~UK, unless ~~Interconnector~~UK shall within fourteen (14) days after receiving the ~~validation~~verification report specified in paragraph 3.6 give notice to National Grid Gas that it disputes the accuracy of such ~~validation~~verification.

~~UK~~ shall not be entitled to dispute the accuracy of such ~~validation~~verification solely on the grounds that such party did not attend such ~~validation~~verification.

- 3.8 At the request of either National Grid Gas or Interconnector~~UK~~, National Grid Gas and Interconnector~~UK~~ shall meet and discuss and endeavour to settle any dispute or failure to agree arising from the application of the provisions of this paragraph 3 and if within thirty (30) days after such request they shall have been unable to agree the matter may be referred to an Expert for determination in accordance with clause 13 (Dispute Resolution) (at the request of either National Grid Gas or Interconnector~~UK~~).

#### 4. **Inspection rights**

Interconnector~~UK~~ shall have the right, upon giving reasonable notice to National Grid Gas, to inspect the National Grid Gas measurement equipment and the charts and other measurements or test data of National Grid Gas, but the reading calibration and adjustment of the King's Lynn Meters and the changing of any charts shall be carried out by National Grid Gas who shall preserve all original test data, charts and other similar records for a period of three (3) years and shall make a copy thereof available to Interconnector~~UK~~ upon request.

#### 5. **Calorific Value**

The calorific value of the gas offtaken at King's Lynn shall be determined in accordance with the Uniform Network Code.

#### 6. **Modifications**

Where an Operator proposes to modify the King's Lynn Meters, the provisions of clause 9 (Modification and inspection of Connection Facilities) shall apply.



**Part 3****Measurement Failure**

1. If during any part of any Gas Day the [Flow Measurement Equipment](#)~~Primary Meters~~, King's Lynn Meters or the Gas Analysis Equipment are not adequately operational, the quantity and quality of gas delivered to, or as the case may be offtaken from, the National Grid Gas System at the Interconnection Point during such time will be deemed to be such quantity and quality as may be agreed between [Interconnector](#)~~UK~~ and National Grid Gas, in both cases acting reasonably and using alternative measurements for the derivation of such quantity and quality of gas where possible.
2. For [Flow Measurement Equipment](#)~~Primary Meter~~ and King's Lynn Meter failure, recourse to the relevant orifice differential pressures, meter pressure, meter temperature and GCV or calorific value should be made to manually determine flow through the meter.
3. For Gas Analysis Equipment failure, spot samples should be taken and analysed at an approved laboratory with sufficient frequency to monitor properly changes in operating conditions. The method and equipment used and installed for taking samples shall be subject to approval by National Grid Gas and [Interconnector](#)~~UK~~.

**Part 4****Metering Accuracy**

1. The accuracy of the [Flow Measurement Equipment](#)~~Primary Meters~~, King's Lynn Meters and Gas Analysis Equipment is described in Table 1. Concerning Interconnection Point and Fuel Gas energy flow rate, it is expressed in relation to the maximum rate of gas flow that the meters may accommodate.

**TABLE 1 - MEASUREMENT ACCURACIES**

Characteristic	Unit	Measurement Range	Accuracy
<a href="#">Flow Measurement Equipment</a> <del>Primary Meters</del> Volume Flow Rate	Nm <sup>3</sup> /hour	86,765 to 4,000,000	+/-0.96%
<a href="#">Flow Measurement Equipment</a> <del>Primary Meters</del> Energy Flow Rate	MJ/hour	3,375,139 to 180,000,000	+/-1.0%
King's Lynn Gas Volume Flow Rate	Sm <sup>3</sup> /hour	0 to 2,333,333	+/-5.0%
King's Lynn Gas Energy Flow Rate	MJ/hour	0 to 104,066,666	+/-5.0%
Offtake Pressure <a href="#">Flow Measurement Equipment</a> <del>Primary Meters</del>	barg	0 to 80	+/-0.16
Gross Calorific Value	MJ/Nm <sup>3</sup>	36.9 to 47.5	+/-0.05
	MJ/Sm <sup>3</sup>	35.0 to 45.0	+/-0.05
Wobbe Index	MJ/Nm <sup>3</sup>	47.5 to 56.2	+/-0.06
	MJ/Sm <sup>3</sup>	45.0 to 53.3	+/-0.06
Offtake Temperature	°C	-10 to 45	+/-0.25
Hydrocarbon Dewpoint	°C		
Water Dewpoint	°C	-50 to 15	+/-2.0
Oxygen	ppm vol	<5000	0 to 25 ppm range at 10 ppm, +/-2.0. 25 to 5000 ppm

			range at 2000 ppm, +/-50.0
Carbon Dioxide	mol%	0.05 to 8.0	At 2mol% and below, +/-0.02 absolute. At above 2mol%, +/-0.05 absolute
Hydrogen Sulphide (including COS)	ppm vol	<10	+/-0.5
Total Sulphur	ppm vol	<60	+/-0.8
Incomplete Combustion Factor		-2.2 to 1.75	+/-0.03
Soot Index		0.49 to 0.65	+/-0.002
Inert Gases (including Carbon Dioxide and Nitrogen) <sup>1</sup>			
Nitrogen	mol%	0.2 to 12.0	At 5mol% and below, +/-0.01 absolute. At above 5mol%, +/-0.02 absolute.
Hydrogen	ppm vol	<5000	At 100 ppm and below, +/-2.0. At above 100 ppm, +/-5% relative.

2. Dedicated fiscal standard flow calculators are used to determine flow rates at normal conditions (0°C, 1.01325 BarA) in accordance with the formulae given in BS EN ISO 5167.
3. Gas quality (Gross Calorific Value, Wobbe Index, etc.) calculations based on the chromatograph data are carried out in accordance with BS [EN](#) ISO 6976.
4. Calculations and procedures for the evaluation of uncertainties are carried out in accordance with ISO 5168.

<sup>1</sup> mol% range and accuracy is a combination of the Nitrogen and Carbon Dioxide data in the Table.

**Part 5****Notification of quantities at CSEP and SEP**

1. [InterconnectorUK](#) shall notify to National Grid Gas each Gas Day:

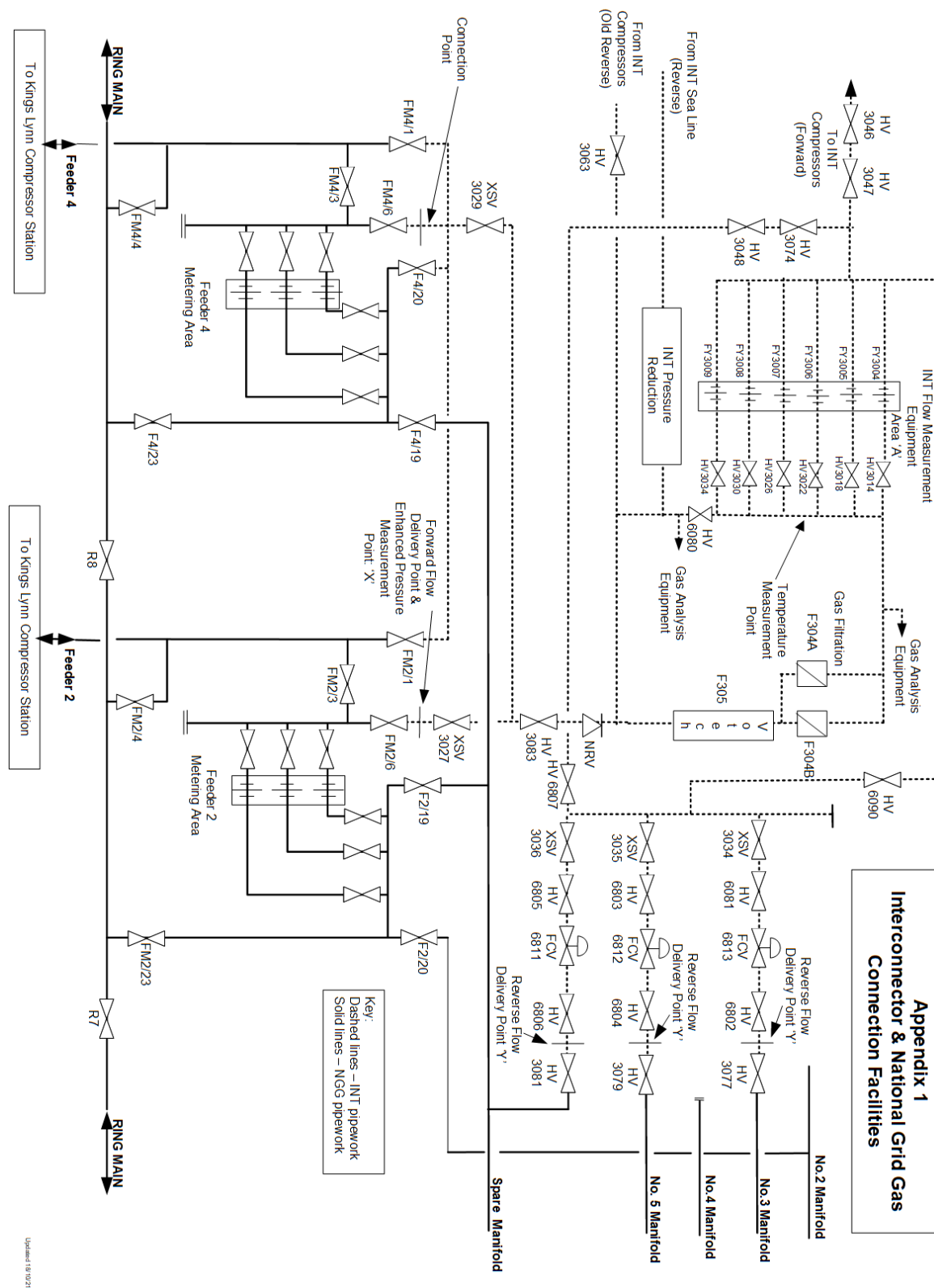
(a) the net aggregate quantity of gas measured (in accordance with Part 1) as flowing at the Interconnection Point;

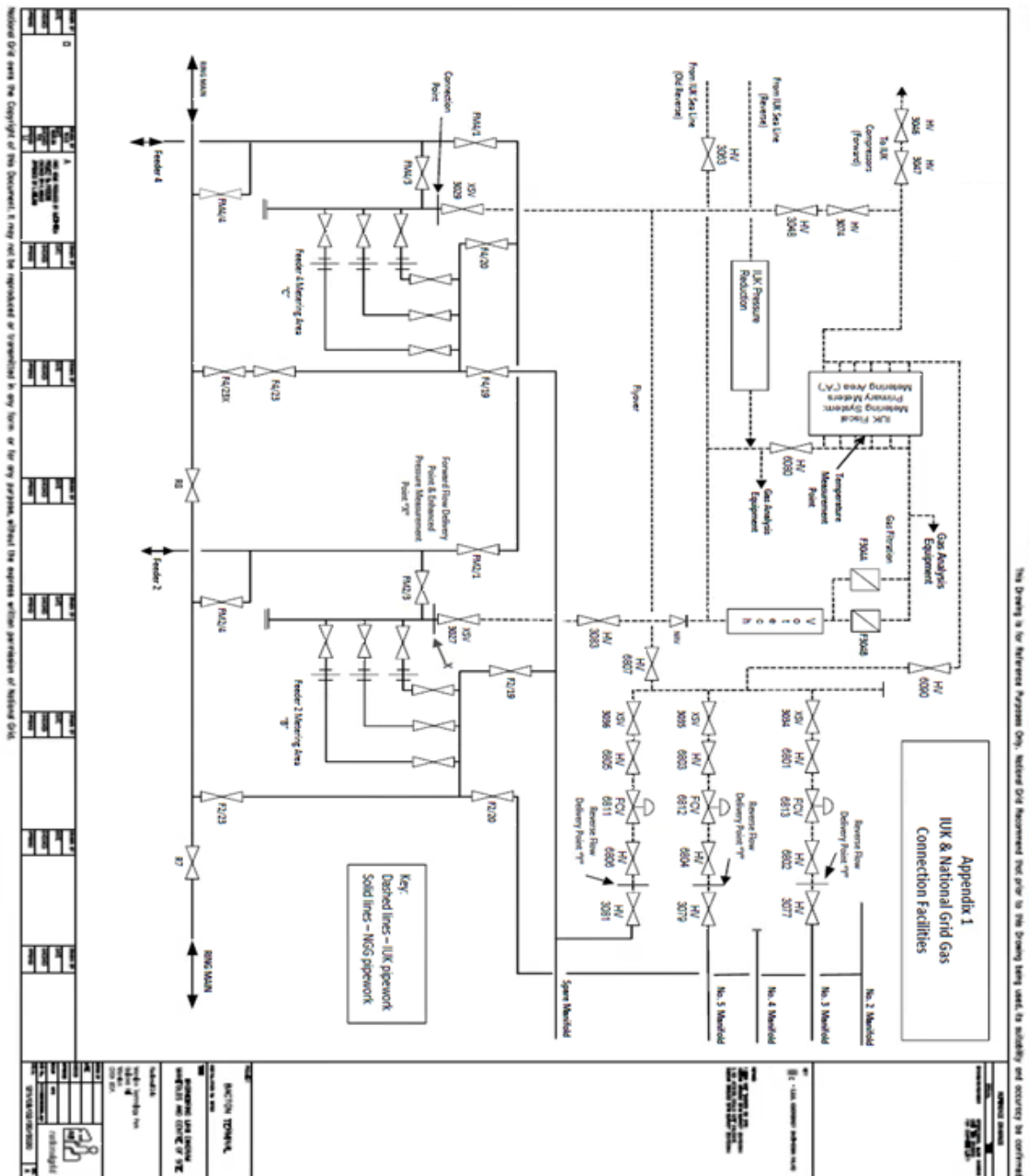
(b) where there were physical flows of gas (at different times of the Gas Day) both at the CSEP out of, and at the SEP into, the National Grid Gas System, the aggregated measured quantities of each such gas flow

and, at the request of National Grid Gas, [InterconnectorUK](#) will on Gas Day D+1, notify to National Grid Gas the quantities of gas deemed to have flowed out of the National Grid Gas System for the relevant periods of Gas Day D as defined by National Grid Gas.

## Appendix 1

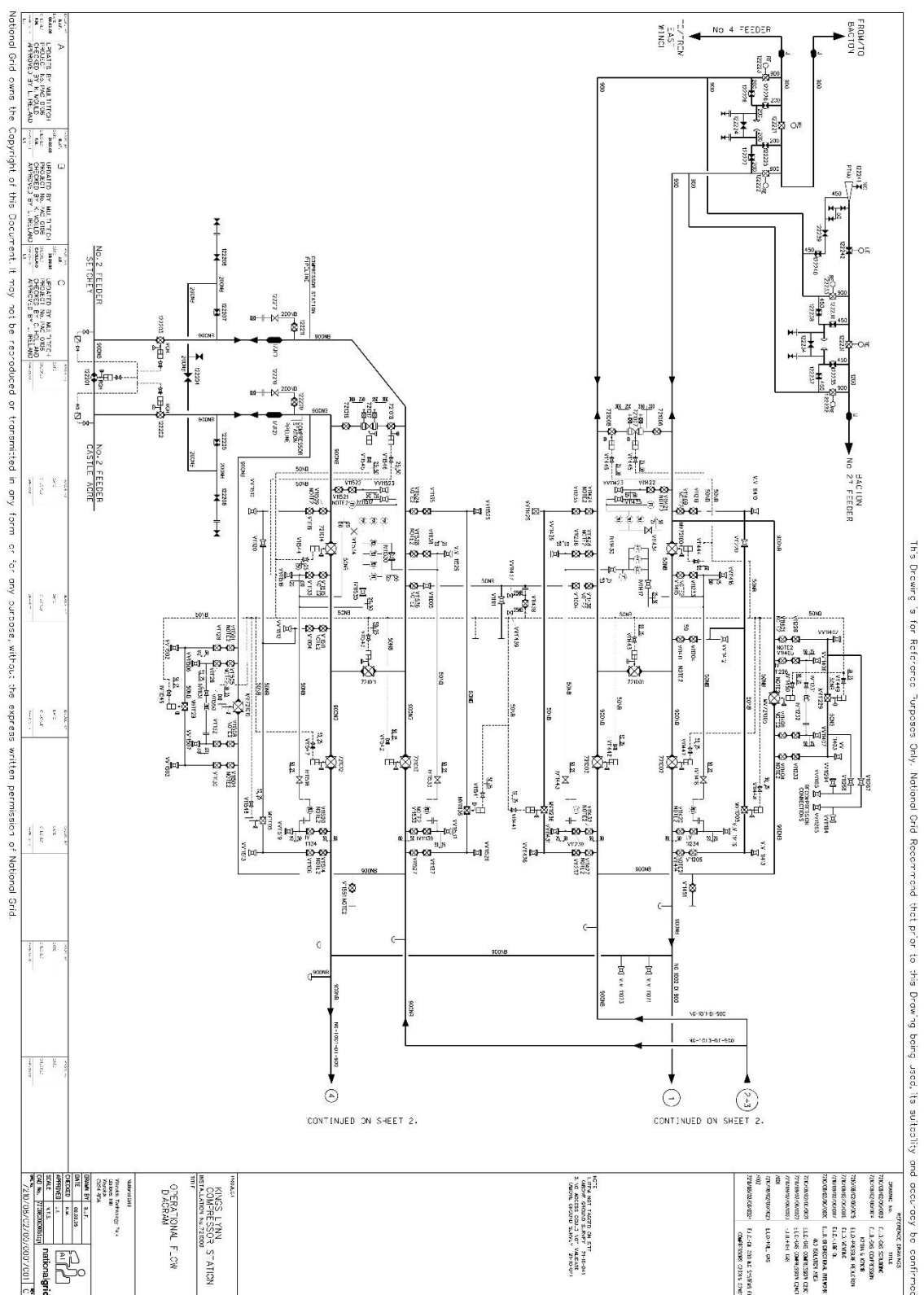
**InterconnectorUK / National Grid Gas Connection Facilities**





## Appendix 2

## Kings Lynn Compressors







**Appendix 3****TECHNICAL INTERPRETATION****1. Defined terms**

The following technical terms are used with the following meanings in this Agreement:

**“bar”**: the bar as defined in ISO 1000-1981(e);

**“barg”**: bar gauge;

**“calorific value”**: the meaning given in the Uniform Network Code;

**“degree Celsius”** and **“C”**: the particular interval between the temperature in Kelvin and the temperature 273.15 Kelvin as defined in ISO 1000-1981(E);

**“gauge”**: when used in relation to pressure, the pressure in excess of 1 standard atmosphere where 1 standard atmosphere is 1.01325 bar;

**“Gross Calorific Value”** or **“GCV”**: that number of Megajoules produced by the complete combustion at a constant absolute pressure of one decimal zero one three two five (1.01325) bar of one (1) Normal Cubic Metre of natural gas at twenty five (25) degrees Celsius with excess air at the same temperature and pressure as the natural gas when the products of combustion are cooled to twenty five (25) degrees Celsius and when the water formed by combustion is condensed to the liquid state and the products of combustion contain the same total mass of water vapour as the natural gas and air before combustion; and for the avoidance of doubt GCV shall be REAL as defined in ISO 6976-1:1983(E);

**“hour”**: the hour as defined in ISO 1000-1981(E);

**“Joule”**; the joule as defined in ISO 1000-1981(E);

**“kWh”**: 3,600,000 Joules;

**“MCM”** or **“mcm”**: 1,000,000 Cubic Metres;

**“mcmh”**: mcm per hour;

**“Megajoule”** or **“MJ”**: 1,000,000 Joules;

**“metre”**: the meter as defined in ISO 1000-1981(E);

**“MMJ”**: millions of Megajoules;

“**MWhr**”: 3,600 Megajoules per Gas Day;

“**MJ/Nm<sup>3</sup>**”: Megajoules per Normal Cubic Metre;

“**MJ/Sm<sup>3</sup>**”: Megajoules per Standard Cubic Metre;

“**MW**”: 1,000,000 Watts;

“**MWh**”: 1,000 kWh;

“**Normal Cubic Metre**” or “**Nm<sup>3</sup>**”: the volume of gas which occupies a cubic metre measured at a pressure of 1.01325 bar at a temperature of 0°C;

“**pascal**”: the pascal as defined in ISO 1000-1981(E);

“**ppm**”: parts per million by volume;

“**Relative Density**”: shall mean the mass of a volume of dry gas divided by the mass (expressed in the same units) of an equal volume of dry standard air as defined in ISO 6976-1983(E) both such gases being at the reference temperature and an absolute pressure of 1.01325 bar; and Relative Density (REAL) shall for the avoidance of doubt be REAL as defined in ISO 6976-1:1983(E);

“**second**”: the second as defined in ISO 1000-1981(E);

“**Standard Cubic Metre**” or “**Sm<sup>3</sup>**”: when applied to gas, that amount of gas which at a temperature of 15°C and an absolute pressure of 1.01325 bar and being free of water vapour occupies one 1 cubic metre;

“**Watt**”: 1 Joule per second;

“**Wobbe Index**”: when applied to gas, the Gross Calorific Value divided by the square root of the Relative Density.

**Not used.**

## 2. **MW Variable**

Where any provision of this Agreement refers to any amount in “**MW Variable**”, such amount has been derived from an amount in Cubic Metres at an assumed Gross Calorific Value of 38.9 MJ/Nm<sup>3</sup>; and where on any Gas Day the average Gross Calorific Value of gas offtaken from or delivered to the National Grid Gas System at the Interconnection Point differs materially from

such assumed value the MW amount referred to in such provision shall be adjusted accordingly.

**ANNEX D – Capacity and Optimisation****1. Definitions**

1.1 In this Annex the following terms shall have the following meanings:

**Allocated IP Capacity** means firm capacity at the Interconnection Point that is or has been allocated to a Shipper pursuant to an Operator's Transportation Arrangements;

**Auction** means an auction of Available IP Capacity which is conducted by the Platform Operator as contemplated in this Annex and the CAM Code;

**Auction Calendar** has the meaning given to that term in the CAM Code;

**Auction Premium** means the amount by which the Clearing Price in a Bundled Capacity Auction exceeds the Starting Price;

**Available IP Capacity** means firm capacity at the Interconnection Point that the Operators determine, having regard to the requirements of the CAM Code, is available to be offered to Shippers (whether as Bundled Available Capacity or Unbundled Available Capacity);

**Bundled Allocated Capacity** means Allocated IP Capacity which consists of corresponding entry and exit capacity at both sides of the Interconnection Point and Unbundled Allocated Capacity shall be construed accordingly;

**Bundled Available Capacity** means Available IP Capacity which consists of corresponding entry and exit capacity at both sides of the Interconnection Point and Unbundled Available Capacity shall be construed accordingly;

**Bundled Capacity Auction** means an Auction of Bundled Available Capacity;

**Clearing Price** means the price at which Available IP Capacity is sold in accordance with an Auction;

~~**Common Services** has the meaning given to that term in the Standard Form TSO Services Contract;~~

**GTCs** means the standard terms and conditions that apply for all platform usage contracts between Shippers and PRISMA;

**Linked Auction** has the meaning given to 'linked Auctions' in Section B (Capacity) of the European Interconnection Document to the Uniform Network Code;

**Platform Operator** means PRISMA or another operator of a capacity booking platform who is appointed by the Operators in the manner provided, and for the purposes envisaged, in this Annex;

**Platform Rules and Systems** means, for so long as PRISMA is the Platform Operator, the Standard Form TSO Services Contract and the GTCs, and for so long as an operator other than PRISMA is the Platform Operator, the rules, arrangements and systems that are applied by that other operator in performing the functions contemplated in this Annex;

**PRISMA** means PRISMA European Capacity Platform GmbH;

**Services** means the Common Services and any other services which PRISMA has agreed to provide to the Operators in its capacity as Platform Operator;

**Standard Form TSO Services Contract** means the standard form contract which PRISMA has or will enter into with each of its customers who are transmission system operators regarding the provision of services to those customers related to the PRISMA capacity booking platform for the allocation of transport capacities in gas transmission grids (as that contract may be modified from time to time); and

**Starting Price** means, for each Bundled Available Capacity product which is to be the subject of a Bundled Capacity Auction, the sum of reserve prices specified in respect of each element of such Bundled Available Capacity product by the Operators.

## 2. General

2.1 Having regard to the requirements of the CAM Code, this Annex D sets out certain arrangements between the Operators in connection with:

- (a) Bundled Available Capacity and Bundled Allocated Capacity;
- (b) interruptible capacity; and
- (c) the calculation and maximisation of capacity at the Interconnection Point.

2.2 The amount of technical capacity at the Interconnection Point which is to be withheld from allocation in an Auction for an annual period is:

- (a) for the first 5 gas years from the Auction date, the lesser of: (i) 10% of the technical capacity; and (ii) the Available IP Capacity; and

- (b) for the remaining 10 gas years, the lesser of: (i) 20% of the technical capacity; and (ii) the Available IP Capacity.

### 3. **Bundled Capacity Auctions**

3.1 The CAM Code requires amongst other things that:

- (a) Bundled Available Capacity is allocated in a single auction (and, in the case described in paragraph 3.4, in a Linked Auction); and
- (b) auctions of Bundled Available Capacity are conducted in accordance with the Auction Calendar and otherwise in accordance with the CAM Code.

3.2 The Operators agree that it is their intention that the above-mentioned requirements of the CAM Code will be met through the arrangements described in this Annex.

3.3 The Operators further agree that in respect of each Auction:

- (a) Available IP Capacity will be expressed in kWh/h;
- (b) the price(s) of Available IP Capacity will be expressed in p/(kWh/h) per capacity period;
- (c) that relates to Bundled Available Capacity:
  - (i) the Starting Price shall apply in respect of each Bundled Available Capacity product;
  - (ii) the Auction Premium shall be shared as agreed between the Operators from time to time and if no agreement is reached then one half (1/2) each; and
- (d) that is conducted under the ascending clock auction algorithm:
  - (i) the large price step is to be the sum of large price steps specified by each Operator; and
  - (ii) the small price step is to be set such that five small price steps equal one large price step.

3.4 Where Available IP Capacity in the National Grid Gas System:

- (a) may be held by Shippers in connection with the offtake or delivery of gas from or to the National Grid Gas System at both the Interconnection Point and at another point

of interconnection between the National Grid Gas System and another gas transmission system (the “Linked transmission system”); and

- (b) (in relation to any Auction) the amount of that Available IP Capacity is less than the sum of the Available IP Capacity in the [Interconnector-UK](#) System and the available capacity in the Linked transmission system,

then there shall be a Linked Auction.

3.5 If an Auction (the first Auction) under the ascending clock algorithm has not closed:

- (a) where the next relevant Auction is under the ascending clock algorithm, by 17:00 hours on the 5th business day;
- (b) where the next relevant Auction is under the uniform price algorithm, by 17:00 hours on the preceding business day,

before the information publication date for the next relevant Auction, then the Operators shall seek to agree next steps with respect to the Available IP Capacity that is the subject of the first Auction and in the absence of such agreement the first Auction shall be discontinued without closing where the next relevant Auction is the next Auction for Bundled Available Capacity.

~~3.6 The arrangements described in this Annex will commence on or after 1 November 2015, according to the Auction Calendar set out in the CAM Code.~~

~~3.7~~ 3.6 The Operators acknowledge that Sections B6.3.2, B6.3.3, B6.3.5, B6.3.6 and B7.2.2(f) of the European Interconnection Document to the Uniform Network Code do not apply in relation to the Interconnection Point.

#### 4. **Platform Operator**

4.1 The Operators agree that:

- (a) subject to the operation of paragraph 4.1(b) below, PRISMA is and shall remain the Platform Operator for the purposes of this Agreement;
- (b) an Operator may only change the Platform Operator with the other Operator’s prior written agreement to do so, such agreement not to be unreasonably withheld or delayed;

- (c) nothing in this Agreement or otherwise shall require the Operators to enter into or incur any joint obligations or liabilities to PRISMA (or any other Platform Operator); and
- (d) each Operator is severally responsible for any fees or other amounts payable to PRISMA (or any other Platform Operator) in connection with the arrangements described in paragraph 4.2 below.

#### 4.2 Each Operator:

- (a) confirms that it has entered into a Standard Form TSO Services Contract with PRISMA ~~pursuant to which, amongst other things, PRISMA agrees to provide the Common Services in accordance with and subject to the terms of the Standard Form TSO Services Contract;~~ and
- (b) shall, subject to the operation of paragraph 4.1(b), maintain in full force and effect the Standard Form TSO Services Contract for the duration of this Agreement.

#### 4.3 Each Operator considers and intends that the Services shall include PRISMA:

- (a) determining, based on the submissions made to it by the Operators as described at paragraph 4.4 below, how much of the Available IP Capacity is capable of being made available as Bundled Available Capacity (and therefore included in a Bundled Capacity Auction) and how much is to be made available as Unbundled Available Capacity;
- (b) publishing information relating to forthcoming Auctions;
- (c) holding Auctions, including receiving, validating, evaluating and, where appropriate, accepting Shipper bids made in respect of Available IP Capacity;
- (d) notifying the results of each Auction to each Operator and to each of the Shippers who participated in that Auction;
- (e) publishing Auction results; ~~and~~
- ~~(f) allocating Available IP Capacity to Shippers who have submitted successful bids;~~
- ~~(f) The Operators acknowledge and agree that as at 1 November 2015:~~
- ~~(a) enabling UK is not using PRISMA for transfers and surrenders of Allocated IP Capacity;~~
- ~~and~~



~~(b) National Grid Gas is using PRISMA for transfers and surrenders of Allocated IP Capacity,~~

~~(c)(g) and if these arrangements are proposed to change for either Operator (the “Affected Operator”), the Affected Operator shall provide written notice in advance to the other Operator of the proposed change.~~

4.54.4 If any incompatibility is found to exist between the Platform Rules and Systems and the provisions of this Agreement, the Operators shall discuss the matter with a view to agreeing whether to amend this Agreement in accordance with clause 7 (Amendment Process) and/or to seek a modification of the Platform Rules and Systems.

4.64.5 Each Operator shall:

- (a) in accordance with the Auction Calendar, send to the Platform Operator the information necessary to enable the Platform Operator to conduct Bundled Capacity Auctions, and to perform its other functions contemplated by this Annex; and
- (b) where the Platform Rules and Systems allow or require that Operator to make choices, make such choices as are required to give effect to this Annex D.

## 5. Voluntary bundling of Allocated IP Capacity

5.1 The Operators acknowledge and agree that where a Shipper:

- (a) is both an ~~InterconnectorUK~~ Shipper and a National Grid Gas Shipper; and
- (b) holds Unbundled Allocated Capacity in both Systems which is capable of being Bundled Allocated Capacity,

that Shipper may submit a request (a “**Bundling Request**”) to both Operators in accordance with their respective Transportation Arrangements requesting that the Unbundled Allocated Capacity should become Bundled Allocated Capacity.

5.2 Upon receipt of a Bundling Request, the Operators shall comply with their respective obligations under the CAM Code in relation to that request.

5.3 The Operators further acknowledge and agree that:

- (a) the European Interconnection Document to the Uniform Network Code, Section B6.4, prescribes rules (the “**NTS Voluntary Bundling Rules**”) which are to apply to a Bundling Request made by a National Grid Gas Shipper to National Grid Gas;

- (b) the NTS Voluntary Bundling Rules do not apply to nor bind [InterconnectorUK](#);
- (c) if a Bundling Request is made by a National Grid Gas Shipper in accordance with the NTS Voluntary Bundling Rules, it shall be National Grid Gas's responsibility to seek (in writing and in a timely manner) any confirmation it may need from [InterconnectorUK](#) to enable National Grid Gas to process that Bundling Request in accordance with the NTS Voluntary Bundling Rules; and
- (d) subject to [InterconnectorUK](#) having obtained any necessary confirmation from the relevant [InterconnectorUK](#) Shipper that it may do so, [InterconnectorUK](#) shall, within 10 business days of receiving from National Grid Gas a written request for confirmation made in accordance with paragraph 5.3(c) above, provide a written response to that request.

## 6. Coordination of Interruptible Capacity

- 6.1 The Operators agree that the minimum interruption lead times for interruptible capacity is 75 minutes before the hour from which such interruption is to be effective.
- 6.2 Each Operator shall inform the other Operator as soon as practicable after giving a notice of interruption.

## 7. Capacity optimisation process / analysis in relation to Available IP Capacity

- 7.1 Having regard to their obligations under Article 6 (Capacity calculation and maximisation) and Article 11(8) of the CAM Code, the Operators have agreed that they shall meet at least once a year sufficiently in advance of the date upon which they are required to give notice of the amount of Available IP Capacity (and any additional capacity) that is to be offered in the upcoming annual yearly capacity auction for the purposes of jointly analysing the technical capacities in each System.
- 7.2 The analysis shall include a detailed comparison between the Operators of:
  - (a) technical capacity in each System; and
  - (b) Available IP Capacity in each System.
- 7.3 Any differences shall be noted and quantified, and to the extent reasonably practicable, the reasons for differences should be identified and recorded. The analysis shall take account of assumptions made in the EU-wide 10 year development plan, existing national investment

plans, relevant obligations under the applicable national laws, and any relevant contractual obligations.

- 7.4 The Operators shall also assess relevant parameters, including but not limited to: pressure commitments, relevant supply and demand scenarios, and calorific values. Options for adjusting these parameters will be discussed and examined. The Operators shall also have regard to information that Shippers may provide with regard to expected future flows. In addition, the relevant Operator's regulatory regime and obligations will be considered as part of this process.
- 7.5 Following completion of the analysis, the Operators will identify any potential steps and actions that can be taken to increase Available IP Capacity, and hence increase the offer of Bundled Available Capacity. For any action to increase Available IP Capacity proposed, then the effects of that action shall be considered, and shall include but not be limited to:
- (a) under what timetable can the proposed action be implemented;
  - (b) are there any increased costs associated with the proposed action, and does the regulatory regime(s) allow for recovery of those costs (especially if there are any cross-subsidies between the Operators);
  - (c) does the benefit justify the cost; and
  - (d) are there any impacts, benign or detrimental, on other points on either System and stakeholders (including terminal operators, Shippers, other TSOs).

**ANNEX E – Nominations And Matching****1. Definitions**

1.1 In this Annex the following terms shall have the following meanings:

**“Affected Operator”** has the meaning given in paragraph 6.1;

**“Confirmed Nomination Quantity”** means the quantity of natural gas determined by [InterconnectorUK](#) for a particular hour in a Gas Day in respect of a matched Nomination or Renomination in accordance with paragraph 5.3.4;

**“Counterparty”** means:

- (a) in respect of a NTS Nomination or NTS Renomination, the [InterconnectorUK](#) Shipper receiving or delivering the quantity of natural gas to which that NTS Nomination or NTS Renomination relates; or
- (b) in respect of an [InterconnectorUK](#) Nomination or an [InterconnectorUK](#) Renomination, the National Grid Gas Shipper receiving or delivering the quantity of natural gas to which that [InterconnectorUK](#) Nomination or [InterconnectorUK](#) Renomination relates,

and where such Counterparty may be the same entity as the National Grid Gas Shipper or the [InterconnectorUK](#) Shipper that has submitted a Nomination or Renomination;

**“Daily CNQ”** means the aggregate of all Confirmed Nomination Quantities of a National Grid Gas Shipper for a particular Gas Day in respect of an NTS Nomination or NTS Renomination;

**“Double-Sided”** in respect of a Nomination or Renomination, means a Nomination or Renomination that is not Single-Sided;

**“Effective Hourly Quantity”** has the meaning given in paragraph 5.2;

**“Hourly Quantity”** means in respect of an [InterconnectorUK](#) Nomination or [InterconnectorUK](#) Renomination, the quantity of natural gas for a particular hour of a particular Gas Day as specified in such [InterconnectorUK](#) Nomination or [InterconnectorUK](#) Renomination;

**“ID Code”** means the identification code assigned by National Grid Gas to a National Grid Gas Shipper or by [InterconnectorUK](#) to an [InterconnectorUK](#) Shipper;

**“Initiating TSO”** has the meaning given to initiating transmission system operator in the Interoperability Code;

**“~~Interconnector~~UK Nomination”** has the meaning given in paragraph ~~2.3.3~~;

**“~~Interconnector~~UK Nomination Deadline”** means 13:00 on Gas Day D-1;

**“~~Interconnector~~UK Renomination”** means a nomination which contains the information specified in paragraph ~~23.4~~ and is submitted to ~~Interconnector~~UK after the ~~Interconnector~~UK Nomination Deadline but before the ~~Interconnector~~UK Renomination Deadline (and shall include a nomination that revises a previously submitted ~~Interconnector~~UK Nomination);

**“~~Interconnector~~UK Renomination Deadline”** means 02:00 hours on Gas Day D;

**“Matching Timetable”** means the timetable set out in paragraph 7;

**“Matching TSO”** has the meaning given to matching transmission system operator in the Interoperability Code;

**“Nomination”** means a NTS Nomination and/or an ~~Interconnector~~UK Nomination;

**“Nomination Cycle”** means the 2 hour period commencing at 13:00 hours on Gas Day D-1;

**“Nomination Quantity”** means the quantity of natural gas specified in a Nomination or Renomination;

**“NTS Nomination”** has the meaning given in paragraph 3.1;

**“NTS Nomination Deadline”** means 13:00 hours on Gas Day D-1;

**“NTS Renomination”** means a nomination which contains the information specified in paragraph 3.2 and is submitted to National Grid Gas after the NTS Nomination Deadline but no earlier than 15:00 hours on Gas Day D-1 and no later than the NTS Renomination Deadline;

**“NTS Renomination Deadline”** means 02:00 hours on Gas Day D;

**“Processed ~~Interconnector~~UK Nomination Quantity”** means the quantity of natural gas under an ~~Interconnector~~UK Nomination or ~~Interconnector~~UK Renomination (as the case may be) that ~~Interconnector~~UK has determined for a particular hour in a particular Gas Day in accordance with the ~~Interconnector~~UK Transportation Arrangements;

**“Processed NTS Nomination Quantity”** means the quantity of natural gas under a NTS Nomination or NTS Renomination (as the case may be) that National Grid Gas has determined for a particular Gas Day in accordance with the Uniform Network Code;

**“Renomination”** is a NTS Renomination and/or an [InterconnectorUK](#) Renomination;

**“Renomination Cycle”** means the 2 hour period commencing on the hour following the submission of the Renomination;

**“Renomination Effective Time”** means the time that a Renomination is to become effective, being the later of:

- (a) 05.00 on Gas Day D;
- (b) the hour at the end of the Renomination Cycle, provided National Grid Gas provides the information required under Matching Activity 2 in accordance with the Matching Timetable set out in paragraph 7; or
- (c) such later time requested by the relevant NGG Shipper or [InterconnectorUK](#) Shipper (as applicable);

**“Resumption Notice”** means a notice given by the Affected Operator to the other Operator to the effect that an Exceptional Event has ceased or will, at a time specified in the notice, cease; and

**“Single-Sided”** in respect of a Nomination or a Renomination, means a single Nomination or Renomination that:

- (a) is made by a person who is both a National Grid Gas Shipper and an [InterconnectorUK](#) Shipper;
- (b) is made by that person in its capacity as a National Grid Gas Shipper and to National Grid Gas in accordance with the Uniform Network Code; and
- (c) shall take effect as both a NTS Nomination or a NTS Renomination and a corresponding [InterconnectorUK](#) Nomination or an [InterconnectorUK](#) Renomination.

## ~~2. Transportation Arrangements (General)~~

### ~~2.1 Each Operator considers that the provisions on Nominations and Renominations in its Transportation Arrangements will, at the Amendment Effective Date or as soon as reasonably~~

~~practicable thereafter, be consistent with this Annex E, and in particular that this Annex E accurately describes how National Grid Gas Shippers and IUK Shippers are required to submit Nominations and Renominations in accordance with the Transportation Arrangements.~~

~~2.2 The Operators agree that the provisions of Annex E are hereby given effect from 30 September 2015 for Gas Day 1 October 2015 onwards.~~

### **3.2. Nominations and Renominations**

#### ***Nominations***

~~3.12.1~~ A nomination shall be a “**NTS Nomination**” if it:

~~(a)~~ is submitted by a National Grid Gas Shipper to National Grid Gas in accordance with the Uniform Network Code by the NTS Nomination Deadline; and

~~(b)~~ contains the information specified in paragraph ~~23.2~~.

~~3.22.2~~ A NTS Nomination shall specify:

~~(a)~~ the ID Code of the National Grid Gas Shipper making the nomination;

~~(b)~~ the ID Code of the ~~InterconnectorUK~~ Shipper who is the Counterparty;

~~(c)~~ the Gas Day (Gas Day D) to which the nomination relates;

~~(d)~~ whether the nomination is for entry to or exit from the National Grid Gas System;

~~(e)~~ the Nomination Quantity (which shall be a daily quantity); and

~~(f)~~ whether it is a Single-Sided or Double-Sided nomination.

~~3.32.3~~ A nomination shall be an “**InterconnectorUK Nomination**” if it:

~~(a)~~ is submitted by an ~~InterconnectorUK~~ Shipper to ~~InterconnectorUK~~ in accordance with the ~~InterconnectorUK~~ Transportation Arrangements by the ~~InterconnectorUK~~ Nomination Deadline; and

~~(b)~~ contains the information specified in paragraph ~~23.4~~; or

~~(c)~~ is submitted to National Grid Gas as provided in paragraph ~~34~~.

~~3.42.4~~ An ~~InterconnectorUK~~ Nomination shall specify:

~~(a)~~ the ID Code of the ~~InterconnectorUK~~ Shipper making the nomination;

~~(b)~~ the ID Code for the National Grid Gas Shipper who is the Counterparty;

~~(c)~~ the Gas Day to which the nomination relates;

~~(d)~~ whether the nomination is for entry to or exit from the [InterconnectorUK](#) System;  
and

~~(e)~~ the Nomination Quantity (which shall be an Hourly Quantity for each hour in the Gas Day).

~~3.52.5~~ A National Grid Gas Shipper may submit a NTS Nomination by no later than the NTS Nomination Deadline.

~~3.62.6~~ An [InterconnectorUK](#) Shipper may submit an [InterconnectorUK](#) Nomination by no later than the [InterconnectorUK](#) Nomination Deadline.

~~3.72.7~~ Where a National Grid Gas Shipper does not submit a NTS Nomination by the NTS Nomination Deadline, the relevant National Grid Gas Shipper shall be deemed to have submitted a NTS Nomination with a Nomination Quantity of zero (a “**Deemed NTS Nomination**”). A Deemed NTS Nomination shall not be subject to the process described in paragraph [45.3](#) (Matching Process) and National Grid Gas shall not determine, nor communicate to [InterconnectorUK](#), a Processed NTS Nomination Quantity in respect of a Deemed NTS Nomination.

~~3.82.8~~ Where an [InterconnectorUK](#) Shipper does not submit an [InterconnectorUK](#) Nomination by the [InterconnectorUK](#) Nomination Deadline, no Nomination Quantity will be recorded for that [InterconnectorUK](#) Shipper in respect of the relevant Gas Day.

### **Renominations**

~~3.92.9~~ A National Grid Gas Shipper may submit a NTS Renomination.

~~3.102.10~~ An [InterconnectorUK](#) Shipper may submit an [InterconnectorUK](#) Renomination.

~~3.112.11~~ A Renomination shall specify the Renomination Effective Time.

### **~~4.3.~~ National Grid Gas as agent to receive Single-Sided Nominations**

~~4.13.1~~ [InterconnectorUK](#) authorises National Grid Gas to act as agent for [InterconnectorUK](#) for the purposes only of receiving and communicating Single-Sided Nominations and Single-Sided Renominations as provided in this Annex.



## 5.4. Matching of Nominations and Renominations

### 5.14.1 Matching Roles

5.1.14.1.1 National Grid Gas is the Initiating TSO and [InterconnectorUK](#) is the Matching TSO.

5.1.24.1.2 National Grid Gas as Initiating TSO shall in accordance with the Matching Timetable:

(a) communicate to [InterconnectorUK](#) details of all Single-Sided Nominations and Single-Sided Renominations;

(b) determine the Processed NTS Nomination Quantities for each NTS Nomination and NTS Renomination; and

(c) communicate to [InterconnectorUK](#) details of the determined Processed NTS Nomination Quantities (for both Single-Sided and Double-Sided Nominations and Renominations) (including adjusted Processed NTS Nomination Quantities under paragraph 5.6.1) for such NTS Nominations and NTS Renominations.

5.1.34.1.3 [InterconnectorUK](#) as the Matching TSO shall communicate to National Grid Gas the information specified in paragraph 4.5.3.5 in accordance with the Matching Timetable.

### 5.24.2 Effective Hourly Quantities for NTS Nominations (or NTS Renominations)

5.2.14.2.1 [InterconnectorUK](#) shall calculate for each Processed NTS Nomination Quantity notified to it in accordance with this Annex:

(a) in the case of NTS Nominations, or NTS Renominations with a Renomination Effective Time of 05:00 hours for Gas Day D to which it relates, a quantity that is equal to the Processed NTS Nomination Quantity divided by the number of hours in Gas Day D; or

(b) in case of NTS Renominations, with an Renomination Effective Time later than 05:00 hours for Gas Day D to which the Renomination relates, a quantity that is equal to:

$$EHQ_N = \{ (PDQ_N - \sum_P CHQ_P) / H \}$$

where

$PDQ_N$  is the Processed NTS Nomination Quantity (expressed as a daily quantity);

$\sum_P$  is the sum over hours in the Gas Day before the Renomination Effective Time;

CHQ<sub>p</sub> is the Confirmed Hourly Quantity for each hour in the Gas Day before the Renomination Effective Time under the last NTS Renomination prevailing at such hour; and

H is number of hours remaining in Gas Day D from the Renomination Effective Time,

each quantity calculated under sub-clause (a) or (b) being an “**Effective Hourly Quantity**”.

### 5.3.4.3 Matching Process

5.3.14.3.1 ~~Interconnector~~<sup>UK</sup>, as Matching TSO, shall match Nominations and Renominations by:

(a) determining whether NTS Nominations (or NTS Renominations) and ~~Interconnector~~<sup>UK</sup> Nominations (or ~~Interconnector~~<sup>UK</sup> Renominations) are corresponding in accordance with paragraph 45.3.2;

(b) for corresponding NTS Nominations (or NTS Renominations) and ~~Interconnector~~<sup>UK</sup> Nominations (or ~~Interconnector~~<sup>UK</sup> Renominations), determining the quantities for which they are matched in accordance with paragraph 45.3.3 and then determining the Confirmed Nomination Quantity by processing the matched quantity in accordance with paragraph 45.3.4; and

(c) communicating the Daily CNQ to National Grid Gas in accordance with paragraph 45.3.5.

5.3.24.3.2 A NTS Nomination (or NTS Renomination) and an ~~Interconnector~~<sup>UK</sup> Nomination (or ~~Interconnector~~<sup>UK</sup> Renomination) shall be determined as corresponding by ~~Interconnector~~<sup>UK</sup> if:

(a) they relate to the same Gas Day;

(b) the ID Code of the Counterparty in a NTS Nomination (or NTS Renomination) matches the ID Code of the ~~Interconnector~~<sup>UK</sup> Shipper that submits (or is deemed to have submitted pursuant to a Single-Sided Nomination or Single-Sided Renomination) the corresponding ~~Interconnector~~<sup>UK</sup> Nomination (or ~~Interconnector~~<sup>UK</sup> Renomination); and

(c) the ID Code of the Counterparty in an [Interconnector](#) Nomination (or [Interconnector](#) Renomination) matches the ID Code of the National Grid Gas Shipper that submits the corresponding NTS Nomination (or NTS Renomination).

[5.3.34.3.3](#) The quantity for which a corresponding NTS Nomination (or NTS Renomination) and [Interconnector](#) Nomination (or [Interconnector](#) Renomination) are matched, for each hour, is:

(a) if the Effective Hourly Quantity under the NTS Nomination (or NTS Renomination) is equal to the Hourly Quantity under the corresponding [Interconnector](#) Nomination (or [Interconnector](#) Renomination), the Hourly Quantity;

(b) if the Effective Hourly Quantity under the NTS Nomination (or NTS Renomination) is not equal to the Hourly Quantity under the corresponding [Interconnector](#) Nomination (or [Interconnector](#) Renomination), the Hourly Quantity, except:

(i) where an Operator has notified the other Operator of the occurrence of an Exceptional Event (and until the cessation of an Exceptional Event at the time stated in a Resumption Notice), in which case the matched quantity shall be determined from the lesser of the Effective Hourly Quantity and the Hourly Quantity; or

(ii) in the case of National Grid Gas, the occurrence of an emergency under its Transportation Arrangements (and until the cessation of an emergency at the time notified by National Grid Gas to [Interconnector](#)), in which case the matched quantity shall be determined from the lesser of the Effective Hourly Quantity and the Hourly Quantity.

[5.3.44.3.4](#) [Interconnector](#) shall determine the Confirmed Nomination Quantity by processing (in accordance with the [Interconnector](#) Transportation Arrangements) the quantity for which the corresponding Nominations (or Renominations) are matched under paragraph [45.3.3](#).

[5.3.54.3.5](#) [Interconnector](#) shall communicate to National Grid Gas, in accordance with the Matching Timetable:

(a) the Processed [Interconnector](#) Nomination Quantity for each [Interconnector](#) Nomination and [Interconnector](#) Renomination; and

(b) the Daily CNQ.

~~5.3.6~~4.3.6 A Nomination (or Renomination) shall not be matched and Confirmed Nomination Quantities shall not be determined by [InterconnectorUK](#) where [InterconnectorUK](#) has not received the corresponding Counterparty information in relation to a Nomination (or Renomination).

## ~~6.5.~~ **Exceptional Events**

~~6.15.1~~ Where an Operator (the “**Affected Operator**”) notifies the other Operator of the occurrence of an Exceptional Event on a Gas Day which requires the reduction of Confirmed Nomination Quantities or Daily CNQ (as applicable), the Affected Operator shall adjust:

~~(a)~~ Processed NTS Nomination Quantities in accordance with the Uniform Network Code where it is National Grid Gas; or

~~(b)~~ Processed [InterconnectorUK](#) Nomination Quantities in accordance with [InterconnectorUK](#) Transportation Arrangements where it is [InterconnectorUK](#).

~~6.25.2~~ [InterconnectorUK](#) shall apply the lesser rule as set out in paragraph ~~45.3.3~~4.3.3(b)(i) to determine revised matched quantities where an Exceptional Event is notified under paragraph 6.1 and from such revised matched quantities, determine revised Confirmed Nomination Quantities.

~~6.35.3~~ Upon cessation of an Exceptional Event, the Affected Operator shall issue a Resumption Notice to the other Operator.

~~6.45.4~~ National Grid Gas shall notify the National Grid Gas Shippers and [InterconnectorUK](#) shall notify the [InterconnectorUK](#) Shippers of the expected and actual end of the Exceptional Event.

## ~~7.6.~~ **Matching Timetable**

Matching Activity		Deadline for Provision (Relative to Commencement of Nomination Cycle or Renomination Cycle)
1	National Grid Gas communicates Single-Sided Nominations and Single-Sided Renominations to <a href="#">InterconnectorUK</a>	Within 15 minutes
2	National Grid Gas communicates its Processed NTS Nomination Quantities to <a href="#">InterconnectorUK</a>	Within 45 minutes

3	<a href="#">InterconnectorUK</a> communicates its Processed <a href="#">InterconnectorUK</a> Nomination Quantities and the Daily CNQ to National Grid Gas	Within 90 minutes
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**ANNEX F – Operational Balancing Account****1. DEFINITIONS AND INTERPRETATION**

1.1 In this Annex, the following definitions apply:

**“Aggregate Confirmed Quantity (Forward Flow)”** shall mean the sum of the Confirmed Nomination Quantities of gas for offtake from the National Grid Gas System and delivery to the [InterconnectorUK](#) System at the Interconnection Point on a Gas Day;

**“Aggregate Confirmed Quantity (Reverse Flow)”** shall mean the sum of the Confirmed Nomination Quantities of gas for offtake from the [InterconnectorUK](#) System and delivery to the National Grid Gas System at the Interconnection Point on a Gas Day;

**“Aggregate Net Confirmed Quantity”** shall mean, having regard to paragraph 1.3, the difference between the Aggregate Confirmed Quantity (Forward Flow) on Gas Day D and the Aggregate Confirmed Quantity (Reverse Flow) on Gas Day D;

**“Agreed Target Quantity”** shall mean the quantity of gas, calculated in accordance with paragraphs 1.3 and 5.1, which the Operators agree is to flow at the Interconnection Point on Gas Day D;

**“Cumulative Steering Difference”** or **“CSD”** shall mean for 30 September 2015, zero, and for each subsequent Gas Day D shall mean the sum of: (i) the Cumulative Steering Difference for Gas Day D-1; (ii) the Steering Difference for Gas Day D; and (iii) any Cumulative Steering Difference Correction implemented on Gas Day D;

**“Cumulative Steering Difference Correction”** shall mean a quantity of gas which the Operators agree in accordance with paragraph 4.2 should be deducted from or added to the Aggregate Net Confirmed Quantity for the purposes of reducing the CSD;

**“Daily Metered Quantity”** shall mean the measured quantity of gas:

- (a) offtaken from the National Grid Gas System and delivered to the [InterconnectorUK](#) System (forward flow) on Gas Day D; and/or
- (b) offtaken from the [InterconnectorUK](#) System and delivered to the National Grid Gas System (reverse flow) on Gas Day D,

at the Interconnection Point;

**“Individual CSEP Reconciliation”** shall have the meaning in Section E of the Transportation Principle Document to the Uniform Network Code;

**“Proportional Allocation”** shall mean the allocation by [InterconnectorUK](#) to [InterconnectorUK](#) Shippers and by National Grid Gas to National Grid Gas Shippers of the quantities of gas in accordance with the allocation principles set out in paragraph 6.1(ii);

**“Steering Difference”** or **“SD”** shall mean, the difference between the Daily Metered Quantity at the end of Gas Day D and the Agreed Target Quantity for Gas Day D, and is:

- (a) for forward flow:
  - (i) negative if the Daily Metered Quantity is greater than the Agreed Target Quantity; and
  - (ii) positive if the Daily Metered Quantity is less than the Agreed Target Quantity; and
- (b) for reverse flow:
  - (i) positive if the Daily Metered Quantity is greater than the Agreed Target Quantity; and
  - (ii) negative if the Daily Metered Quantity is less than the Agreed Target Quantity; and

**“Steering Tolerance”** shall mean a tolerance on the Cumulative Steering Difference equal to 3.25 million kWh.

- 1.2 Terms used in this Annex which are defined in Annex E (Nominations and Matching) have the meanings given to them in that Annex.
- 1.3 The Aggregate Net Confirmed Quantity (and quantities from which it is derived) and Agreed Target Quantity are calculated following each Nomination Cycle or Renomination Cycle.
- 1.4 The SD and CSD for Gas Day D-1 shall be determined based on the Daily Metered Quantity for Gas Day D-1 (as communicated under paragraph 3.1) and paragraph 8 shall apply if any subsequent adjustment is made in respect of the Daily Metered Quantity.

## 2. FLOW CONTROL

- 2.1 The Operators agree that [InterconnectorUK](#) is responsible for flow control at the Interconnection Point.
- 2.2 Subject to National Grid Gas complying with its obligations under this Agreement with respect to gas pressure (including those in Annex A (Network Entry Provisions) and Annex B (Network Exit Provisions)), [InterconnectorUK](#) shall, on Gas Day D, use reasonable endeavours to steer a quantity of gas equal to the prevailing Agreed Target Quantity to ensure the Steering Difference is kept as close as possible to zero.

## 3. OBA MANAGEMENT

- 3.1 [InterconnectorUK](#) shall communicate to National Grid Gas the Daily Metered Quantity, SD and the CSD in respect of Gas Day D-1 by 06:00 hours on Gas Day D.
- 3.2 If National Grid Gas considers that [InterconnectorUK](#) has incorrectly calculated the SD and/or the CSD, National Grid Gas shall contact [InterconnectorUK](#) and they shall discuss and agree on the correct values of the SD and CSD.

## 4. CUMULATIVE STEERING DIFFERENCE CORRECTIONS

- 4.1 The Operators shall cooperate to reduce the CSD in the event that the absolute value of the CSD for Gas Day D-1 ("**CSD D-1**") exceeds the Steering Tolerance.
- 4.2 In cooperating in accordance with paragraph 4.1, the Operators shall have regard to all the circumstances relevant to the CSD, to what is reasonably practicable for both Operators and to the following options in order of priority:

(a) the Operators may agree a Cumulative Steering Difference Correction for Gas Day D that is equal to the absolute value of CSD D-1;

(b) the Operators may agree a Cumulative Steering Difference Correction for Gas Day D that is equal to or greater than the value by which the absolute value of CSD D-1 exceeds the Steering Tolerance, provided that such Cumulative Steering Difference Correction shall not exceed the absolute value of CSD D-1;

(c) the Operators may agree to maintain the CSD outside the Steering Tolerance for Gas Day D and for any subsequent Gas Day; or



~~(d)~~ the Operators may agree to implement Proportional Allocation in accordance with paragraph 6.2 for Gas Day D and for any subsequent Gas Day for which the CSD exceeds (or is expected to exceed) the Steering Tolerance.

4.3 Where the CSD is positive, a quantity of gas is owed to [InterconnectorUK](#) by National Grid Gas, and where the CSD is negative, a quantity of gas is owed to National Grid Gas by [InterconnectorUK](#).

4.4 If for Gas Day D the absolute value of CSD D-1 does not exceed the Steering Tolerance, there shall be no Cumulative Steering Difference Correction unless the Operators otherwise agree.

4.5 A Cumulative Steering Difference Correction shall be reflected in the Offtake Profile Notice or Delivery Flow Notice issued by [InterconnectorUK](#) at the time.

## 5. AGREED TARGET QUANTITY

5.1 The Agreed Target Quantity shall be the sum of the Aggregate Net Confirmed Quantity and the Cumulative Steering Difference Correction for that Gas Day.

5.2 The Agreed Target Quantity calculated following each Nomination Cycle or Renomination Cycle shall be reflected in the Offtake Profile Notice or Delivery Flow Notice issued by [InterconnectorUK](#) at the time.

## 6. ALLOCATION PRINCIPLES

6.1 The Transportation Arrangements provide for the quantities of gas delivered and offtaken at the Interconnection Point to be allocated among each Operator's Shippers in respect of Gas Day D, based on the Confirmed Nomination Quantities, as follows:

(a) except where paragraph 6.1(~~b~~) applies, the quantity allocated for Gas Day D to each Shipper active at the Interconnection Point on Gas Day D in each direction is equal to the sum of the Confirmed Nomination Quantities for that Shipper in that direction; and

~~(b)~~(a) where the Operators have agreed to implement Proportional Allocation in accordance with paragraph 6.2 (and have complied with the notice requirements under paragraph 7):

(i) ~~(1)~~ in the case of [InterconnectorUK](#):

- (A) ~~(A)~~ the quantity to be allocated for Gas Day D by ~~Interconnector UK~~ to each ~~Interconnector UK~~ Shipper active at the Interconnection Point in each direction shall be determined by ~~Interconnector UK~~ in accordance with the allocation rules in ~~Interconnector's UK's~~ Access Rules (and on National Grid Gas's request, ~~Interconnector UK~~ will inform National Grid Gas of such allocation rules);
  - (B) ~~Interconnector (B)~~ ~~UK~~ shall provide to National Grid Gas a statement ("PA Statement") no later than Gas Day D+1 for Gas Day D setting out, subject to paragraph 6.1(b)(iii)(1)(C), the quantity allocated by ~~Interconnector UK~~ to each ~~Interconnector UK~~ Shipper active at the Interconnection Point in each direction; and
  - (C) ~~Interconnector (C)~~ ~~UK~~ shall ensure that the sum of: (i) the quantity allocated by ~~Interconnector UK~~ to each ~~Interconnector UK~~ Shipper active at the Interconnection Point for Gas Day D; and (ii) the Cumulative Steering Difference Correction for Gas Day D (if any) shall equal the Daily Metered Quantity; and
- (ii) ~~(2)~~ in the case of National Grid Gas:
- (A) ~~(A)~~ National Grid Gas shall use the PA Statement to allocate for Gas Day D quantities to National Grid Gas Shippers active at the Interconnection Point on Gas Day D; and
  - (B) ~~(B)~~ if ~~Interconnector UK~~ does not provide to National Grid Gas the PA Statement for Gas Day D as required under paragraph 6.1(b)(iii)(1)(B) by Gas Day D+5, the quantity to be allocated for Gas Day D by National Grid Gas to each National Grid Gas Shipper active at the Interconnection Point on Gas Day D in each direction shall be determined in accordance with the alternative allocation rules in National Grid Gas's Transportation Arrangements.

6.2 The Operators may agree to implement Proportional Allocation for Gas Day D in accordance with paragraph 4.2 if on Gas Day D:

6.2.1 in the case of National Grid Gas, an emergency has occurred in accordance with its Transportation Arrangements; and/or

6.2.2 an Exceptional Event has occurred in relation to either the [InterconnectorUK](#) System or National Grid Gas System,

which affected the ability of National Grid Gas or [InterconnectorUK](#) (the “Affected Operator”), as appropriate, to deliver gas to or accept gas for delivery from the Interconnection Point on Gas Day D and which, in the reasonable opinion of the Affected Operator, occurred too late in Gas Day D to be resolved using the constraint management tools available to that Operator before the end of Gas Day D; and

6.2.3 the Operators have notified their respective Shippers active at the Interconnection Point on Gas Day D by 12:00 on Gas Day D+1 that Proportional Allocation will apply.

6.3 In the event of Proportional Allocation for Gas Day D, the Steering Difference for Gas Day D shall be deemed to be zero.

## **7. PROPORTIONAL ALLOCATION REQUEST NOTICE (“PARN”)**

7.1 A PARN shall be used by an Affected Operator in order to request that the other Operator should allocate on a proportional basis as described in paragraph 6.1(ii) for the Gas Day indicated on the PARN.

7.2 The PARN shall be valid and timely if the Affected Operator requesting Proportional Allocation has sent the notice to the other Operator at the latest by 10:00 hours on Gas Day D+1 and if the criteria set out in paragraph 6.2 have been met.

## **8. ADJUSTMENTS OF DAILY METERED QUANTITY**

8.1 The Daily Metered Quantity in respect of a Gas Day or Gas Days may be revised pursuant to the arrangements in Annex C (Measurement Provisions).

8.2 In the event that a revision is made to the Daily Metered Quantity for Gas Day D:

- (a) on any Gas Day up to and including Gas Day D+5, the amount by which the Daily Metered Quantity for Gas Day D is revised shall be taken into account in calculating the Cumulative Steering Difference for Gas Day D+1 (and for subsequent Gas Days as appropriate); or
- (b) on any Gas Day after Gas Day D+5, in respect of a physical flow out of the National Grid Gas System at the Interconnection Point, the amount by which the Daily Metered Quantity for Gas Day D is revised shall be subject to Individual CSEP Reconciliation in

accordance with Section E of the Transportation Principle Document to the Uniform Network Code; or

- (c) on any Gas Day after Gas Day D+5, in respect of gas flow into the National Grid Gas System at the Interconnection Point: no adjustment shall be taken into account in calculating the Cumulative Steering Difference for Gas Day D+1 (and for subsequent Gas Days, as appropriate); and there shall be no Individual CSEP Reconciliation in accordance with Section E of the Transportation Principle Document to the Uniform Network Code.

## 9. ERROR CORRECTION

- 9.1 Subject to paragraph 9.3, if a Shipper notifies an Operator or an Operator otherwise becomes aware that there has (or may have) been an error in the implementation of the nomination and matching provisions of its Transportation Arrangements or Annex E (Nominations and Matching) or this Annex F (Operational Balancing Account) and that error has (or may have) resulted in an error in the determination of: (1) the Processed ~~Interconnector~~<sup>UK</sup> Nomination Quantity or the Processed NTS Nomination Quantity or (2) the Confirmed Nomination Quantity in respect of a Nomination or (as the case may be) quantities to be allocated (pursuant to such a Nomination) to a Shipper:

~~(a)~~ (a) that Operator (A) shall so notify the other Operator (B) providing details of the potential error and the Shipper and Nomination affected by it;

~~(b)~~ (b) Operator B shall notify the Counterparty of the potential error;

~~(c)~~ (c) Operator A shall investigate the potential error (where appropriate, in consultation with Operator B, the Shipper and/or the Counterparty);

~~(d)~~ (d) if it is confirmed that there was an error, the Operators shall determine, and notify to the Shipper and Counterparty, of the redeterminations that would be needed to correct the error; and

~~(e)~~ (e) if both the Shipper and the Counterparty accept (by notice to their respective Operator) the proposed correction notified under paragraph (d), the Operators shall give effect to such correction by redetermining (for the purposes of their respective Transportation Arrangements) the Confirmed Nomination Quantities or (as the case may be) quantities allocated for the Shipper and Counterparty.

- 9.2 If the correction of an error gives rise to a change in the calculation of the Steering Difference for the relevant Gas Day, the amount of the change shall be added to (or subtracted from) the Cumulative Steering Difference for the Gas Day on which the error was corrected.
- 9.3 No correction of an error in relation to Gas Day D shall be made under this paragraph 9 later than Gas Day D+5.

## **ANNEX G – Local Operating Procedures**

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Annex G-1: Local Operating Procedures

Annex G-2: Velocity Control Protocol

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**Annex G-1**

**Local Operating Procedures**

**Between;**

**Interconnector ~~(UK)~~ Limited; and**

**National Grid Gas plc.**

These Local Operating Procedures are dated [ ], 25<sup>th</sup> ~~September 2015~~, and set out the routine local procedures agreed by and between:

National Grid Gas plc (hereinafter called “**National Grid Gas**”) on the one part;

and

Interconnector ~~(UK)~~ Limited (hereinafter called “Interconnector~~UK~~”) on the other part;

in connection with the operation of their respective systems facilities.

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Schedule H: Emergency Interruption Declaration Bacton [InterconnectorUK](#)

Schedule I: Network Gas Supply Emergency Stage 5 – Restoration of Supplies NOTICE OF

REVOCATION



## 1. INTRODUCTION

This document sets out the Local Operating Procedures between [InterconnectorUK](#) and National Grid Gas. It provides for the exchange of information between [InterconnectorUK](#) and National Grid Gas so that quantities of Natural Gas are delivered and offtaken at the Interconnection Point in accordance with the rights and obligations of the Operators as described in their relevant agreements with National Grid Gas Shippers and [InterconnectorUK](#) Shippers respectively.

## 2. DEFINITIONS

In these Local Operating Procedures the following terms shall have the following meanings:

- 2.1 “**Computer Interface**” shall mean the connection between the National Grid Gas ~~iGMS~~ computer [gas management](#) system ~~and the Interconnector or such other~~ computer [gas management](#) system ~~as notified in writing by National Grid Gas to IUK and the IUK-ISIS computer system or such other computer system as notified in writing by IUK to National Grid Gas.~~ This interface is used for the electronic transfer of information.
- 2.2 “**Change Lead Time**” shall mean the time between the end of the hour bar in which the OPN was submitted and the time when the change to the Expected Hourly Energy Quantity is expected to be effective from.
- 2.3 “**CSEP**” shall mean the Interconnection Point as the Connected System Exit Point.
- 2.4 “**Curtailement**” shall be taken to mean notices pursuant to Annex B-4 Section 5.6 (i) and (iii).
- 2.5 “**Gas Day D**” shall mean the period of hours beginning at 05:00 hours on a calendar day and ending at 05:00 hours on the following calendar day, such day being specified on the OPN or DFN.
- 2.6 “**Gas Day D-1**” shall mean the day before Gas Day D.
- 2.7 “**Gas Day D+1**” shall mean the day after Gas Day D.
- 2.8 “**Daily Flow Notification**” (DFN) shall be the notification provided by [InterconnectorUK](#) to National Grid Gas showing the daily notifications as described in Section [109.1](#) and substantially in the form of Schedule G.
- 2.9 “**Energy Quantity**” shall have the following meaning:
- (a) “**Delivered Energy Quantity**” shall mean the total quantity of Natural Gas, in kWh, delivered by [InterconnectorUK](#) Shippers at the Interconnection Point in the Gas Day.

- (b) **“Offtaken Energy Quantity”** shall mean the total quantity of Natural Gas, in kWh, offtaken by [InterconnectorUK](#) Shippers at the Interconnection Point in the Gas Day.
  - (c) **“Expected Daily Energy Quantity”** in respect to any Gas Day shall mean the target daily energy quantity for one Gas Day, expressed in kWh, that [InterconnectorUK](#) expects in its reasonable opinion will be delivered or offtaken at the Interconnection Point.
  - (d) **“Expected Hourly Energy Quantity”** in respect of any hour shall mean the target hourly energy for one hour, expressed in kWh, that [InterconnectorUK](#) expects in its reasonable opinion will be delivered or offtaken at the Interconnection Point.
  - (e) **“Measured Hourly Energy Quantity”** at any time shall mean the total energy quantity, kWh, in the form of Natural Gas being delivered or offtaken in any hour at any time.
- 2.10 **“Enhanced Pressure”** is a gas pressure for the Interconnection Point, requested by [InterconnectorUK](#), which is more than 55 barg but not greater than ~~68.70~~ barg.
- 2.11 **“Forward Flow”** shall mean the operating mode of the interconnector, when the net physical flow of Natural Gas is from the United Kingdom.
- 2.12 **“Giga Watt hour” (“GWh”)** shall mean one million kWh.
- 2.13 **“Gross Calorific Value” (“GCV”)** shall mean that quantity of heat expressed in Megajoules produced by the complete combustion of one (1) normal cubic metre of Natural Gas at twenty five (25) degrees Celsius and an absolute pressure of one decimal zero one three two five (1.01325) bar with excess air at the same temperature and pressure as the Natural gas when the products of combustion are cooled to twenty five (25) degrees Celsius and when the water formed by combustion is condensed to the liquid state and the products of combustion contain the same total mass of water vapour as the Natural Gas and air before combustion.
- 2.14 **“GS(M)R”** shall mean the Gas Safety and Management Regulations 1996.
- 2.15 **“Interconnection Point”** shall mean the points (each being an individual System Exit Point, Individual System Entry Point or both) at which the National Grid Gas System and the [InterconnectorUK](#) System are connected at Bacton as described in Annex C Appendix 1 of the Interconnection Agreement.

- 2.16 **“~~InterconnectorUK~~ Representative”** shall be the person notified by ~~InterconnectorUK~~ from time to time to National Gas Grid as its representative for the provision and receipt of information in accordance with these Local Operating Procedures.
- (a) **“~~InterconnectorUK~~ Representative (~~Control~~)” (~~Interconnector (~~Control~~London)~~ (~~UK~~ (~~London~~))** shall mean the ~~InterconnectorUK~~ Representative located at the ~~InterconnectorUK~~ Head Offices ~~in London~~.
- (b) **“~~InterconnectorUK~~ Representative (Bacton)” (~~InterconnectorUK~~ (Bacton))** shall mean the ~~InterconnectorUK~~ Representative located at the ~~InterconnectorUK~~ Bacton Terminal.
- 2.17 **“~~InterconnectorUK~~ Shipper”** shall mean any person (whether or not being a National Grid Gas Shipper) who has for the time being arranged for the transportation of Natural Gas in the ~~InterconnectorUK~~ System.
- 2.18 **“~~InterconnectorUK~~ System”** shall mean the pipeline system owned (or leased) and operated by ~~InterconnectorUK~~ or an affiliated company of ~~InterconnectorUK~~ and utilised for the transportation of Natural Gas between Bacton and Zeebrugge including the ~~InterconnectorUK~~ Bacton Terminal.
- 2.19 **“Interconnection Agreement”** shall mean the contract entered into between National Grid Gas plc on the one part and Interconnector (UK) Limited on the other part of which these Local Operating Procedures form part.
- 2.20 **“~~InterconnectorUK~~ Bacton Terminal” (“IBT”)** shall mean the plant connected to the ~~InterconnectorUK~~ pipeline and located in the Bacton area which is used for the delivery and redelivery of Natural Gas at the Interconnection Point.
- 2.21 **“Joule” (J)** shall be identical with the definition of the derived “SI unit of quantity of heat J” as defined in ISO 1000 SI units and recommendations for the use of their multiples and of certain other units.
- 2.22 **“kilo Watt hour” (“kWh”)** shall mean 3,600,000 Joules.
- 2.23 **“Local Operating Procedures” (“LOPs”)** shall mean these procedures including all appendices and attachments attached hereto as may from time to time be supplemented, amended or otherwise modified according to the provisions herein.
- 2.24 **“Megajoule” (“MJ”)** shall mean one million (10<sup>6</sup>) joules.

- 2.25 **“MJ/NM<sup>3</sup>”** shall mean Megajoules per normal cubic metre. The conversion from MJ/NM<sup>3</sup> to MJ/SM<sup>3</sup> is defined in ISO 6976:1995 and is  $\text{MJ/NM}^3 = \text{MJ/SM}^3$  multiplied by 1.0553.
- 2.26 **“MJ/SM<sup>3</sup>”** shall mean Megajoules per standard cubic metre. The conversion from MJ/SM<sup>3</sup> to MJ/NM<sup>3</sup> is defined in ISO 6976:1995 and is  $\text{MJ/SM}^3 = \text{MJ/NM}^3$  divided by 1.0553.
- 2.27 **“National Grid Gas Shippers”** shall mean the companies licensed under Section 7A of the Gas Act from time to time delivering or receiving gas from the National Grid Gas System to the [InterconnectorUK](#) System.
- 2.28 **“National Grid Gas Representative”** shall mean the person or post notified by National Grid Gas from time to time to [InterconnectorUK](#) as its representative for the provision and receipt of information in accordance with these Local Operating Procedures.
- (a) **“National Grid Gas Representative (GNCC)”** ([National Grid Gas](#) (GNCC)) shall mean the National Grid Gas Representative located at the Gas National Control Centre, National Grid Gas Head Office, Warwick.
- (b) **“National Grid Gas Representative (Bacton)”** ([National Grid Gas](#) (Bacton)) shall mean the National Grid Gas Representative located at the National Grid Gas Terminal, Bacton.
- 2.29 **“Natural Gas”** shall mean hydrocarbons or mixture of hydrocarbons and other gases consisting primarily of methane which at a temperature of fifteen (15) degrees Celsius and at absolute pressure of one decimal zero one three two five (1.01325) bar are predominantly in the gaseous state.
- 2.30 **“Normal Pressure”** is a pressure for the Bacton Interconnection Point, requested by [InterconnectorUK](#), which is above 45 barg but not exceeding 55 barg.
- 2.31 **“Normal Cubic Metre – m<sup>3</sup>n” (“NM<sup>3</sup>”)** shall mean the quantity of natural gas which at zero (0) degrees Celsius and at an absolute pressure of one decimal zero one three two five (1.01325) bar and when free of water vapour occupies the volume of one (1) cubic metre. The Conversion from NM<sup>3</sup> to SM<sup>3</sup> is defined in ISO 6976: 1995 and  $\text{NM}^3 = \text{SM}^3$  divided by 1.0553
- 2.32 **“Offtake Profile Notice” (“OPN”)** shall be the notification sent by [InterconnectorUK](#) to National Grid Gas showing the daily notifications as described in section 8.1 and substantially in the form of Schedule C.

- 2.33 **“Offtake Flow Advice” (“OFA”)** shall be the advice given by National Grid Gas to [InterconnectorUK](#) whenever the Expected Hourly Energy Quantity notified by [InterconnectorUK](#) to National Grid Gas on the OPN will not in National Grid Gas’s reasonable opinion be able to be accommodated by the National Grid Gas System as further described in clause 9.
- 2.34 **“Off-Specification Gas”** shall mean Natural Gas that does not meet the operating conditions and quality requirements as described in Annex B2 of the Interconnection Agreement for physical Forward Flow and Annex A2 of the Interconnection Agreement for physical Reverse Flow.
- 2.35 **“Reverse Flow”** shall mean the operating mode of the [Interconnector System](#)~~interconnector~~, when the net physical flow of Natural Gas is to the United Kingdom.
- 2.36 **“Transportation Flow Advice” (“TFA”)** shall be the advice given by National Grid Gas to [InterconnectorUK](#):
- (a) In accordance with Section 11.1 whenever the Expected Hourly Energy Quantities notified by [InterconnectorUK](#) on the **DFN** will not in National Grid Gas’s reasonable opinion be able to be accommodated by the National Grid Gas System, or
  - (b) In accordance with Section 11.2 whenever Off-Specification Gas is delivered to the National Grid Gas System.
- 2.37 **“Tolerances”** shall mean:
- (a) For changes to the Expected Hourly Energy Quantity a tolerance of plus or minus one million kWh or one GWh;
  - (b) For changes to the Expected Daily Energy Quantity a tolerance of plus or minus five million kWh or five GWh.
- 2.38 Words and expressions defined in clause 1.1 of the Interconnection Agreement and not defined in these Local Operating Procedures shall have the meanings ascribed to them in clause 1.1 of the Interconnection Agreement.
- 3. GENERAL PROVISIONS**
- 3.1 Any reference to time in these Local Operating Procedures shall be construed as whatever time shall be in force at the [InterconnectorUK](#) Bacton Terminal. This is referred to as UK Time (UKT).

- 3.2 For the avoidance of doubt, obligations and arrangements set out in any other part of the Interconnection Agreement shall always take precedence over any obligations and arrangements set out in this Annex.
- 3.3 If any Operator so requests, the Operators shall meet to evaluate in good faith the need for amending these Local Operating Procedures. Any modification and/or addition shall only be made in accordance with clause 7 of the Interconnection Agreement.
- 3.4 These Local Operating Procedures shall become effective on the Amendment Effective Date and shall, subject to paragraph 3.2 above, remain in force as long as natural gas is delivered to or offtaken at the [InterconnectorUK](#) Bacton Terminal.
- 3.5 Both Operators will co-operate with any operational protocols currently in force and agreed between the two Operators without recourse to amendment to these Local Operating Procedures.

#### 4. GENERAL COMMUNICATIONS

Subject to the Operators' duty of confidentiality to any third party, the [InterconnectorUK](#) Representative and the National Grid Gas Representative will keep each other informed of all matters which have a significant effect on Natural Gas flow, pressure or quality at the Interconnection Point.

Upon an unforeseen change in the Natural Gas flow, pressure or quality, the [InterconnectorUK](#) Representative or the National Grid Gas Representative will inform each other of the nature and estimated extent of the change.

#### 5. ROUTINE NOTIFICATIONS

##### 5.1 Notices

- (a) Notices given by [InterconnectorUK](#) to National Grid Gas in accordance with these Local Operating Procedures will be made to the National Grid Gas Representative using ~~Interconnector's SIS, or such other~~ computer gas management system, ~~as notified in writing by IUK to National Grid Gas.~~ Notices may also be sent by email or facsimile if mutually agreed in advance, or in the event of a malfunction of the Computer Interface or computer file transfer.
- (b) Notices given by National Grid Gas to [InterconnectorUK](#) in accordance with these Local Operating Procedures will be made to the [InterconnectorUK](#) Representative

using ~~electronic~~<sup>GMS</sup> file transfer, or such other computer system as notified in writing by National Grid Gas to ~~Interconnector UK~~. Notices may also be sent by email or facsimile if mutually agreed in advance, or in the event of a malfunction of the Computer Interface or computer file transfer. For the avoidance of doubt the National Grid Gas<sup>GMS</sup> ~~(or other notified~~ computer gas management system) file transfer notification will be regarded as the master unless mutually agreed in advance.

- (c) The telephone numbers, email addresses, facsimile numbers and postal addresses of the Operators for the exchange of information as set out in these Local Operating Procedures are set out in Schedule A. In the event of either telephone, email addresses, facsimile number or other details being changed, the Operator whose number or details is subject to such change shall notify the other Operator as soon as is reasonably practicable.

## 6. ROUTINE NOTIFICATIONS DURING EITHER FLOW DIRECTION

### 6.1 Interconnector UK Daily Delivery Report

- (a) Interconnector UK will notify National Grid Gas of the end of day delivered quantities as set out in Schedule B. Interconnector UK will provide the notice not later than 08:00 hours on each Gas Day D+1. The notice will specify the total quantity and the average GCV in MJ/NM<sup>3</sup> of the Natural Gas offtaken at the Interconnection Point by the Interconnector UK Shippers (deemed during Reverse Flow) and the total quantity of Natural Gas delivered at the Interconnection Point by Interconnector UK Shippers (deemed during Forward Flow) during the Gas Day D.
- (b) Interconnector UK shall issue a revised Interconnector UK Daily Delivery Report if the GCV or any quantity delivered or offtaken has changed from the previous notification. A revision to an Interconnector UK Daily Delivery Report should be considered exceptional (e.g. for correction of transmission errors) and shall only be issued before Gas Day D+5.
- (c) Interconnector UK will notify National Grid Gas of the Steering Difference and Cumulative Steering Difference in accordance with paragraph 3 of Annex F (Operational Balancing Account).

## 7. NON ROUTINE NOTIFICATIONS DURING EITHER FLOW DIRECTION

### 7.1 Emergency Curtailment

- (a) In the event that National Grid Gas has declared a 'National Gas Supply Emergency', as defined in GS(M)R, National Grid Gas may require that National Grid Gas System firm exit flows are curtailed at stage 2.
- (b) At stage 2, National Grid Gas may invoke "firm load shedding" in which case National Grid Gas will issue a fax to all National Grid Gas Shippers instructing them to reduce all nominations on firm Exit meters at the Interconnection Point to zero with immediate effect. The faxes will be copied to [InterconnectorUK](#) in the form set out in Schedule I. National Grid Gas Shippers will then be expected to reduce their firm exit nominations to zero as soon as possible respecting nomination lead times and to submit revised nominations to National Grid Gas who will then reduce the Forward Flow National Grid Gas Shipper's matching data to zero on ~~Interconnector's SIS (or such other~~ computer [gas management](#) system. ~~Interconnector notified by IUK to National Grid Gas).~~ [IUK](#) will submit a revised DFN or OPN reflecting the flow changes based on the lesser of the [InterconnectorUK](#) Shipper and National Grid Gas Shipper's matching data.
- (c) When able to restore flows, National Grid Gas will issue a restoration fax to all National Grid Gas Shippers. The faxes will be copied to [InterconnectorUK](#) in the form set out in Schedule I. National Grid Gas Shippers can then submit to National Grid Gas revised exit flow nominations from the National Grid Gas System for the Interconnection Point.

## 8. ROUTINE NOTIFICATIONS DURING PHYSICAL FORWARD FLOW

### 8.1 [InterconnectorUK](#) Offtake Profile Notice (OPN)), ~~referred to in the Interconnection Agreement Annex B2 as an Exit Flow Profile~~

- (a) [InterconnectorUK](#) will notify National Grid Gas of the Expected Hourly Energy Quantities and the Expected Daily Energy Quantity of Natural Gas to be offtaken by [InterconnectorUK](#) at the Interconnection Point for each hour of Gas Day D as set out in Schedule C. [InterconnectorUK](#) will provide the notice at the earliest practicable opportunity but not later than 16:00 hours on Gas Day D-1. The notice will include an assumed GCV in MJ/NM<sup>3</sup>. [InterconnectorUK](#) will also notify the National Grid Gas



Representative ~~by facsimile~~ if the ramp rate is expected to be other than 150 MW/min.

- (b) [InterconnectorUK](#) may submit revised OPNs until 03:00 on Gas Day D-1. No more than two revised OPNs may be submitted in any one hour.

At any time after 03:00 hours on Gas Day D-1 [InterconnectorUK](#) may submit, not less than 30 minutes before the earliest Change Lead Time starts, revised OPNs in accordance with the ~~following~~ Change Lead Times [under Annex B-4 paragraph 2.4 of the Interconnection Agreement](#):

- ~~(i) Increase or decrease not exceeding 475 MW – one whole hour.~~
- ~~(ii) Increase or decrease greater than 475 MW but not exceeding 1425 MW – two whole hours.~~
- ~~(iii) Increase or decrease greater than 1425 MW but not exceeding 1900 MW – three whole hours.~~
- ~~(iv) Increase or decrease greater than 1900 MW but not exceeding 2850 MW – four whole hours.~~
- ~~(v) Increase or decrease greater than 2850 MW but not exceeding 3325 MW – five whole hours.~~
- ~~(vi) Increase or decrease greater than 3325 MW but not exceeding 7125 MW – six whole hours.~~
- ~~(vii) Increase or decrease greater than 7125 MW – eight whole hours.~~

- (c) In the event that National Grid Gas receives an OPN which does not comply with Annex B-4 Section 2.11 of the Interconnection Agreement and hence is 'invalid', it will as soon as is reasonably practicable but within 15 minutes advise [InterconnectorUK](#) of such invalidity, and where appropriate will advise of the reasons for such invalidity. On receipt of a National Grid Gas rejection notice, [InterconnectorUK](#) will as soon as is reasonably practicable, resubmit an OPN.

- (d) In the event that National Grid Gas receives a notice under Section 8.1 and determines that it is not feasible to make gas available for offtake in accordance with such a profile, National Grid Gas will issue an OFA in accordance with Section 9.1.

- (e) In the event that [InterconnectorUK](#) does not issue an OPN by 17:00 hours on Gas Day D-1 National Grid Gas will assume that the OPN is zero.
- (f) [InterconnectorUK](#) will consider an OPN as accepted by National Grid Gas if National Grid Gas does not respond to an OPN or a Revised OPN in accordance with Section 8.1(c) within 15 minutes of receipt or in accordance with Section 9.1.

## 8.2 [InterconnectorUK](#) Pressure Requirement Notice

- (a) [InterconnectorUK](#) shall notify National Grid Gas at the earliest practicable opportunity but no later than ~~17:16~~ 17:00 hours on Gas Day D-1 of the [InterconnectorUK](#) pressure requirements at the Interconnection Point for Gas Day D. The notice will be the completed [InterconnectorUK](#) pressure requirement notice as set out in Schedule D.
- (b) ~~The UK Pressure Requirement Notice may be revised at any time up to 20:00 hours on Gas Day D-1.~~ If [InterconnectorUK](#) submits a Pressure Requirement Notice for Gas Day D after ~~17:16~~ 17:00 on Gas Day D-1 or change the pressure requirements for Gas Day D after ~~17:16~~ 17:00 Gas Day D-1 then [InterconnectorUK](#) will indicate on the Pressure Requirement Notice that this is a late pressure request.
- (c) Upon receipt of an [InterconnectorUK](#) Pressure Requirement Notice up to ~~17:16~~ 17:00 hours on Gas Day D-1, National Grid Gas shall take the necessary actions in order to meet the pressure requirements of [InterconnectorUK](#).  
  
Upon receipt of a late [InterconnectorUK](#) Pressure Requirement Notice requesting an increase in pressure, National Grid Gas shall use reasonable endeavours in order to meet the pressure requirements of [InterconnectorUK](#).
- (d) If National Grid Gas cannot meet the pressure requirements as requested by [InterconnectorUK](#) then National Grid Gas will as soon as is reasonably practicable, but no later than 24:00 hours on Gas Day D-1 (or within four hours of the receiving a late request) return the [InterconnectorUK](#) Pressure Requirement Notice. National Grid Gas will give reasons and supply an estimate of the pressure to be supplied for all or part of Gas Day D.

If, in National Grid Gas's reasonable opinion, the expected or actual pressure at the Interconnection Point may differ from that returned on the latest Pressure

Requirement Notice, National Grid Gas will notify [InterconnectorUK](#) with reasons of the revised pressure on an updated Pressure Requirement Notice.

- (e) If in respect of any day, National Grid Gas does not receive a Pressure Requirement Notice from [InterconnectorUK](#) then National Grid Gas will aim to provide between 45 barg and 55 barg at the Interconnection Point.

## 9. NON - ROUTINE NOTIFICATIONS DURING PHYSICAL FORWARD FLOW

### 9.1 Offtake Flow Advice (OFA)

- (a) If it is not feasible for National Grid Gas to make gas available for offtake in accordance with the most recently submitted OPN ~~for one/any of the reasons outlined in Annex B-4 5.6 of the Interconnection Agreement~~, National Grid Gas will issue an OFA to [InterconnectorUK](#). ~~The OFA represents the 'Curtailment Notice' as described in the Interconnection Agreement Annex B4.~~
- (b) ~~National Grid Gas must issue an OFA in accordance with the timescales detailed in Annex B-4 5.9 of the Interconnection Agreement.~~ The OFA must indicate the reasons for which it is being given and the maximum Hourly Energy Quantities that it anticipates the National Grid Gas System may be able to accommodate and the minimum Change Lead Time required. The OFA will specify whether or not the relevant circumstances constitute an Exceptional Event affecting the National Grid Gas System.
- (c) National Grid Gas will telephone [InterconnectorUK](#) and confirm by ~~email~~~~facsimile~~ when the ~~curtailment~~~~Curtailment~~ set out in an OFA no longer applies.
- (d) Upon receipt of an OFA, [InterconnectorUK](#) shall take the necessary actions in order to meet the OFA profile. [InterconnectorUK](#) will, as soon as is reasonably practicable, notify National Grid Gas of a revised OPN in accordance with Section 8.1.
- (e) In the event that [InterconnectorUK](#) does not respond to an OFA within a reasonable timeframe, National Grid Gas may take action to physically limit the offtake to the OFA profile. National Grid Gas shall telephone [InterconnectorUK](#) to co-ordinate actions.

## 9.2 National Grid Gas Off Specification Gas Notice

- (a) National Grid Gas shall, as soon as it is aware that Natural Gas not meeting the requirements provided under Annex B2 of the Interconnection Agreement, is being or is going to be made available during Gas Day D, issue a National Grid Gas Off Specification Gas Notice as set out in Schedule E. The notice will indicate to what extent and for how long these requirements cannot be met.
- (b) The National Grid Gas Off Specification Gas Notice shall be revised at any time prior to or during Gas Day D, if the Natural Gas characteristics and/or duration are expected to change from the previous notification. This will include a return to normal operations.
- (c) After [InterconnectorUK](#) has received such a notice from National Grid Gas, [InterconnectorUK](#) shall issue an OPN to National Grid Gas in accordance with Section 8.1 if the Expected Hourly Energy Quantity and/or Expected Daily Energy Quantity is to be revised.
- (d) If [InterconnectorUK](#) receives a notice or [InterconnectorUK](#) equipment detects that the quality of any component or property is outside the limits of Annex B2 of the Interconnection Agreement, [InterconnectorUK](#) will instruct its [InterconnectorUK](#) Representative (Bacton) to immediately cease offtake.
- (e) If Natural Gas outside the limits of Annex B2 of the Interconnection Agreement has entered the IBT plant [InterconnectorUK](#) will instruct its [InterconnectorUK](#) representative (Bacton) to arrange for the [InterconnectorUK](#) Bacton Terminal plant to be flushed back to the National Grid Gas System until the non-compliant gas has been replaced.
- (f) In the event that Natural Gas outside the limits of Annex B2 of the Interconnection Agreement has entered the Interconnector pipeline [InterconnectorUK](#) will arrange for [InterconnectorUK](#) Shippers to revise their nominations such that Reverse Flow mode is adopted and the non-compliant gas returned to the National Grid Gas System. In such event [InterconnectorUK](#) will liaise with National Grid Gas by telephone and facsimile.

## 10. ROUTINE NOTIFICATIONS DURING PHYSICAL REVERSE FLOW

### 10.1 [InterconnectorUK](#) Delivery Flow Notice (DFN)

- (a) [InterconnectorUK](#) shall notify National Grid Gas at the earliest opportunity, but no later than 20:00 on Gas Day D-1 of the Expected Hourly Energy Quantities, the Expected Daily Energy Quantity and an estimate of the GCV of the Natural Gas that is expected to be delivered on Gas Day D. The notice will be as set out in Schedule G.
- (b) Before Gas Day D commences and/or during Gas Day D, [InterconnectorUK](#) will, as soon as is reasonably practicable following the time at which it is made aware of any changes requiring an update to the DFN, notify the National Grid Gas Representative of any such changes as exceed the relevant Tolerances. [InterconnectorUK](#) will submit a revised DFN indicating when the change is likely to take effect.
- (c) In the event that National Grid Gas receives a DFN specifying an Expected Hourly Energy Quantity which National Grid Gas reasonably anticipates the National Grid Gas System will not be able to accommodate, it will as soon as is reasonably practicable so advise [InterconnectorUK](#) in accordance with Section 9.1.
- (d) In the event that [InterconnectorUK](#) does not issue a DFN by 20:00 Gas Day D-1, National Grid Gas will assume that the DFN is zero.

## 11. NON ROUTINE NOTIFICATIONS DURING PHYSICAL REVERSE FLOW

### 11.1 Transportation Flow Advice (TFA)

- (a) If in National Grid Gas's reasonable opinion, the National Grid Gas System will be unable to accommodate any Expected Hourly Energy Quantity as notified on the DFN, National Grid Gas will as soon as is reasonably practicable advise [InterconnectorUK](#) by means of a telephone call and confirm by issue of a TFA. In so doing National Grid Gas will advise [InterconnectorUK](#) as to the hourly Energy Quantities that it anticipates the National Grid Gas System may be able to accommodate in order to achieve the daily Energy Quantity set out on the DFN. National Grid Gas will give a reason for its advice including but not limited to non-acceptance of gas outside the requirements of Annex A2 of the Interconnection Agreement. The telephone advice and TFA will specify whether or not the relevant circumstances constitute an Exceptional Event affecting the National Grid Gas System. In the case where they do constitute an

Exceptional Event, National Grid Gas will issue a further advice to the other Operator when the Exceptional Event has ceased.

- (b) Upon receipt of a TFA, [InterconnectorUK](#) shall take the necessary actions in order to meet the TFA profile. If appropriate, [InterconnectorUK](#) will, as soon as is reasonably practicable, notify National Grid Gas of a revised DFN in accordance with Section 10.1.
- (c) In the event that [InterconnectorUK](#) does not respond to the TFA within one hour before the change of Expected Daily Energy Quantity on the latest DFN would take effect, National Grid Gas will telephone [InterconnectorUK](#) to co-ordinate actions.

#### 11.2 [InterconnectorUK](#) Off Specification Gas Notice

- (a) [InterconnectorUK](#) shall, as soon as it is aware that Natural Gas not meeting the requirements provided under Annex A2 of the Interconnection Agreement, is being or is going to be made available during Gas Day D, ~~both~~ issue an [InterconnectorUK](#) Off Specification Gas Notice as set out in Schedule F ~~and telephone the National Grid Gas Representative (GNCC) and the National Grid Gas Representative (Bacton) giving the details set out in the – The notice. The Interconnector Off Specification Gas Notice~~ will indicate to what extent and for how long these requirements cannot be met.
- (b) The [InterconnectorUK](#) Off Specification Gas Notice shall be revised at any time prior to or during Gas Day D, if the Natural Gas characteristics and/or duration are expected to change from the previous notification ~~and Interconnector shall at the time telephone the National Grid Gas Representative (GNCC) and the National Grid Gas Representative (Bacton) giving details of any such revision.-~~ This will include a return to normal operations.
- (c) After National Grid Gas has received such notice from [InterconnectorUK](#), National Grid Gas may issue a TFA to [InterconnectorUK](#) in accordance with Section 11.1.

## 12. PLANNED MAINTENANCE

12.1 Pursuant to Clause 12 of the Interconnection Agreement, both Parties shall, in good faith, seek to coordinate their maintenance activities at or near the CSEP in order to minimise disruption to each other and with a view to minimising the impact on potential gas flows and capacity at the CSEP.

Representatives of [Interconnector](#) and National Grid Gas ~~shall and UK will~~ meet at least once each year and on other occasions as required to ~~in September to discuss any maintenance~~

~~plans for the following April to September and in January to discuss any maintenance plans for the following October to April and confirm plans for the April to September period.~~

~~12.12.2~~ ~~Within these meetings each Operator will~~ discuss their respective planned maintenance programmes, emergency shut down tests, pipeline operations and procedures associated with these activities to assist the integrity and safety of the Interconnector Facilities and the National Grid Gas Facilities. In addition, representatives of Interconnector and National Grid Gas shall meet at least once each year and on other occasions as required to discuss any new supplies and changes to existing supplies to assist the integrity and safety of the Interconnector Facilities and the National Grid Gas Facilities. The two meetings referred to above may be held separately from each other or combined to form a single meeting, as the Parties may agree from time to time. ~~Within day profiles for maintenance purposes will be discussed at these meetings and IUK will make reasonable endeavours, subject to the agreement of IUK Shippers, to confirm such within day profiles, by fax to the National Grid Gas Representative seven days before they are intended to take effect. The maintenance related flow profiles would subsequently be detailed on the DFN or OPN in accordance with Sections 10.1 and 8.1 respectively.~~

~~12.3~~ If any need to deviate from a uniform flow profile as a result of planned maintenance is made known at such meetings it will be discussed and both Parties will use reasonable efforts to accommodate the requirements of the other and any other planned maintenance, and shall be confirmed by telephone one week before they are intended to take effect. The maintenance related flow profiles will subsequently be detailed on the DFN in accordance with paragraph 10.1 or (as the case may be) OPN in accordance with paragraph 8.1.

~~Prior to any period of planned shutdown and upon planned re-start following a period of shutdown any OPN submitted to National Grid Gas will be subject to validation for compliance with Annex C (Measurement Provisions) of the Interconnection Agreement.~~

### **13. INFORMATION QUALITY**

If it becomes apparent over a period of time that the estimates of the changes do not reasonably reflect the actual changes, then the representatives will meet to discuss the relevant data with a view to improving the accuracy of such estimates in the future. If reasonably requested by National Grid Gas, Interconnector IUK will use reasonable endeavours to co-operate in the provision of additional information to National Grid Gas regarding DFN and/or OPN changes to assist in any analysis of the balancing of the National Grid Gas System.

Similarly, if it becomes apparent over a period of time that the reasons provided by National Grid Gas on a TFA or OFA do not provide [InterconnectorUK](#) with sufficient detail in order to submit a revised OPN, then representatives will meet to discuss the relevant information with a view to providing reasons that do provide [InterconnectorUK](#) with sufficient detail.

## **14. MAXIMUM AND MINIMUM FLOW RATES**

### **14.1 Maximum Instantaneous Flow Rate**

The Maximum Instantaneous Forward Flow Rate is 28,000 (Twenty Eight Thousand) Megawatts, equivalent to 672 GWh/day. National Grid Gas will use reasonable endeavours to make available offtake quantities above this level when so requested by [InterconnectorUK](#).

### **14.2 Minimum Hourly Forward Flow Rate**

Whenever [InterconnectorUK](#) has a Daily Energy Quantity that is less than 5200 MW (124.8 GWh/day) [InterconnectorUK](#) will submit an OPN, in accordance with Section 8.1, indicating discontinuous flow. The OPN will indicate the minimum sustainable hourly Energy Quantities giving a duration, in hours, to achieve [InterconnectorUK](#) Shipper requirements. Each hourly Energy Quantity shall not exceed 217 MW (5.2 GWh/day). [InterconnectorUK](#) will not request a ~~normal~~ pressure service greater than 45 barg when requesting discontinuous flow.

National Grid Gas will use reasonable endeavours to accommodate the discontinuous flow. [InterconnectorUK](#) and National Grid Gas will liaise by telephone to co-ordinate the preferred start and finish times within Gas Day D to achieve the Daily Energy Quantity and will advise their respective operators accordingly.

If National Grid Gas ~~isare~~ unable to comply with the requested discontinuous flow profile submitted by [InterconnectorUK](#) then National Grid Gas will advise by telephone and confirm by facsimile to [InterconnectorUK](#), indicating the reasons for the rejection of the requested discontinuous flow.



**Schedule A****Communications**

## National Grid Gas Representatives

Network Manager National Grid Gas plc Gas National Control Centre National Grid House Warwick Technology Park Gallows Hill Warwick CV34 6DA	Tel:	Switchboard Control Room	01926 653 000 0870 191 0632
	Email:	<a href="mailto:box.gncc.controlroom@nationalgrid.com">box.gncc.controlroom@nationalgrid.com</a>	
	Fax	Main Office Control Room	0870 191 0635 0870 191 0647
Terminal Manager National Grid Gas plc Bacton Terminal Paston Road Bacton Norfolk NR12 0JD	Tel:	Control Room Contingency	<a href="tel:01603370552">01603 370 552</a> <a href="tel:01692403487">01692 403 487</a> 01263 <a href="tel:722742720">722 742 720</a> <a href="tel:720655">655</a>
	Email:	<a href="mailto:box.bacton.controlroom@nationalgrid.com">box.bacton.controlroom@nationalgrid.com</a>	
	Fax:	Control Room Contingency	01263 721 783 01263 721 543

InterconnectorUK Representatives

Commercial Operations Manager Interconnector <del>(UK)</del> Ltd 4th Floor <a href="#">Burdett House</a> <a href="#">15-16 Buckingham</a> <a href="#">10 Furnival</a> Street London <a href="#">WC2N 6DU</a> <del>EC4A 1AB</del>	Tel:	Main Office: 020 3621 7800 <a href="#">Service Delivery Manager</a> <del>Com Ops Mgr</del> : 020 3621 7831 <del>Control Room : 020 3621 7804</del>
	Email: Fax	<a href="mailto:operations@interconnector.com">operations@interconnector.com</a> <del>Control Room: 020 7242 1710</del>

Terminal Manager Interconnector <del>(UK)</del> Ltd Bacton Terminal Paston Road Bacton Norfolk NR12 0JD	Tel:	01263 726 110
	Fax:	01263 726 113
<a href="#">Interconnector Operating Agents</a>	Email:	<a href="mailto:tso@gmsl.co.uk">GMSL – tso@gmsl.co.uk</a> <a href="mailto:dispatching@fluxys.com">Fluxys BE – dispatching@fluxys.com</a>

**Schedule B****Interconnector** ~~Proforma Ref:~~~~UK/National Grid Gas xxx~~**UK Daily Delivery Report**

**From:** Interconnector (UK) Ltd  
Commercial Operations

~~Email: tso@gmsl.co.uk~~ ~~Fax:~~

**To:** National Grid Gas  
  
Gas National Control Centre

~~Email:~~

~~Box.EnergyBalancing@nationalgrid.com~~ ~~Fax: 0870 191 0647~~

For Gas Day: \_\_\_\_\_

	Gas Delivered	Gas Offtaken	Meter Reading
Energy values (kWh)			
GCV (MJ/NM3)			
Volume (NM3)			

**Schedule C**

Proforma Ref : IUK/National Grid Gas

\*\*\*

**Offtake Profile Notice (OPN)****From:** Interconnector ~~IUK~~ Ltd~~Fax No:~~Bacton ~~InterconnectorIUK~~ Interconnection Point**To:** National Grid Gas~~Fax: 0870 191 0647~~

Gas National Control Centre

sent via Secure File Transfer Protocol.If this file transfer fails then via email to: Box.GNCC.ControlRoom and bacton.controlroom@nationalgrid.com

For Gas Day: \_\_\_\_\_

Time of submission				
Effective time	Energy Quantity 1 <sup>st</sup> OPN (kWh)	Energy Quantity 2 <sup>nd</sup> OPN (kWh)	Energy Quantity 3 <sup>rd</sup> OPN (kWh)	Energy Quantity 4 <sup>th</sup> OPN (kWh)
0500				
0600				
0700				
0800				
0900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
0000				
0100				
0200				
0300				
0400				
Total Daily Energy Quantity (kWh)				

Assumed GCV (MJ/NM <sup>3</sup> )				
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**Schedule D**Interconnector ~~Proforma Ref:~~~~UK/National Grid Gas xxx~~~~UK~~ **Pressure Requirement Notice**

**From:** Interconnector ~~(UK)~~ Ltd  
 Bacton Interconnector~~UK~~ Interconnection Point

Email: dispatching@fluxys.com ~~Fax No:~~

**To:** National Grid Gas

Email: Box.GNCC.ControlRoom@nationalgrid.comFax: 0870 191 0647

Gas National Control Centre \_\_\_\_\_ and

Email: bacton.controlroom@nationalgrid.com

For Gas Day: \_\_\_\_\_

Interconnector~~UK~~ require a pressure of \_\_\_\_\_ barg.Interconnector~~UK~~ confirm that this is a Normal/Enhanced\* Pressure Request

**From:** National Grid Gas

Email:Box.GNCC.ControlRoom@nationalgrid.com ~~Fax No:~~

Gas National Control Centre

**To:** Interconnector ~~(UK)~~ Ltd

Email: dispatching@fluxys.com ~~Fax No:~~Bacton Interconnector~~UK~~ Interconnection Point

For Gas Day: \_\_\_\_\_

National Grid Gas confirm that the Normal/Enhanced\* pressure of \_\_\_\_\_ barg as requested by

Interconnector~~UK~~ is acceptable/not acceptable\*.

National Grid Gas could make a pressure of \_\_\_\_\_ barg available.

\* Delete as appropriate

**Schedule E**~~Proforma Ref: IUK/National Grid Gas~~~~xxx~~**National Grid Gas Off Specification Gas Notice**

(For Forward Flow)

**From:** National Grid GasEmail:~~Box.GNCC.ControlRoom@nationalgrid.com~~ ~~Fax: 0870 191 0647~~

Gas National Control Centre

**To:** Interconnector ~~(UK)~~ LtdEmail: ~~dispatching@fluxys.com~~ ~~Fax:~~Bacton InterconnectorUK Interconnection Point

National Grid Gas hereby confirms that the following components will not meet the required specification from \_\_\_\_\_ (hh:mm) on Gas Day \_\_\_\_\_.

<u>Components out of specification</u>	<u>Expected Value (with units)</u>	<u>Duration</u>

**Schedule F****Interconnector** ~~Proforma Ref:~~~~UK~~/National Grid Gas ~~xxx~~~~UK~~ Off Specification Gas Notice

(For Reverse Flow)

**From:** Interconnector ~~(UK)~~ Ltd[Email: dispatching@fluxys.com](mailto:dispatching@fluxys.com) ~~Fax:~~Bacton ~~Interconnector~~~~UK~~ Interconnection Point**To:** National Grid Gas[Email:](#)[Box.GNCC.ControlRoom@nationalgrid.com](mailto:Box.GNCC.ControlRoom@nationalgrid.com) ~~Fax: 0870 191 0647~~

Gas National Control Centre \_\_\_\_\_ and telephone: 0870 191 0632

[Email: bacton.controlroom@nationalgrid.com](mailto:bacton.controlroom@nationalgrid.com)

\_\_\_\_\_ and telephone: 01263 721 783

~~Interconnector~~~~UK~~ hereby confirms that the following components will not meet the required specification from \_\_\_\_\_ (hh:mm) on Gas Day \_\_\_\_\_.

<u>Components out of specification</u>	<u>Expected Value (with units)</u>	<u>Duration</u>



**Schedule G**

Proforma Ref : IUK/National Grid Gas

\*\*\*

**Daily Flow Notification (DFN)****From:** Interconnector ~~(UK)~~ Ltd**Fax:**Bacton ~~InterconnectorUK~~ Interconnection Point**To:** National Grid Gas

Fax: 0870 191 0647

Gas National Control Centre \_\_\_\_\_

[sent via Secure File Transfer Protocol.](#)[If this file transfer fails then via email to: Box.GNCC.ControlRoom and bacton.controlroom@nationalgrid.com](#)

For Gas Day: \_\_\_\_\_

Time of submission				
Effective time	Energy Quantity 1 <sup>st</sup> DFN (kWh)	Energy Quantity 2 <sup>nd</sup> DFN (kWh)	Energy Quantity 3 <sup>rd</sup> DFN (kWh)	Energy Quantity 4 <sup>th</sup> DFN (kWh)
0500				
0600				
0700				
0800				
0900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
0000				
0100				
0200				
0300				
0400				
Total Daily Energy Quantity (kWh)				

Expected GCV (MJ/NM <sup>3</sup> )				
---------------------------------------	--	--	--	--

**Schedule H**

Exercise Y /N ?	Ex Name:
-----------------	----------

**Gas National Control Centre Emergency Communication**

To:	Bacton Interconnector Operator, UK

**Network Gas Supply Emergency  
Stage 2**

Version Number:	
--------------------	--

Version number is the day number followed by the number of version on that day.  
e.g. 1.2 is Day 1, second version

**In accordance with section 3.2 of the NEC Safety Case, the NEC has authorised a reduction in your daily offtake of :**

Revised Maximum Hourly Export Rate	MW/h
Effective Time for Revised Rate above	Hrs

Bacton Interconnector Operator, IUK	<b>Please reduce the offtake as above, submit a revised OPN to reflect the new requirements and advise your system users as soon as possible</b>
IUK	<b>Offtake rates from the Bacton Interconnector will need to be reduced in order to achieve the revised End of Day Offtake shown above.</b>

Signature of NEC	
Time and Date of Request	

**If you wish to contact the NEC or National Grid, please use the numbers allocated to you on the Network Emergency Management Team Contact list (sent to you previously).**

The information contained in this fax is confidential and may be privileged. This fax is only for the individual named above. If you are not the intended recipient any review, dissemination or copying of this fax is prohibited. If you have received this fax in error, please inform the sender and delete the fax from your system.

National Grid Plc, Registered in England No. 4031152, Registered Office 1-3 Strand, London WC2N 5EH,  
Incorporated in England and Wales

**Schedule I**

Exercise Y/N ?	Ex Name:
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**Gas National Control Centre Emergency Communication**

To:	• Bacton Interconnector Operator, I(UK)
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<p align="center"><b>Network Gas Supply Emergency Stage 4 - Restoration of Supplies NOTICE OF REVOCATION</b></p>
--

Version Number:

Version number is the day number followed by the number of version on that day.  
e.g. 1.2 is Day 1, second version

The following stages of the current Network Gas Supply Emergency have now been revoked:

Stage	Revoked (Yes/No)
Stage 1 - Potential	
Stage 2	
Stage 3	

	Yes/No
Offtake of <b>FIRM</b> Gas can now be restored	

<b>IUK</b>	Offtake from the Bacton Interconnector can now be increased / restored in line with the above table.
<b>Bacton Interconnector Operator, I(UK)</b>	<b>Please submit a revised OPN to reflect your new requirements and advise your system users as soon as possible.</b>

Time and Date of Revocation:	
Effective Gas Day:	

If you wish to contact the NEC or National Grid please use the numbers allocated to you on the Network Emergency Management Team contact list (sent previously)

The information contained in this fax is confidential and may be privileged. This fax is only for the individual named above. If you are not the intended recipient any review, dissemination or copying of this fax is prohibited. If you have received this fax in error, please inform the sender and delete the fax from your system.

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Incorporated in England and Wales

**Annex G-2 – Velocity Control Protocol**

**Velocity Control Protocol**

**Between;**

**Interconnector ~~(UK)~~ Limited**

**and**

**National Grid Gas Plc**

**at**

**Bacton**

This Velocity Control Protocol is dated [ ], ~~25<sup>th</sup> September 2015~~, and sets out the routine local procedures agreed by and between:

**National Grid Gas plc (hereinafter called “National Grid Gas”)** on the one part; and

**Interconnector ~~(UK)~~ Limited (hereinafter called “InterconnectorUK”)** on the other part;

for controlling the ingress of solids from the National Grid Gas System into the InterconnectorUK Bacton Terminal (“IBT”).

## 2. Definitions

2.1 “InterconnectorUK (Bacton)” shall mean InterconnectorUK personnel located at the InterconnectorUK Bacton Terminal.

2.2 “Interconnector (Control) ~~UK (London)~~” shall mean InterconnectorUK personnel located at InterconnectorUK offices in London.

2.3 “**NG (GNCC)**” shall mean National Grid Gas personnel located at the Gas National Control Centre in Warwick.

2.4 “**NG (Bacton)**” shall mean National Grid Gas personnel located at the National Grid Gas Bacton Terminal.

2.5 Terms defined in the Local Operating Procedures between National Grid Gas and InterconnectorUK (“LOPs”) shall have the same meaning when used in this protocol.

## 3. Purpose

InterconnectorUK and National Grid Gas will co-operate at an operational level to minimise solids ingress from the National Grid Gas System into InterconnectorUK System and subsequently compromising Interconnector’sUK’s ability to provide a full service to its shippers.

Routine and emergency communications and notifications, as specified elsewhere in this Annex as amended from time to time, are not affected by this protocol.

Local procedures between InterconnectorUK (Bacton) and NG (Bacton) are unaffected by this protocol.

#### 4. Assumptions

##### 4.1 National Grid Gas

Subject to necessary maintenance work, the Kings Lynn Compressor Station and ~~Feeder~~ 2, 4 and 27 shall be available throughout the high summer export flow period.

Communications will be to and from either or both of:

**NG(GNCC); and/or**

**NG(~~Bacton~~).**

##### 4.2 Interconnector

##### 4.2 ~~IUK~~

This protocol only applies when the Interconnector~~IUK~~ System is in Forward Flow.

The Votech 'in-line' filter will be used as a primary filter. Secondary filtration will be via one filter, F304A or F304B.

Interconnector~~IUK~~ will keep one of the secondary filters as standby to enable servicing and cleaning of the duty filter as and when required.

Communications will be to and from either or both of:

Interconnector(~~Control~~~~IUK~~(~~CS~~); and/or

Interconnector~~IUK~~(~~Bacton~~)

#### 5. National Grid Gas System:

5.1 Subject to necessary maintenance work, Feeders 2, 4 and 27 will be used to reduce the overall velocity of gas through the three feeders. In the event that any of these feeders becomes unavailable for any period NG(GNCC) will advise Interconnector (~~Bacton~~~~IUK~~ (~~London~~)).

5.2 The Interconnection Point pressure arrangements will be in accordance with Annex B-3 of the Interconnection Agreement and will not be affected by this protocol.

~~5.3 NG (GNCC) will provide to IUK (London), by 22:00 hours Gas Day D-1, the planned 'make-up' of gas deliveries to IUK for the following day in percentage terms. e.g. IUK OPN 2000 MMJ – NG (GNCC) advise Ex National Grid Gas System 60% Beach Gas 40%.~~

~~5.4 In the event of a greater than 20% change to the notified supply pattern NG(GNCC) will advise IUK (London) of the revised supply pattern and its likely duration.~~

~~5.5.3~~ In the event of loss of any facility (e.g. FM 27, Kings Lynn Compressor, Beach Supply Failure) to National Grid Gas, NG(GNCC) will carry out a brief assessment and advise ~~Interconnector(Bacton IUK(London))~~ of any impact on gas velocities the failure may create and its likely duration.

## 6. **Bacton Operations:**

6.1 NG (Bacton) will give at least 1 hour's notice of planned changes to the supply route to ~~Interconnector IUK~~ that may affect gas quality, pressure and velocity. Unplanned changes, e.g. compressor trips, supplier failures, affecting the gas quality, velocity and pressure to ~~Interconnector IUK~~ will be notified as soon as is reasonably practical.

6.2 In the event that National Grid Gas needs to reconfigure the supply path to IBT, be that on the National Grid Gas System or locally at Bacton Terminal, NG(GNCC) may request a short-term reduction in offtake by ~~Interconnector IUK~~.

6.3 ~~Interconnector IUK~~ will consider each case on its merits and the decision to reduce, or not, will be at ~~Interconnector's IUK's~~ sole discretion. In its deliberations ~~Interconnector IUK~~ will consider, for example, any impact on other supply points to ~~Interconnector IUK~~, whether sufficient inventory exists within the pipeline to maintain redeliveries at Zeebrugge, whether sufficient time exists within Gas Day D to 'catch-up' nominated quantities. ~~Interconnector(Control IUK(London))~~ will ask NG(GNCC) whether National Grid Gas can sustain the revised flow rate, velocity and pressure service for 'catch-up' following any reduction in flow.

## 7. **Pre-Filtration:**

7.1 On receipt of a ~~faxed~~ request from ~~Interconnector(Bacton IUK(London))~~ to NG (~~Bacton GNCC~~), National Grid Gas will endeavour to pre-filter all gas to ~~Interconnector IUK~~ for the agreed duration. Whenever this is not practical due to maintenance, on-line inspection operations or blockage, NG(Bacton) will advise ~~Interconnector IUK(Bacton)~~.

7.2 Also, on receipt of a ~~faxed~~ request from ~~Interconnector IUK~~ (Bacton) to NG(Bacton), National Grid Gas will endeavour to pre-filter all gas to ~~Interconnector IUK~~ when a planned outage of F304A or F304B or the Votech filter is scheduled. The cleaning operation for F304A or F304B will take an estimated 12 hours and for the Votech Filter an estimated 4 hours.



- 7.3 In the event of a staff resource limitation precluding the cleaning of any National Grid Gas filter at Bacton being used to supply [InterconnectorUK](#), NG(Bacton) may request [InterconnectorUK](#)(Bacton), giving at least 12 ~~hours~~<sup>hours</sup> notice, to make staff available to assist with the cleaning operation. All staff offered by [InterconnectorUK](#) to assist with this work must satisfy a National Grid Gas competency assessment (arrangements to be made locally).

#### 8. **Special Operations/Planned Maintenance/Communications:**

Both Operators will co-ordinate maintenance activities in accordance with the LOPs.

#### 9. **[InterconnectorUK](#)(Bacton) and NG(Bacton) Flow Management**

- 9.1 If the flow in Feeders 2, 4 and 27 increases above 10 mcmd per feeder or one feeder becomes unavailable, NG(Bacton) will advise [InterconnectorUK](#)(Bacton) of the flow rate. NG(Bacton) will provide updates to [InterconnectorUK](#)(Bacton) when the rate changes (either up or down).
- 9.2 If NG(Bacton) notifies [InterconnectorUK](#)(Bacton) of increased flow in Feeders 2, 4 and 27, [InterconnectorUK](#)(Bacton) will inform [InterconnectorUK](#)(London) and advise the status of the filters.
- 9.3 If the combined flow notified by NG(Bacton) through feeders 2, 4 and 27 is greater than 30 mcmd, [InterconnectorUK](#)(Bacton) will closely monitor the condition of the [InterconnectorUK](#) filters.
- 9.4 If the pressure drop across the [InterconnectorUK](#) secondary filter continuously increases at a rate greater than 0.02 bar per hour and NG(Bacton) are not already pre-filtering, [InterconnectorUK](#)(Bacton) will ~~request UK(London) to~~ contact NG(~~Bacton~~<sup>GNCC</sup>) and formally request that National Grid Gas commence pre-filtering through such filters as may be available.
- 9.5 If the pressure drop across the [InterconnectorUK](#) secondary filter continuously increases at a rate greater than 0.02 bar per hour and National Grid Gas is not able to undertake pre-filtering of gas being delivered to [Interconnector](#), [InterconnectorUK](#), ~~UK~~(Bacton) will request [InterconnectorUK](#)(London) to initiate a constraint.
- 9.6 If the flow notified by NG(Bacton) through Feeders 2, 4 and 27 is greater than 30 mcmd and the pressure drop across the [InterconnectorUK](#) secondary filter increases at a rate greater than 0.02 bar per hour and the pre-filtration has already been requested and initiated as described in 9.4 and no further filters are available, [InterconnectorUK](#)(Bacton) will request

[Interconnector\(Control\)UK\(London\)](#) to initiate a constraint.  
[Interconnector\(Control\)UK\(London\)](#) will contact NG(GNCC) and agree the rate reduction necessary such that flows through Feeders 2, 4 and 27 will reduce to 30 mcmd maximum.  
[InterconnectorUK](#)(London) will then re-issue the OPN.

9.7 Following any such reduction in the rate of offtake, [Interconnector\(Control\)UK\(London\)](#) will check with NG(GNCC) every 2 hours to see if conditions have changed, such that the rate of offtake can be increased without exceeding 30 mcmd through Feeders2, 4 and 27.

9.8 If conditions change, such that the rate of offtake can be increased without exceeding 30 mcmd through feeders 2, 4 and 27, [InterconnectorUK](#) will agree the rate increase possible such that the combined flows through Feeders 2,4 and 27 will not increase above 30 mcmd maximum. [Interconnector\(Control\)UK\(London\)](#) will then re-issue the OPN.

**Annex G-3 – Flyover Valves Protocol**

**Flyover Facilities Protocol**

**between**

**Interconnector ~~(UK)~~ Limited**

**and**

**National Grid Gas Plc**

**at**

**Bacton**

This Flyover Facilities Protocol is dated ~~[ ] 25<sup>th</sup> September 2015~~, and sets out the routine local procedures agreed by and between:

**National Grid Gas plc (hereinafter called “National Grid Gas”)** on the one part; and

**Interconnector ~~(UK)~~ Limited (hereinafter called “InterconnectorUK”)** on the other part;

in connection with the use of Flyover Facilities at Bacton

## 1. Definitions

Terms defined in the Local Operating Procedures between National Grid Gas and InterconnectorUK dated ~~[ ] 25<sup>th</sup> September 2015~~ shall have the same meaning when used in this Protocol.

1.1 “**Excluded Circumstances**” shall mean any of the following:

- (a) Force Majeure Event;
- (b) Any maintenance and/or modification of the InterconnectorUK System;
- (c) Any Gas Day which is a Flow Transition Day;
- (d) Any Gas Day on which the InterconnectorUK System is delivering Natural Gas into the National Grid Gas System.

1.2 “**Flow Transition**” shall mean a change in the direction of the physical flow of Natural Gas in the InterconnectorUK System from Bacton to Zeebrugge or vice versa and “Flow Transition Day” shall mean any Gas Day on which such a Flow Transition occurs or on which the flow of Natural Gas in one direction ceases or on which the pipeline inventory in the InterconnectorUK System is reduced or increased in preparation for such Flow Transition.

1.3 “**Flyover Facilities**” shall mean that part of InterconnectorUK Bacton Terminal (IBT) between valves HV3048, XSV 3029 and each of valves XSV 3034, XSV 3035 and XSV 3036 as more particularly described in Annex C Appendix 1 of the Interconnection Agreement.

1.4 “**InterconnectorUK (Bacton)**” shall mean InterconnectorUK personnel located at the InterconnectorUK Bacton Terminal

1.5 “**Interconnector (Control) ~~UK (London)~~**” shall mean InterconnectorUK personnel located at InterconnectorUK offices ~~in London~~

1.6 “**NG (GNCC)**” shall mean National Grid Gas personnel located at the Gas National Control Centre in Warwick.

1.7 “NG (Bacton)” shall mean National Grid Gas personnel located at the National Grid Gas Bacton Terminal.

## 2. Purpose

2.1 [InterconnectorUK](#) and National Grid Gas undertake to co-operate in the event that either party require use of the Flyover Facilities at the IBT for flow management or other operational reasons.

2.2 Routine and Emergency Communications and Notifications, as specified elsewhere in the Interconnection Agreement as may be amended from time to time, are not affected by this protocol.

2.3 Local Operating Procedures (including without limitation the Velocity Control Procedure) between [InterconnectorUK](#) (Bacton) and NG (Bacton) are unaffected by this protocol.

## 3. Assumptions

### 3.1 [Interconnector](#)

#### ~~3.1~~ [InterconnectorUK](#)

~~UK~~ will co-operate in allowing use of the Flyover Facilities and operating the valves to facilitate National Grid Gas’s use of the Flyover Facilities unless there are maintenance, modification or other works being carried out which may preclude it from doing so.

Communications will be to and from either or both of [Interconnector\(ControlUK\(London\)\)](#) and [InterconnectorUK](#)(Bacton).

Where the Flyover Facilities are made available to National Grid Gas, [InterconnectorUK](#) shall use reasonable endeavours to operate such facilities in accordance with National Grid Gas’s instructions.

The Flyover Facilities shall not be available to National Grid Gas where [InterconnectorUK](#) in its sole discretion declares that an Excluded Circumstance has occurred or is occurring.

[InterconnectorUK](#) shall as soon as reasonably practicable advise National Grid Gas of and keep National Grid Gas updated in relation to any proposed maintenance or modification to IBT or any operational reason which is likely to affect the availability of the Flyover Facilities.

### 3.2 National Grid

National Grid Gas will co-operate in operating the valves to facilitate use of the Flyover Facilities unless there are maintenance, modification or other works being carried out which may preclude it from doing so.

Communications will be to and from either or both of **NG(GNCC)** and **NG(Bacton)**.

National Grid Gas will ensure that the solids content of any gas flowing through the Flyover Facilities is kept as low as possible to minimise the risk of damage to the Flyover Facilities and to the downstream isolation and flow control valves and will comply with the relevant sections of the Velocity Control Protocol for this purpose.

### 3.3 Valves

Both [InterconnectorUK](#) and National Grid Gas own valves that must be operated to allow use of the Flyover Facilities.

## 4. Use of the Flyover Facilities for Maintenance

- 4.1 National Grid Gas or [InterconnectorUK](#) may require use of the Flyover Facilities for maintenance. In the event that such works are planned, each party shall undertake to give an adequate period of notice to the other party. A description of the Non Routine Operation (“NRO”) should be prepared and submitted for discussion by both Operators.
- 4.2 The NRO should be submitted allowing enough time for the Operators to discuss and agree the arrangements and make the necessary changes to their operation.
- 4.3 NG(GNCC) and [Interconnector\(Control\)UK\(London\)](#) should formally agree and confirm that the NRO is to take place. Upon confirmation, NG(GNCC) or [Interconnector\(Control\)UK\(London\)](#) shall inform NG(Bacton) and [InterconnectorUK\(Bacton\)](#) respectively to set up the gas flow route and the NRO can proceed. Local discussions between NG(Bacton) and [InterconnectorUK\(Bacton\)](#) should continue throughout the work.
- 4.4 If [InterconnectorUK\(Bacton\)](#) has reason to believe that the solids content of gas flowing through the Flyover Facilities is, in [Interconnector’sUK’s](#) sole discretion, unacceptably high, then [InterconnectorUK\(Bacton\)](#) will inform NG(Bacton). If NG(Bacton) and/or NG(GNCC) are unable to take action to reduce the solids content of gas flowing through the Flyover Facilities to a level acceptable to [InterconnectorUK\(Bacton\)](#), then [InterconnectorUK\(Bacton\)](#) shall be entitled to withdraw the use of the Flyover Facilities for maintenance.

## 5. Use of the Flyover Facilities for Flow Management or Other Operational Reasons

- 5.1 In the event that National Grid Gas requires use of the Flyover Facilities for flow management or other operational reasons, NG (Bacton) will notify [Interconnector UK](#) (Bacton) giving as much notice as is reasonably practicable.
- 5.2 If the Flyover Facilities are due to be unavailable due to an Excluded Circumstance, [Interconnector UK](#) (Bacton) will notify NG (Bacton) and NG (GNCC) as soon as reasonably practicable. (The issue by [Interconnector \(Control\) UK \(London\)](#) of a DFN will be deemed to be notice pursuant to 1.1 (d)).
- 5.3 In the event that [Interconnector UK](#) (Bacton) receive a request from NG (Bacton) to use the Flyover Facilities, [Interconnector UK](#) (Bacton) will take all necessary actions to enable use of the Flyover Facilities. If specific circumstances dictate the Flyover Facilities cannot be used and [Interconnector UK](#) have not given prior notice to NG (GNCC) or NG (Bacton), [Interconnector UK](#) (Bacton) will so advise NG (Bacton) of the reasons.
- 5.4 Unless, after receiving a request from NG (Bacton) to use the Flyover Facilities, [Interconnector UK](#) (Bacton) inform NG (Bacton) that the Flyover Facilities are not available, [Interconnector UK](#) (Bacton) and NG (Bacton) will operate the necessary valves to allow flow through the Flyover Facilities.
- 5.5 If [Interconnector UK](#) (Bacton) has reason to believe that the solids content of gas flowing through the Flyover Facilities is, in [Interconnector's UK's](#) sole discretion, unacceptably high, then [Interconnector UK](#) (Bacton) will inform NG (Bacton). If NG (Bacton) and/or NG (GNCC) are unable to take action to reduce the solids content of gas flowing through the Flyover Facilities to a level acceptable to [Interconnector UK](#) (Bacton), then [Interconnector UK](#) (Bacton) shall be entitled to withdraw the use of the Flyover Facilities for flow management or other operational reasons.

## 6. Resumption of Normal Operations

NG (Bacton) and [Interconnector UK](#) (Bacton) will liaise by telephone to co-ordinate the cessation of use of the Flyover Facilities and the resumption of normal operations.

**ANNEX H – Table of Prior Amendments**

<b>Description</b>	<b>Date</b>	<b>Parties</b>
First Letter Agreement	29.03.99	BG plc and Interconnector (UK) Limited
Second Letter Agreement	31.03.99	BG plc and Interconnector (UK) Limited
Third Letter Agreement	31.03.00	BG plc and Interconnector (UK) Limited
Fourth Letter Agreement	20.09.00	BG plc and Interconnector (UK) Limited
Fifth Letter Agreement	30.03.01	BG plc and Interconnector (UK) Limited
Sixth Letter Agreement	28.03.02	Transco plc and Interconnector (UK) Limited
Seventh Letter Agreement	24.03.03	Transco plc and Interconnector (UK) Limited
Eighth Letter Agreement	28.05.03	Transco plc and Interconnector (UK) Limited
Ninth Letter Agreement	27.06.03	Transco plc and Interconnector (UK) Limited
Tenth Letter Agreement	27.03.06	National Grid plc and Interconnector (UK) Limited
Eleventh Letter Agreement (Part 1)	27.04.06	National Grid plc and Interconnector (UK) Limited
Eleventh Letter Agreement (Part 2)	10.05.06	National Grid plc and Interconnector (UK) Limited
Twelfth Letter Agreement	11.10.06	National Grid plc and Interconnector (UK) Limited
Thirteenth Letter Agreement	10.09.07	National Grid plc and Interconnector (UK) Limited
Fourteenth Letter Agreement	09.02.09	National Grid plc and Interconnector (UK) Limited
Amended and Restated Interconnection Agreement ("2015 ARIA")	25.09.15	National Grid Gas plc and Interconnector (UK) Limited
<a href="#"><u>Amended and Restated Interconnection Agreement ("2016 ARIA")</u></a>	<a href="#"><u>12.05.16</u></a>	<a href="#"><u>National Grid Gas plc and Interconnector (UK) Limited</u></a>